

Spirit of the Estuary

Using **Art**
to
Understand **Ecology**



Spirit of the Estuary



BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM

Spirit of the Estuary

Using **Art**
to
Understand **Ecology**



BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM

www.btnep.org

Spirit of the Estuary

Using Art to Understand Ecology

AUTHORS/EDITORS

Mary M. Banbury, Ph.D.

University of New Orleans
University of Nevada, Las Vegas

Anne B. Rheams

Lake Pontchartrain Basin Foundation

Sue Ellen Lyons

Holy Cross School, New Orleans

ARTIST/GRAPHIC DESIGNER

Marian Brister Martinez

Pleiades Illustration Company

PRODUCTION MANAGERS

Deborah Schultz

Susan Testroet-Bergeron

Barataria-Terrebonne National Estuary Program

CONTRIBUTORS

Sandra Helmuth

Dinah E. Maygarden

Cindy Ybos

Hollis Gabriel

Wendy Foy

Virginia Henry

Christina Melancon

Traci Vedros

Nann Galloway

Brenda Montalbano

Semaj Allen

Terrill Salter

Robyn Kennedy

Cally Chauvin

Funding for this publication has been made possible through a grant.

This publication was partially funded by the United States Environmental Protection Agency (USEPA) and the State of Louisiana - Louisiana University Marine Consortium (LUMCON) through Grant #CE 006660-01, 02, and 04. The contents of this document do not necessarily represent views of the USEPA or LUMCON. The mention of trade names or commercial products does not in any way constitute an endorsement or recommendation for use.

Permission is given to reproduce portions of this publication for use in educational activities.

This public document was published at a total cost of \$_____. XXXX copies of this public document were published in this first printing at a cost of \$_____. The total cost of all printings of this document, including reprints, is \$_____. This document was published by the Barataria-Terrebonne National Estuary Program, Nicholls State University Campus, P.O. Box 2663, Thibodaux, LA 70310, to provide the public with environmental information under the authority of La. R.S. 30:2011. This material was printed in accordance with standards for printing by state agencies established pursuant to LA. R.S. 43:31.

Spirit of the Estuary

Table of Contents

Sensing the Spirit of the Estuary

Lesson 1.	I am an Estuarian: Poetry About the Plants and Animals of the Barataria-Terrebone Basin	p.1-17
Lesson 2.	The Material of Culture	p.1-9
Lesson 3.	Louisiana Wetlands - To Build Or Not To Build	p.1-21
Lesson 4.	Where Has All the Greenspace Gone? Constructing a Community Green Map	p.1-11
Lesson 5.	Rhythm of the Tides	p.1-9
Lesson 6.	The Landscape of the Estuary	p.1-8
Lesson 7.	The Architecture of the Barataria-Terrebonne Estuary	p.1-13
Lesson 8.	Form and Function of Boat Designs in the Barataria-Terrebonne Estuary	p.1-11
Lesson 9.	Be Instrumental	p.1-7
Lesson 10.	Birds of Paradise: Protect My Home	p.1-7
Lesson 11.	“A Time To Be Born; A Time To Die” Who Are the Threatened & Endangered Species of the Estuary?	p.1-10
Lesson 12.	Jambalaya, Crawfish Pie, File’ Gumbo	p.1-16

Capturing the Spirit of the Estuary

Lesson 1.	A Handful of Estuary Critters	p.1-11
Lesson 2.	Natural Notes	p.1-8
Lesson 3.	This is Driving Me Buggy. . . So Let’s Wrap It Up!	p.1-6
Lesson 4.	Painting in Style: Flowers of the Estuary	p.1-23
Lesson 5.	We Walk in Beauty	p.1-17
Lesson 6.	Cherokee Leaf Painting	p.1-8
Lesson 7.	The World’s Greatest Sculptor	p.1-5
Lesson 8.	Doin’ What Comes Naturally: Naturalist? Artist? Or Both?	p.1-9
Lesson 9.	Nature’s Art	p.1-15
Lesson 10.	Mamas, Your Babies Grow Up To Be _____	p.1-7
Lesson 11.	Cajun Music: Traduire (To Translate)	p.1-9
Lesson 12.	Bals De Maison (House Dances)	p.1-5
Lesson 13.	Dialogue: Disappearing Wetlands	p.1-11
Lesson 14.	From The Sugar Cane Fields to the Easel: The Mystery of George Rodrigue’s Blue Dog	p.1-23

Preserving the Spirit of the Estuary

Lesson 1.	Music Makers	p.1-9
Lesson 2.	Commercials for the Coast	p.1-6
Lesson 3.	Who Knows? The Shadow Puppets Do!	p.1-7
Lesson 4.	Honk If You Love the Wetlands	p.1-17
Lesson 5.	Pass the Word: Designing an Environmental Action Brochure for the BTNE	p.1-5
Lesson 6.	Estuary Extra: Producing Your Own Environmental Newspaper	p.1-12
Lesson 7.	Musical Meaning	p.1-7
Lesson 8.	And Then A Hero Comes Along	p.1-8

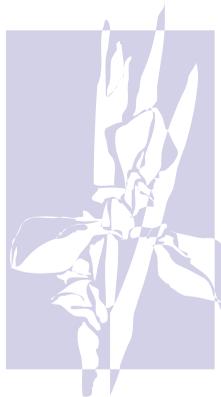
Dedication

This curriculum is dedicated with thanks and appreciation, to all Louisiana teachers who have shared wetland education with their students in order to create an environmentally aware and active citizenry.

Susan Testroet-Bergeron
BTNEP Education Coordinator

This book is dedicated to my fellow Louisiana artists who truly appreciate this unique place where we reside, and work at capturing the spirit that is everchanging in our world so that others will not forget.

Marian Brister Martinez
Artist/Illustrator



Meet the Authors

Mary M. Banbury, Ph.D.

Mary M. Banbury, Ph.D. retired after 32 years (and Hurricane Katrina) from the University of New Orleans. As a Professor, she taught courses in gifted education, inclusion, differentiated instruction, and mild/moderate disabilities. She is currently a Visiting Professor at the University of Nevada, Las Vegas, in the Departments of Special Education and Curriculum & Instruction. She was also a Curriculum Consultant for the Public Lands Institute at UNLV where she co-authored curriculum for the Red Rock Desert Learning Center Pilot Program and Forever Earth, a 70-foot houseboat/floating water classroom on Lake Mead.



Mary has been developing environmental curricula for over 15 years, beginning with *Welcome to the Wetlands: An Activity Book for Teachers*. She was coordinator of a federal grant developing an alternative science curriculum for children with exceptionalities and was Principal Investigator for a state grant “Project CEED: Coastal Education for Economic Development.” The National Association of Gifted Children awarded the National Outstanding Curriculum Award to *Lessons on the Lake: An Educator’s Guide to the Pontchartrain Basin* that Mary co-authored with Anne Rheams, Sue Ellen Lyons, Sharon Flanagan, Michael Greene, and Dinah Maygarden. Mary has also received awards for her community service and her teaching. She received the first Outstanding Faculty Award from the College of Education and the first Seraphia B. Leyda Excellence in Teaching Award from the University of New Orleans.



Anne B. Rheams

Anne Rheams is Deputy Director of the Lake Pontchartrain Basin Foundation. In this position she directs multiple LPBF programs in relation to the Foundation’s mandate to improve water quality and restore and protect natural habitat. She has been with the Foundation since 1992 when she began as Education Director. Ms. Rheams is an Adjunct Instructor in the College of Urban and Public Affairs at the University of New Orleans where she teaches Environmental Planning classes. Ms. Rheams has been a member of many environmental curriculum development teams including the Louisiana Public Broadcasting's award-winning *Enviro-Tackelbox* and *Lessons on the Lake: An Educator's Guide to the Lake Pontchartrain Basin ."* She is on the Board of Directors of A Studio in the Woods, a non-profit organization that integrates art and ecology.

Sue Ellen Lyons

Sue Ellen Lyons began her teaching career in 1966. She is presently teaching biology, environmental science and geology at Holy Cross School in New Orleans, where she has served since 1978. Sue Ellen is an adjunct professor at Herzing College, teaching Environmental Science both in-class and online. She has also been an adjunct instructor in the Education Department at UNO, as well as at Nunez Community College.



During her career, Sue Ellen has received awards at the local, state and national levels, including the Presidential Award for Excellence in Science Teaching and the National Wetlands Educator of the Year Award.



Marian Brister Martinez

Marian Brister Martinez is a Louisiana artist who grew up in the Barataria-Terrebonne Estuary near the mouth of the Mississippi River. Her favorite childhood pastime were her visits to the barrier islands near her home. Ms. Martinez is a free-lance artist/illustrator. She is published in *Louisiana Laurels*, a book of poetry and essays written and illustrated by Louisiana authors and artists. Her commissions have included numerous t-shirt and logo designs for environmental litter awareness programs for corporate and non-profit companies. Her work encompasses a variety of mediums and subject matter including pen & ink architectural drawings, oil on canvas figurative paintings, watercolors, and traditional religious iconography.

Ms. Martinez holds a bachelor of fine arts from Louisiana State University. Her work can be viewed on her Web site at: <http://www.pleiadesfineart.com>

INTRODUCTION

The Spirit of the Estuary: Using Art to Understand Ecology

Dr. J. Robert Oppenheimer made the following observation after viewing exhibits at the Exploratorium:

“Art is included, not just to make things pretty, although it often does so, but primarily because artists make different kinds of discoveries about nature than do physicists or biologists. They also rely on a different basis for decision-making while creating their exhibits. But both artists and scientists help us notice and appreciate things in nature that we had learned to ignore or had never been taught to see. Both art and science are needed to fully understand nature and its effects on people.”

New Horizons (n.d.) Retrieved July 25, 2005 from <http://www.newhorizons.org>

EDUCATIONAL GOAL

The goal of *The Spirit of the Estuary: Using Art to Understand Ecology* is to educate students, grades 5-8, about the Barataria-Terrebonne Estuary and the priority issues affecting the basins. It is a multi-disciplinary curriculum, intended for use by teachers in such disciplines as science, language arts, social studies, fine arts, special education, and gifted. It is not strictly a science text. *The Spirit of the Estuary: Using Art to Understand Ecology* is a supplemental curriculum; it is an enrichment curriculum. It will allow educators to differentiate according to learning styles preferences, interests, strengths, or talents. It offers a unique opportunity to bolster estuary/wetlands awareness across content areas.

This curriculum guide provides easy access to information on environmental issues surrounding the estuary. In addition, it integrates art and science as a means to stimulate interest and to promote student achievement, engagement, and persistence in school. Instead of the traditional approach that is so common in science curriculum guides, this book will use the visual arts, music, dance, drama, creative writing, and technology to challenge the analytic, creative and practical skills of students while increasing public perception of significant environmental issues.

The artistic endeavors will provide students with an understanding of the Barataria-Terrebonne Estuary and give them the skills to address environmental problems. Since research in learning indicates that students retain thinking skills processes and attitudes about subjects, studies, and self rather than facts, the educational guide will actively engage students in learning about the estuary while emphasizing personal connections and commitment.

The ultimate goal of *The Spirit of the Estuary: Using Art to Understand Ecology* is that in addition to learning about the estuary, students will also acquire a strong sense of stewardship. Action requires knowledge, but it also requires passion. In the words of Charles Fowler, Former Director, National Cultural Resources Washington D.C., “Science and technology do not tell us what it means to be human. The arts do.”

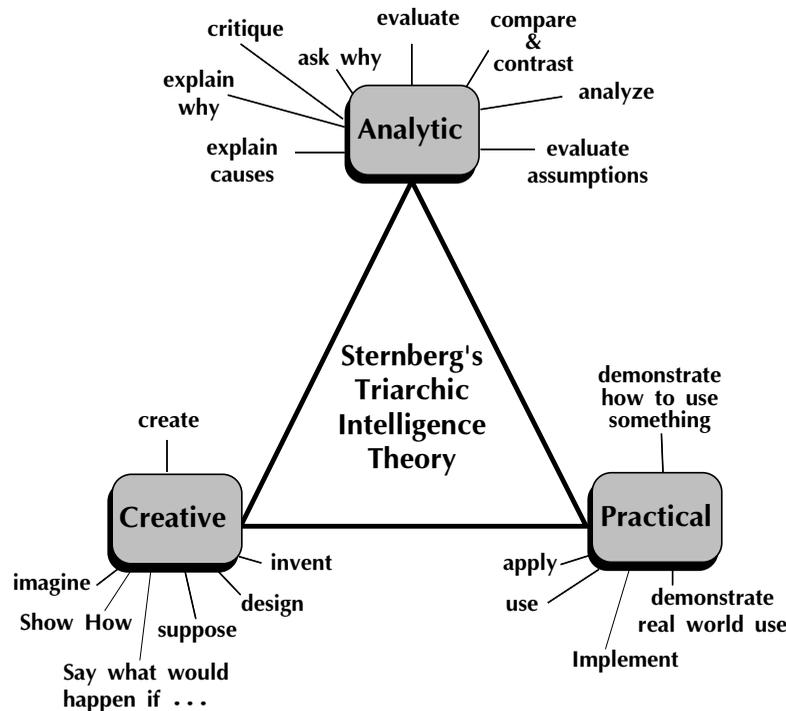
EDUCATIONAL OBJECTIVES

1. To develop and heighten a personal understanding of environmental issues connected to the Barataria-Terrebonne Estuary;
2. To create teaching activities and strategies that help students develop their analytic, creative, and practical capabilities as they learn about significant environmental concepts.

- To use the arts as ways to increase critical and creative thinking skills, develop problem-solving abilities, and promote engagement in learning about selected topics critical to the understanding and preservation of the Barataria-Terrebonne Estuary.

EDUCATIONAL THEORY

The Spirit of the Estuary: Using Art to Understand Ecology is based on the learning theory of Robert J. Sternberg (1985). *Beyond IQ: A Triarchic Theory of Human Intelligence*. New York: Cambridge University Press. According to Yale Professor Robert Sternberg, creative work requires a balance among the following three abilities:



ANALYTIC

Analytic ability is typically considered to be a higher-order thinking skill, a critical thinking ability. A person with this skill possesses the ability to identify, comprehend, and analyze a problem, and to propose and evaluate solutions.

CREATIVE

Creative ability is a synthetic thinking skill. A person with this skill possesses the ability to make unique or original connections, often resulting in insightful, intuitive responses or solutions.

PRACTICAL

Practical ability is a functional skill. A person with this skill possesses the ability to relate abstract ideas to everyday situations, to translate analytic and creative skills into practical ones, to implement solutions, and to transform ideas into accomplishments.

The graphic organizer delineates a list of verbs that should assist educators in developing questions and designing activities that will promote the analytic, creative, and practical abilities of their students, thus enhancing their creative work.

STRUCTURE OF THE CURRICULUM

The Spirit of the Estuary: Using Art to Understand Ecology transforms Robert Sternberg’s Triarchic Model into three themes: Sensing the Spirit of the Estuary, Capturing the Spirit of the Estuary, and Preserving the Spirit of the Estuary. The following chart illustrates this transformation and delineates the questions and descriptions used to assign lessons to a theme.

ESSENTIAL QUESTIONS	THEORETICAL MODEL: ROBERT STERNBERG’S TRIARCHIC MODEL	SECTION THEMES	LESSONS
How can art help me see, hear, touch, taste, and smell the estuary?	Analytic	Sensing the Spirit of the Estuary	Using art to know, comprehend, apply, and analyze, and evaluate information about the estuary
How can creating art help me understand the estuary?	Creative	Capturing the Spirit of the Estuary	Creating artistic products and developing and participating in artistic performances to express thoughts and feelings that capture the spirit of the estuary.
How can I use art to protect the estuary?	Practical	Preserving the Spirit of the Estuary	Creating artistic products and developing and participating in artistic performances to promote and encourage stewardship of the estuary.

COMPONENTS OF THE LESSONS

Setting the Stage introduces the lesson. It provides background information for educators or an explanation of the topic to educators and students. Sometimes it actually becomes the “hook,” the motivator, or “setting the stage” for students.

Objectives guide the teaching of each lesson.

Materials list equipment, print materials, and items for teaching the lesson.

Getting Ready gives suggestions to educators on teaching preparation.

Process delineates step-by-step instructional procedures.

Questions for Journaling serve as a catalyst for creative reflection, connecting students’ thoughts and feelings with the study of the estuary.

Assessment provides rubrics or checklists that evaluate content, product, or performance.

Extensions offer ideas for follow-up activities.

Resources list books, Internet sites, and materials for educators and students.

Handouts for students are developed for almost all of the lessons. Each student handout is listed in the “Materials” section as well as in the “Process” section.

ART & ECOLOGY

Why do we need art to understand ecology? Charles Fowler answers this question in his essay “Every Child Needs the Arts”

“Science is not the sole conveyor of truth. While science can explain a sunrise, the arts convey its emotive impact and meaning. Both are important. If human beings are to survive, we need all the symbolic forms at our command because they permit us not only to preserve and pass along our accumulated wisdom but also to give voice to the invention of new visions. We need all these ways of viewing the world because no one way can say it all.”

New Horizons (n.d.). Retrieved July 25, 2005 from <http://www.newhorizons.org>

By merging art and science we can better sense, capture, and preserve the spirit of the Barataria-Terrebonne National Estuary.

Sensing the Spirit of the Estuary

How can art help me see, hear, touch, taste
and smell the estuary?



Behind Buras , Marian Brister Martinez, oil on canvas
printed with permission by the artist © 2003. All rights reserved.

Lesson 1. I am an Estuarian: Poetry About the Plants and Animals of the Barataria-Terrebonne Basin	p.1-16
Lesson 2. The Material of Culture	p.1-9
Lesson 3. Louisiana Wetlands - To Build Or Not To Build	p.1-21
Lesson 4. Where Has All the Greenspace Gone? Constructing a Community Green Map	p.1-11
Lesson 5. Rhythm of the Tides	p.1-9
Lesson 6. The Landscape of the Estuary	p.1-8
Lesson 7. The Architecture of the Barataria-Terrebonne Estuary	p.1-12
Lesson 8. Form and Function of Boat Designs in the Barataria-Terrebonne Estuary.....	p.1-10
Lesson 9. Be Instrumental	p.1-7
Lesson 10. Birds of Paradise: Protect My Home	p.1-7
Lesson 11. “A Time To Be Born; A Time To Die” Who Are the Threatened & Endangered Species of the Estuary?.....	p.1-10
Lesson 12. Jambalaya, Crawfish Pie, File’ Gumbo	p.1-15

Lesson One:

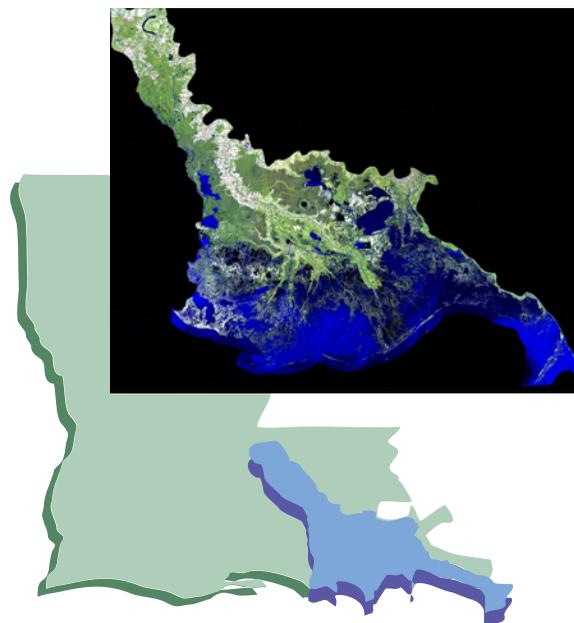
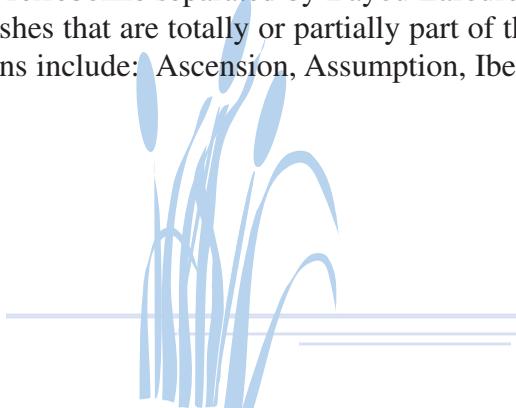
I am an Estuarian—

Poetry about the Plants and Animals of the Barataria-Terrebonne Basin



An estuary is defined as a coastal area where salt water from the ocean mixes with fresh water from rivers, rainfall, and upland runoff. The seasons, wind-driven tides, and daily weather patterns all affect the relative amounts of salt and fresh water within an estuary. These changing, dynamic conditions produce our coastal estuarine ecosystems. These rich, diverse ecosystems are home to people, plants, and animals: the estuarians.

At the interface of the Mississippi River and the Gulf of Mexico, fresh and salt water mingle in one of the most productive estuaries of the world. The Barataria-Terrebonne estuary, encompassing an area of approximately 6400 square miles, lies between the Mississippi and Atchafalaya Rivers, and it is actually two different estuaries, Barataria and Terrebonne separated by Bayou Lafourche. Parishes that are totally or partially part of these basins include: Ascension, Assumption, Iberville,



Jefferson, Lafourche, Orleans, Plaquemines, Pointe Coupee', St. Charles, St. James, St. John, St. Mary, St. Martin, Terrebonne, and West Baton Rouge.

Salt and fresh water mix together between coastal wetlands and the protection of barrier islands, where nutrient-rich water, sediments, and pollutants from the Mississippi River combine with the salty waters of the Gulf of Mexico. Changes in salinity, water level, and temperature create a rigorous environment, but the hardy plants and animals are adapted to these conditions. The people who live here, too, are hardy and adaptable, since they face sinking coastlines, rising sea level, hurricanes, pollution, and other challenges. These are the Estuarians!

Plants and animals are an integral part of every ecosystem, but an estuary is one of the most biologically diverse places on the planet.



Objectives

STUDENTS WILL

- observe the biotic factors of the Barataria-Terrebonne Estuary.
- develop an appreciation for the complex interrelationships among organisms of the Barataria-Terrebonne Estuary.
- communicate thoughts or feelings about the natural world as experienced in the Barataria-Terrebonne Estuary.
- develop “I AM” poems about estuary life and culture.

However, we often don't see what is there beyond the obvious. The focus of this activity is to have students consider the interaction of plants and animals in the Barataria-Terrebonne Estuary.

MATERIALS

Handout: *I am an Estuarian--Observer's log sheet* (p.4)

Handouts: **I AM Formats** for
I am the Estuary (p.5)
I am an Estuarian (p.7)
I am a Child of the Estuary (p.11)

Handouts: **I AM Model Poems** for
I am the Estuary (p.6)
I am an Estuarian (p.8)
I am a Child of the Estuary (p.12)

GETTING READY

1. Make copies of the handouts.
2. Plan a field experience, if possible, for students in order to conduct observations of some of these organisms. (BTNEP has a field trip guide to day trips within the estuary. The field trip handbook is available on the web site, www.btneep.org)
3. Discuss elements of the *I AM AN ESTUARIAN* poems with students.
4. Brainstorm ideas with the class.

PROCEDURE

1. Using the format and models of the *IAM* poems provided, students should work alone or with a partner to compose original poems about some aspect of life or culture observed in the Barataria-Terrebonne Basins.
2. Either assign students an *IAM* poem format or have students select their choice of ONE of the *IAM* poem formats. Direct them to follow the steps for observation and writing of the poem.
3. Here are some suggested steps:
 - (a) Have students use their senses to collect as many observations about the organism as they can. If possible, they should return to the same spot on other occasions, especially at another time of day or in other weather conditions. Have them complete an observation log sheet each time. These will help them complete the lines of the poem that begin with “I hear ..”, “I see....”, “I touch....” If you can’t go on a field trip, use field guides, nature cards, trade books, or the Internet to watch the *Estuary Live* video which can be downloaded from the BTNEP website.
 - (b) Have students use their internal senses to try to understand a connection between that organism and others in the estuary. This will help them complete the lines of the poem that begin with “I pretend ..”, “I worry ..”, “I dream ..”, “I hope ..”
 - (c) Putting observations and feelings together will help them complete the poem. These are the lines that start with, “I am ..”, “I wonder ..”, “I understand ..”, “I try ..”
 - (d) Allow students to use a computer and other resources such as clip art or photographs to enhance their *IAM* poetry. You may want to give extra credit to students who draw their own art work.
 - (e) Student poems should be typed, proofed, edited and shared with classmates.



HANDOUT: I AM AN ESTUARIAN—OBSERVER'S LOG SHEET

Location _____ Date _____

In the boxes below, write **descriptive** words that capture your observations and feelings at this site.

Plants	Weather Conditions
Animals	Sounds
Non-living Things	Thoughts or Feelings



A graphic showing a hand holding a piece of paper, with the word 'HANDOUT:' written in white text on a blue background.

HANDOUT:

I AM THE ESTUARY: FORMAT

A POEM ABOUT THE BARATARIA-TERREBONNE BASIN

Imagine that you are the estuary . . .

FORMAT

FIRST STANZA

- I am (two special characteristics you have)
- I wonder (something you are actually curious about)
- I hear (an imaginary sound)
- I see (an imaginary sight)
- I want (an actual desire)
- I am (the first line of the poem repeated OR something synonymous)

SECOND STANZA

- I pretend (something you actually pretend to do)
- I feel (a feeling about something imaginary)
- I touch (an imaginary touch)
- I worry (something that really bothers you)
- I cry (something that makes you very sad)
- I am (the first line of the poem repeated OR something synonymous)

THIRD STANZA

- I understand (something that you know is true)
- I say (something that you believe in)
- I dream (something that you actually dream about)
- I try (something you really make an effort about)
- I hope (something that you actually hope for)
- I am (the first line of the poem repeated OR something synonymous)



I AM THE ESTUARY

A MODEL POEM

MODEL

FIRST STANZA

I am the elbow of salt and fresh water.
I wonder what the future holds for me.
I hear plaintive cries and voices of hope.
I see my acres diminishing.
I want the restoration to succeed.
I am the estuary, a marvel of biodiversity.

SECOND STANZA

I pretend that my coastline is not eroding.
I feel the sting of wind and waves.
I touch the lives of all who call me home.
I worry that my children will be left homeless.
I cry at the prospect of seeing them move on.
I am the estuary, protector and protected.

THIRD STANZA

I understand the importance of dollars and cents.
I say, "Don't sell out your heritage!"
I dream that all these issues will be resolved.
I try to hold on, to hold on, . . . to hold on . . .
I hope America will take action to save me.
I am the estuary, lifeblood of Louisiana.





HANDOUT:

I AM AN ESTUARIAN: FORMAT

A POEM ABOUT THE PLANTS AND ANIMALS OF THE BARATARIA-TERREBONNE BASIN

Imagine that you are an estuary creature . . .

FORMAT

FIRST STANZA

- I am (two special characteristics you have)
- I wonder (something you are actually curious about)
- I hear (an imaginary sound)
- I see (an imaginary sight)
- I want (an actual desire)
- I am (the first line of the poem repeated)

SECOND STANZA

- I pretend (something you actually pretend to do)
- I feel (a feeling about something imaginary)
- I touch (an imaginary touch)
- I worry (something that really bothers you)
- I cry (something that makes you very sad)
- I am (the first line of the poem repeated)

THIRD STANZA

- I understand (something that you know is true)
- I say (something that you believe in)
- I dream (something that you actually dream about)
- I try (something you really make an effort about)
- I hope (something that you actually hope for)
- I am (the first line of the poem repeated)





HANDOUT: I AM AN ESTUARIAN

A MODEL POEM

The Blue Crab

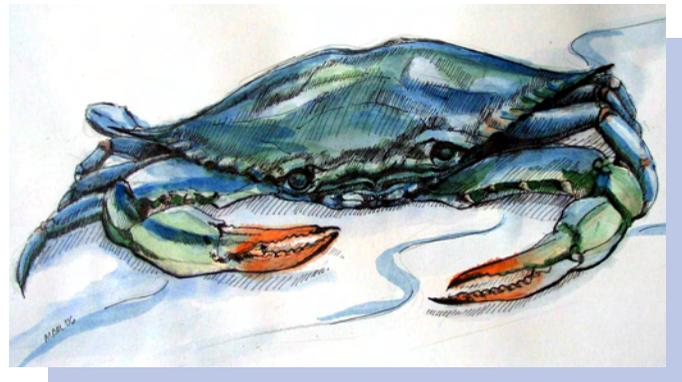
FIRST STANZA

I am a crab; my name means savory swimmer;
 I wonder if you know about my estuary home.
 I hear the waves, the gulls, the ships, the people.
 I see the land washing away from the shore.
 I want to protect the fragile fringe that sustains me.
 I am the blue crab, *Callinectes sapidus*.



SECOND STANZA

I pretend that all is well in the estuary;
 I feel a change in my watery world;
 I touch the faces and fortunes of so many people;
 I worry that erosion and pollution will destroy us all;
 I cry because we were once so bountiful;
 I am the blue crab, *Callinectes sapidus*.



THIRD STANZA

I understand my value in Louisiana;
 I say do what you can to help me survive;
 I dream of returning in countless numbers;
 I try to teach others about my estuary life;
 I hope coastal erosion will be no more;
 I am the Blue Crab; I am the Blue Crab.

printed with permission by Marian Brister
 Martinez © 2006 all rights reserved



I Am A Child of the Estuary

Poetry about the People of the Barataria-Terrebonne Basin



Setting the Stage

There is evidence of the Barataria-Terrebonne Estuary's rich cultural heritage everywhere we look, but we may not always see it. We deal with the people who live in our community every day, but we don't always think about the jobs they do, such as shrimpers, trappers, ship builders, miners, oil field workers, farmers, chefs and cooks, or fishing guides. We don't always think about the cultural history of our friends and neighbors either, such as Cajuns, Native Americans, Islenos, Hispanics, Asians, Africans, or European settlers.

The focus of this activity is to have students reflect on their own personal role or background in the estuary, or on the role of others through an interview process.

PROCEDURE

1. Have students brainstorm as many observations and attributes about their role or history as they can. These will help them complete the lines of the poem that begin with "I hear", "I remember"
2. Students should use their internal senses to try to feel a connection with the people around them and express what they are thinking or feeling about their reflections. This will help them complete the lines of the poem that begin with "I wonder", "I worry", "I dream"
3. Putting observations and feelings together will help them complete the poem. These are the lines that start with, "I am", "I wonder.....", "I understand"



The uncontrolled growth of the world's fishing fleets is one of many developmental pressures resculpting the fishing industry. Photograph by Marian Brister Martinez. Used with permission.



4. Allow students to use a computer and other resources such as clip art or photographs to create *I AM A CHILD OF THE ESTUARY* poetry. You can give extra credit to students who do original artwork.
5. Student poems should be typed, proofed, and edited.
6. Have students share their poems with their classmates.
7. Select poetry as scripts for Readers' Theater and have students perform them. Copy, distribute, and review the handout on *Readers' Theater*, (p.15).



Terry Shelley of Belle Chasse has seen the highs and lows of the fishing industry. Once the captain of a 72-foot shrimp boat, Shelley now sloshes through the marshes looking for oysters. This day near Empire recently was relatively easy. Sometimes a fast-moving tide brings the water up to his neck as he's scanning the floor for oysters. (Photo by Ted Jackson © 1997 The Times-Picayune Publishing Co., all rights reserved. Used with permission of *The Times-Picayune*.)



HANDOUT: I AM A CHILD OF THE ESTUARY: FORMAT

A POEM ABOUT THE INHABITANTS OF THE BARATARIA-TERREBONNE BASINS

Reflections on the role of humans in the estuary . . .

FORMAT

FIRST STANZA

- I am (your role or history in the Barataria-Terrebonne Estuary)
- I wonder (something to reflect on about your role or history)
- I hear (your favorite sound of the estuary)
- I see (your favorite sight of the estuary)
- I wish (your dream for the estuary)
- I am (the first line of the poem repeated)

SECOND STANZA

- I remember (thoughts on your past in the estuary)
- I feel (a feeling about the estuary)
- I cherish (something you hold very dear about the estuary)
- I worry (a fear you have about the estuary)
- I cry (something you've witnessed in the estuary that makes you very sad)
- I am (the first line of the poem repeated)

THIRD STANZA

- I understand (something about your role or history in the estuary that you know is true)
- I say (something to those who might follow in your footsteps)
- I dream (your vision for the future of the estuary)
- I try (what you do to make your situation better)
- I hope (how you want things to be)
- I am (the first line of the poem repeated)





I AM A CHILD OF THE ESTUARY

A MODEL POEM

A Fisherman

FIRST STANZA

I am a fisherman, as my father before me.
I wonder if my son will be one, too.
I hear the wind whipping the waves.
I see the tide flow in and out.
I wish the estuary wasn't changing.
I am a fisherman, guardian of the coast.

SECOND STANZA

I remember nets filled with fish.
I feel that things will never be the same.
I cherish my time spent on the water.
I worry about supporting my family.
I cry to see marsh becoming open water.
I am a fisherman, with empty nets.

THIRD STANZA

I understand the rise of the tides, the pull of the moon.
I say it's not the same life anymore.
I dream that I can fill my nets again . . . and again . . .
I try to learn other ways, do other things.
I hope for better times.
I am a fisherman, but for how much longer . . .?

QUESTIONS FOR JOURNALING

1. Look at the evidence of change in your community, both in the natural world and in the lives of the people who live there. Describe what has happened. What, if anything, are people doing about it?
2. Can you recall a time from your own childhood when you paid close attention to some detail in the natural world? What was it that captivated you? Describe your experience.
3. After you have shared poems with other students, did you notice any common themes that were found in several poems? What were they? Why did they occur so often?
4. Your poems are works of art that describe an element of nature. How did your poem reflect your attitude toward the plants or animals of the estuary? Did you feel a sense of discovery? Did you feel like an artist in the creation of a visual piece of artwork?
5. Did you write your poem about a wild animal of the estuary? Describe the elusiveness or mystery of that animal. Is this elusiveness part of the mystery that attracts people to such animals?

ASSESSMENT

POEM RUBRIC	Degree to which the format is maintained; Clarity of writing	Degree to which the elements of the poem are developed	Degree to which a logical flow of the elements is present	Degree to which the work as a whole fits the assignment
A Well Constructed	Format maintained throughout the poem; effective writing	Major points developed	Major points connected	Fully developed poem
B Constructed	Most of the format maintained throughout the poem; clear writing	Most points developed	Most major points connected	Essential elements of the poem are present
C Under-Constructed	Format not maintained in poem; writing unclear	Some points developed	Some major points; not all points connected	Tried to complete the assignment
D Absent	Format absent; writing unclear	Lack of development	Lack of plan; no connections	Assignment not completed

EXTENSIONS

1. Design a mural for your school, local museum, library, church hall, or community center that depicts the history of the lives of people inhabiting the Barataria-Terrebonne Estuary. Develop a plan to get your mural funded. Recruit volunteers who will help you paint the mural. Plan an opening ceremony to showcase your mural to the community.
2. Activity in the natural world of the estuary is frequently associated with physical hardship. Write a short story about one of your own experiences in the estuary. Its focus can be either hardship or its opposite, the delight and pleasure connected with your experience.
3. Select a single animal that was an important part of your life at one time and write a short essay describing how your relationship to it was important to you. How does that compare to your thoughts and feelings about the wild animals of the estuary?
4. Organize your classmates and some adult volunteers to build bat houses, butterfly houses, wood duck nesting boxes, or other animal shelters. Find the best places to put them in your community. Monitor them regularly to see if they attract any wild inhabitants.
5. Submit your poetry to a contest such as the Louisiana Environmental Education Calendar Competition or River of Words. Each year, River of Words, in affiliation with The Library of Congress Center for the Book, conducts a free international environmental poetry and art contest for youth, 5-19 years of age, on the theme of watersheds. The contest is designed to: *help youth explore the natural and cultural history of the place they live, and to express, through poetry and art, what they discover. The natural world as seen through the eyes of its children is heartening, humbling, fresh, often life-affirming, and sometimes disturbing.* (<http://www.riverofwords.org/poetry/index.html>) For information about the organization and the contest as well as to read winning poems and view art work, visit the web site: <http://riverofwords.org>
6. Perform READERS' THEATER.





READERS' THEATER

WHAT IS IT?

Readers' Theater is drama with no memorization, no full costumes, and no full stage sets. If costumes are used, they should be neutral and suggest or imply the nature or personality of the character. If stage sets or props are used, they should be simple and suggestive. Scripts are always used. Reader should read individual lines or stanzas alone, in pairs, or in unison with as much creative expression as possible.

PROCEDURE

1. Select a group of students to model Readers' Theater.
2. Make copies of the following script *Remorse of An Estuary* by Steven "Chris" Miller from Chalmette, Louisiana.

REMORSE OF AN ESTUARY

I am the thing you fear the most.
I wonder how many have seen my ghost.
I hear the morning dew drips cry.
I see the irises wither and die.
I wish to unleash these feelings I hide.

I remember children's laughter fulfilled.
I feel the mood, soft and stilled.
I cherish the sweet warbler's song.
I worry my life won't last that long.
I cry the tears of my love's sweet despair.
I can't bear the sight of fishing nets bare.

I understand I can change this fate.
I say to those who care, "Don't wait!"
I dream my waters are rich and pure.
I try to purge my unsightly shore.
I hope that you have seen the light.
I need everyone to feel my plight.

I am the dying remembrance of a place called HOME
. my Estuary.

3. Rehearse the reading with the performers, giving suggestions if needed.



4. After the group has modeled Readers' Theater, analyze the performance with the audience.
5. Break the students into groups. Ask them to select one of their "I AM" poems for their participation in Readers' Theater.
6. Review "Tips for Readers" with the class.
7. Allow time for rehearsals.
8. Each group performs. (If possible, videotape student performances.)

TIPS FOR READERS

1. Have a script for each person. Sharing scripts makes it harder to follow along.
2. Always read the whole script first so that you'll be comfortable with the words and meaning, and you'll know the context of your character's words.
3. Review difficult or unfamiliar pronunciation and vocabulary.
4. Highlight your part.
5. Try out different voices, rates of speech, accents, postures, and gestures. Use creative expression, enunciation, appropriate volume and intonation.
6. Study yourself in a mirror. Can you make your face look angry, sad, afraid, happy, or anxious?
7. Practice your part alone or with friends and family, if possible.
8. Rehearse with your group before performing. Offer specific feedback. Instead of, "Read with more expression," say, "Sound angrier."
9. When others are reading, be silent and still. Follow along so that you'll know when to speak.
10. Hold your script at waist level. If you hide behind it, your voice will be muffled and difficult for the audience to hear.
11. If you make a mistake, just go on as if you didn't.
12. If someone else makes a mistake, try to help in a discreet way.
13. Look up from your scripts at both the other readers and the audience.
14. Look at and react to other readers. The narrator should face the audience. Make sure that the audience can see and hear each reader.
15. Have fun!

RESOURCES

BOOKS

Saving Our Good Earth: A Call to Action. Barataria-Terrebonne Estuarine System Characterization Report. BTNEP; 1995.

WEB SITES

Barataria-Terrebonne National Estuary Program
www.btnep.org

The Pulitzer Board: “Are the World’s Fisheries Doomed?”
<http://www.pulitzer.org/year/1997/public-service/works/1-1/>

U.S. Army Corps of Engineers - New Orleans District
<http://www.mvn.usace.army.mil/>

USDA Natural Resources Conservation Service - Louisiana
<http://www.la.nrcs.usda.gov/>

NOAA National Marine Fisheries Service
<http://www.nmfs.noaa.gov/habitat/restoration/>

U.S.G.S. National Wetlands Research Center
<http://www.nwrc.usgs.gov/>

Louisiana Governor’s Office of Coastal Activities
<http://www.goca.state.la.us>

National Coastal Wetlands Conservation Grant Program
<http://www.fws.gov/cep/cwgcover.html>

Louisiana Cooperative Extension Service
<http://www.lsuagcenter.com/en/administration/about-us/extension>

Education & Public Outreach Tales of the Blue Crab
<http://www.serc.si.edu/education/resources/bluecrab/index.htm>

Sea Science - Blue Crab
<http://www.dnr.state.sc.us/marine/pub/seascience/bluecrab.html>

LA Department of Wildlife & Fisheries
<http://www.wlf.louisiana.cpr>

America’s Wetland Campaign
<http://www.americaswetland.com>

EPA Region 6
<http://www.epa.gov/region/index.htm>

US Fish and Wildlife Service
<http://www.fws.gov/>

Louisiana Department of Natural Resources
<http://dnr.louisiana.gov>

Louisiana Seagrass
<http://www.laseagrass.org/>

Coast 2050
<http://www.coast2050.gov>

Blue Crab Home Page
<http://www.blue-crab.net/>

Blue Crab Archives
<http://www.blue-crab.org/>

Blue Crab Education Page
<http://www.vims.edu/adv/ed/crab/contents.html>

Seafood Safety
<http://www-seafood.ucdavis.edu/Pubs/safety1.htm>



Lesson Two:

The Material of Culture



When I was a little girl my Paw-Paw used to bring the moss in from the swamps and up the bayou on his flat boat and then he dumped it in piles and we had to keep it wet all the time. It had to be continually turned, you had to turn it all the time to keep the bottom from getting hot. They used buckets of water from the ditches and bayous 'cause they didn't have no hose pipes in those days. And, oh, how the children did love it 'cause they got to play in the water. Sometimes though it got out of hand and Paw-Paw would fuss at us. Then when the black crust fell off the moss they hung it on the cyprus fence or string clothes lines for it. Then the man from the gin would come around and buy it. I didn't sleep on a cotton bed until 1931 when I got married cause all we had when I was a girl were moss mattresses. But my husband's family they raised a little cotton so they had cotton mattresses.

~Anonymous 80-year old woman, Lafourche Parish

Louisiana Voices: Material Culture: The Stuff of Life (n.d.). Retrieved February 18, 2005 from http://www.louisianavoices.org/Unit7/edu_unit7.html

Material culture is the assortment of handmade items that are used in everyday life. They can be anything from furniture to clothes, dishes, toys, or paintings. Examples of material culture found in *Folklife and Fieldwork: A Layman's Introduction to Field Techniques* (2002, p.4), a document published by the American Folklife Center, include:

Artifacts	Houses, outbuildings, barns, boats, floor plans, roofing materials, masonry, wall and fence construction, tools and implements.
Cultural Landscape	Wall and fence placement, farm planning, farming techniques, rural and urban use of land and space, physical and economic boundaries of regions and neighborhoods
Crafts and Trades	Boat building, blacksmithing, sulphur mining, tool making, pottery, net making, weaving straw work, animal trapping, basketry, quilting
Folk Art	Graphic arts, furniture decoration, embroidery, beadwork, quilting, wood carving, jewelry making, yard and garden decoration



Today we are more likely to purchase ready-made items and hire workers, but our ancestors had to make most of what they needed and used from what they found in nature. Whether they were descendants of American Indians, Africans or Europeans, they wasted very little and used things over and over. They passed the knowledge and skills to make these goods from one generation to another. Each generation added its own “spin” to improve the looks or usefulness of each piece. They treasured some items for their utility, others for their aesthetic beauty.



Here is a list of some items made from nature’s bounty that are part of the material culture of the estuary:

mattresses & furniture stuffed with Spanish moss
 quilts/rugs from fabric scraps
 baskets from pine needles, cypress & palmetto
 clothes from flour sacks & animal hides
 pottery from clay
 decoys/whittled figures from scrap wood

dyes from native plants & soil
 paddles/spoons from cypress wood
 buttons/beads from horn, shell, bone
 cloth from woven fibers

What other materials can you identify? Many of these artifacts were lost as synthetic and manufactured items replaced them; others can be seen in the homes of people who preserved them, or in museums. Studying cultural artifacts can tell us a lot about our ancestors and how they lived. Creating our own handicrafts will give us an appreciation of the labor and skill involved, as well as an understanding of the people who originally created them—just ask Janie Luster, a contemporary artist of the Houma Tribe. Janie creates beautiful jewelry using dried and painted garfish scales, as well as traditionally woven baskets. The story about her challenge to weave her first Houma basket illustrates the powerful link between material culture and cultural history.

Janie Luster had seen a photo of a very old traditional Houma half-hitch palmetto basket that had been housed in a museum. She longed to reclaim this part of her heritage by mastering the techniques that would produce a new basket using the ancient pattern. She struggled for many weeks, but she could not get the pattern right. One day, she was especially frustrated and took a break from her attempts to weave the basket. She showered and, as the water rained down upon her, she found a new inspiration for her task. She thought about her ancestors weaving palmetto baskets and knew the spirit of her grandmother, great-grandmother, and all the Houma women before them was alive within her. She asked her ancestors for guidance. Later that day, she sat down with the palmetto fronds to try again with renewed energy. She suddenly realized that she knew exactly how to weave the pattern. It was as if the spirit of her ancestors had told her hands and her mind what to do. (Personal interview with T. Fandal, Spring, 2004).

What a great story! Let’s not forget Janie Luster’s dedication and perseverance as we try our hand at making our own cultural artifacts.

Objectives

STUDENTS WILL

- **research cultural artifacts.**
- **study the process of creating material culture.**
- **create an exhibit of Native American, African, and/or Cajun/Creole cultural artifacts.**

MATERIALS

Cameras and/or video recorder

Computer with Internet access

Handout: *Material Culture Methods: How to Interpret Art Objects of the Estuary* (pp.7-8)

GETTING READY

1. Plan a field trip to a local museum, plantation, antiques mall or craft fair for students to observe cultural artifacts and exhibit designs. Some suggestions for field trips in the Barataria-Terrebonne National Estuary include: the United Houma Nation Tribal Center in Golden Meadow, the African-American Museum in Donaldsonville, the Water Life Museum in Houma, the Lafourche Heritage Museum in Lockport, and Southdown Plantation in Houma. Perhaps you know other rich cultural sites in your area. Add your own to this list or consult the Web site <http://www.btnep.org> for more information on field trips in the estuary.
2. Invite one or more folk artists to class to demonstrate their craft and discuss their training as an artist. Some artists will teach beginner's instructions for students to make crafts. If this is not possible, ask your school's art teacher for help, or have students research material culture. A good place to start is *Louisiana Voices: Material Culture: The Stuff of Life*, Web site: http://www.louisianavoices.org/Unit7/edu_unit7.html
3. If possible, have cultural artifacts from the estuary on hand as models for students to examine and analyze as they complete the handout *How to Interpret Art Objects of the Estuary*.
4. Reserve space and materials to set up students' exhibits.
5. Invite local artists and/or museum curators or docents to judge the student exhibit.
6. Make copies of handouts and Judges' Review Sheet.



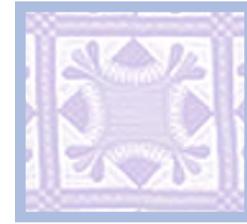
PROCESS

1. Research cultural artifacts from your region on the Internet, at a museum, or by observing a local artist's demonstration. Explore the Web site of the American Folklife Center, Library of Congress at <http://www.loc.gov/folklife/>
2. Drawing on either Native American, African, or European heritage, select one type of artifact that you would like to research and create. For ideas, explore *Louisiana Voices* at <http://www.louisianavoices.org>
3. Analyze the artifact using the handout *How to Interpret Art Objects of the Estuary*.
4. Gather information on the development and construction of the piece.
5. Take photos and/or draw sketches of completed works or works in progress.
6. Design and construct your own handicraft.
7. Research museum exhibit and design elements.
8. Work with the class to set up an exhibit of Material Culture.



QUESTIONS FOR JOURNALING

1. Which artifacts that you researched were your favorites? Why?
2. Where did your ancestors live? What are some types of artifacts used by them?
3. How are the objects in your everyday life different from those of your ancestors?
4. Describe your own "material culture." What do you think your descendants will think of computers and cell phones?
5. What new terms did you learn from your research of material culture? Why are they important?
6. In the Barataria-Terrebonne Estuary, we prize storytellers and musicians for passing along our culture. Are stories, songs, and musical compositions part of our material culture? Why or why not?



RUBRIC: MATERIAL CULTURE EXHIBIT

Work with other members of the class to create a Material Culture Exhibit of the handicrafts you created. You will be assessed on your ability to define the origin, use, and aesthetics of each handicraft, to categorize the objects by a theme (household use, occupational use, age, origin, etc.), and to place each object in the appropriate gallery.

Criteria	Outstanding 20	15	Adequate 10	5	Needs Improvement 0	Total Possible Points	Actual Score
Exhibit Galleries	Chooses appropriate themes, such as use, age, origin or material, to group the handicrafts.		Identifies most factors but does not relate them to one theme.		Central theme not identified; depend on others to identify factors.	20	
Background information & knowledge	Identifies the origin, use, and/or aesthetics of all handicrafts.		Identifies origin, use, and/or aesthetics for some handicrafts.		Groups objects randomly; origin, use, and/or aesthetics not identified for any handicrafts.	20	
Understanding of Gallery Design	Places each handicraft in appropriate gallery; provides accurate information about each artifact.		Places most handicrafts in appropriate gallery; provides mostly accurate information.		No apparent plan or structure; interpretation and/or evaluation of information not evident.	20	
Understanding of Exhibit Design	Very pleasing appearance; excellent use of color, design, arrangement, and signs; accurate tour guide descriptions.		Pleasing appearance; good use of color, design arrangement, and signs; several inaccurate tour guide descriptions.		Color, design, arrangement and signs need work; descriptions are not accurate.	20	
Teamwork	All group members contribute; all members complete assigned tasks.		Most group members contribute; all members complete their assigned tasks.		A few group members complete most tasks; some tasks not complete.	20	

Total Possible Points = 100

Total Score =

MATERIAL CULTURE EXHIBIT

Judges' Review Sheet

Thank you for judging our Material Culture Exhibit. Please evaluate the exhibit and presentations according to how clearly the themes are understood and how well the handicrafts are categorized into themes.

Reviewer Comments:

I understood the use or function of each handicraft: _____

I appreciated the form and beauty of each handicraft: _____

I understood the meaning or story behind each handicraft: _____

I could understand the placement of each handicraft related to the exhibit gallery in which it is located:

Other Comments: _____

(Adapted from *Louisiana Voices: Unit VII Material Culture: The Stuff of Life*; Lesson 1: Reading Artifacts; "Rubric for Creating An Exhibit;"

http://www.louisianavoices.org/Unit7/edu_unit7.html



How to Interpret Art Objects of the Estuary

Many objects of everyday life in the Barataria-Terrebonne estuary reflect not only the times and places in which they were produced, but also the different cultures they reflect, e.g., dugout canoes, Chitimacha straw baskets, pottery, or quilts. Some cultures may be unfamiliar to us, but studying artifacts as art can help us understand more about those cultures. The way we view material culture in the Barataria-Terrebonne estuary—the artifacts produced by people based on their habits or culture of estuarine life—is helpful for learning about the art that's all around us.

Historian Thomas Schlereth (1980) has developed nine models to interpret material culture. In his book, *Artifacts and the American Past*, he explains the concept this way: "Material culture study attempts to explain why things were made, why they took the forms they did, and what social, functional, aesthetic, or symbolic needs they serve" (p. 3).

PROCEDURE

STEP 1 Examine the following list of Schlereth's (1980) material culture models. Discuss them with your teacher and classmates. Then apply one or more of them to the artifacts in the lesson.

Understanding the Nine Models of Material Culture Interpretation

- 1. Art Historical:** The beauty inherent in an object has a value all its own. Do you and your family have any items that are beautiful rather than useful, such as a painting, a handmade porcelain doll, an antique treasure? Describe the lines, shapes, colors, and textures.
- 2. Symbolic:** Sometimes an object has special meaning in society. It may symbolize something religious, such as stained glass windows in a church, or denote power, such as the Bald Eagle, our national symbol. Some parts of an object may have special symbolism. The brown pelican on the state flag of Louisiana is an example. What does your object symbolize?
- 3. Cultural:** Which aspects of Barataria-Terrebonne estuarine culture does this artifact show? Is it representative of a particular segment of our culture? Does it have any special characteristics typical of any ethnic or regional group? What are its unique characteristics?
- 4. Functional:** How useful is the artifact? How was it meant to be used? What was its primary function? Is it still useful today? Is a Houma basket in a museum used in the same way the creator intended? Why or why not?
- 5. Structural:** How was this artifact made? Of what materials was it constructed? Did any of those materials come from the estuarine environment? What tools were used?

6. **Environmental:** Has the environment shaped the formation of this artifact or changed it in any way? Does the object reflect the natural world, the available natural resources? Which part of the estuary can be connected to this artifact?
7. **Behavioral:** What does this artifact mean to people? Is there a relationship between the object and the behavior of people? Is it meant to change them in any way?
8. **Community:** What is the artifact's role in the community? Does it have special significance to all members of the community or to a few? Would everyone in the community view the object through the same lens?
9. **Social History:** What is the artifact's history? What is its age? Does it relate to a special period or event in our culture? Who made it or owned it?

STEP 2 Here is a set of questions that have been developed from the nine models to help you analyze some familiar and unfamiliar objects from the estuary.

Using the Nine Models of Material Culture Interpretation

A list of artifacts from your research might include: washboard and/or washtub, cypress dugout canoe, rag rug, Mardi Gras costume for a King or Queen, a cane raft or “cajeu”, wooden duck decoy, ladder-back chair with a rawhide seat, potato sack dress or shirt, etc.



What other artifacts can you add to this list?

Apply these questions to the artifacts you researched in the lesson:

- Describe the artifact as if you were seeing it for the first time.
- Of what materials is it made? How was it made? Which tools do you think were used to make it?
- From which estuary habitat did the materials come?
- What is the artifact's origin? What is its age? What time and place does it reflect?
- Does the artifact reflect its habitat? How?
- What was the artifact used for? Does it have multiple uses? How is it used today?
- Who used the artifact?
- How was it used?
- If the artifact is made from a plant or animal, what is the life cycle of the species?
- Can any values be placed on the artifact (power, religious, high standing)?
- Has the artifact's meaning, use, or significance changed over time?
- Can you identify any personal connections you have with the artifact?
- What does the artifact signify about the people who made it? What was their lifestyle like? Their beliefs?
- Would you use this artifact today? How? Why?

This activity was adapted from:

Schlereth, T. J. (1980). *Artifacts and the American Past*. American Association for State and Local History: Nashville, TN. p.3.

EXTENSIONS

1. Continue to develop your knowledge and skill in the art of design and construction of your chosen handicraft.
2. Invite students, parents, and community members to visit your exhibit.
3. Research cultural artifacts from other regions of the world. Compare and contrast them with material culture of south Louisiana.
4. Conduct an oral history interview with an interesting elder in your family or community. (See “How to Conduct An Oral History” at www.btnep.org)

RESOURCES

WEB SITES

Louisiana Voices: Material Culture: The Stuff of Life

http://www.louisianavoices.org/Unit7/edu_unit7.html

Creole State Exhibit http://www.louisianafolklife.org/LT/CSE/creole_home.html

Louisiana Folklife Photo Gallery

<http://www.louisianafolklife.org/FOLKLIFEimagebase/photogallery.asp>

Louisiana Folklife Center <http://www.nsula.edu/folklife/default.htm>

Native American Organizations in Louisiana

http://www.louisianafolklife.org/Resources/creole_res_native_amer_gro.html

Folk Crafts: A Hand-Me-Down Tradition

http://www.louisianafolklife.org/LT/Articles_Essays/creole_art_folkcrafts_hand.html:

Louisiana Division of the Arts, State Artist Roster

<http://www.crt.state.la.us/arts/rosterbase/RosterHome.htm>

Passing It On <http://www.louisianavoices.org/pdfs/Unit7/Lesson1/PassingItOn.pdf>

BTNEP Field Trip Guide; available by contacting the BTNEP Office <http://www.btnep.org>

Louisiana Rebirth <http://www.crt.state.la.us>

BOOKS

Artifacts and the American Past, Thomas J. Schlereth, American Association for State and Local History, Nashville, 1980, p.3.



Lesson Three:

Louisiana Wetlands — TO BUILD OR NOT TO BUILD

COASTAL LAND LOSS AND RESTORATION IN LOUISIANA

An Online Investigation in Three Parts

Objectives

- **STUDENTS WILL learn that America's coast in Louisiana is disappearing at a catastrophic rate.**
- **compare and evaluate a variety of actual coastal restoration techniques.**
- **use accurate scientific terminology to discuss basic facts of coastal zone management.**
- **describe examples of current problems associated with land loss.**
- **develop a PSA to create an awareness of coastal land loss issues.**
- **analyze restoration projects that identify and remediate coastal and loss problems.**
- **prepare an evaluative presentation that critiques current practices.**

Setting the Stage



Louisiana is a state rich in resources supplied by our coastal wetlands. Resources provide for industries—including oil and gas, shipping commerce, commercial and recreational fishing, trapping, hunting and agriculture—that make Louisiana an economic haven. Additionally, coastal Louisiana is home to fascinating people, plants, and animals. But a looming problem exists—land loss!

If wetland loss in Louisiana continues at the current rate of 1 acre of land lost every 38 minutes, almost 1,000 more square miles will be lost by the year 2050. What will happen to Louisiana's wetlands? The question remains: To build or not to build? For the residents of south Louisiana in the wake of Hurricanes Katrina and Rita, these questions have taken on increased importance.

After reviewing and evaluating research compiled by scientists, you will be part of the decision-making process.



MATERIALS

- Computers with Internet access
- Teacher computer with projection device
- RealPlayer, QuickTime, Acrobat Reader, Microsoft PowerPoint software
- Computer disks or CDs
- Online Investigation worksheets and handouts

GETTING READY

1. Review all websites used in the lesson. Make any necessary changes, additions, or deletions.
2. Download or print any material you think you may want to keep in the future. Be sure you have Real Player, Quick Time and Acrobat Reader on your computer. If you don't, all of these downloads are currently free. There are links to them at the www.lacoast.gov and www.btnep.org websites.

PROCESS

Teachers: Announce the following to your students before distributing the WebQuest handouts:

This lesson contains three parts. I am going to explain each part to you. You will receive a handout to complete for each part of this Online Investigation.

- I Online Investigation Part 1—Reviewing Basic Problems: Research current coastal land loss trends in Louisiana using a web search or modified web search. Complete the answers on the worksheet. Write a Public Service Announcement.
- II Online Investigation Part 2—Understanding an American Resource: Research actual restoration projects of the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) in Louisiana using www.lacoast.gov and www.btnep.org websites. Complete the answers on the worksheet.
- III Online Investigation Part 3—Solutions to Coastal Land Loss Problems: Create a PowerPoint (or similar presentation) summarizing coastal land loss in an area and a given restoration activity or technique.

Online Investigation—PART ONE

Reviewing Basic Problems



Setting the Stage

Research current coastal land loss trends in Louisiana using the Internet. Complete the answers on the worksheet.

Write a Public Service Announcement. A PSA, the acronym for Public Service Announcement, is a 30 or 60 second commercial spot produced for radio, television, or the Internet, that calls attention to an issue that affects people's lives. You may have seen or heard some PSAs concerning education, the environment, or another cause. PSAs can help to promote understanding, cooperation, pride and action towards a community goal. A well-written PSA can serve as a springboard for increased media attention on coastal land loss trends in the Barataria-Terrebonne National Estuary.

Objectives

STUDENTS WILL

- **research current coastal land loss trends in Louisiana using the Internet.**
- **define the term *public service announcement*.**
- **develop ideas for a PSA about an environmental issue.**
- **design props and/or costumes for the announcement.**
- **demonstrate creative thinking and writing skills.**
- **work cooperatively in a group to create a 30 or 60 second PSA about an environmental issue.**

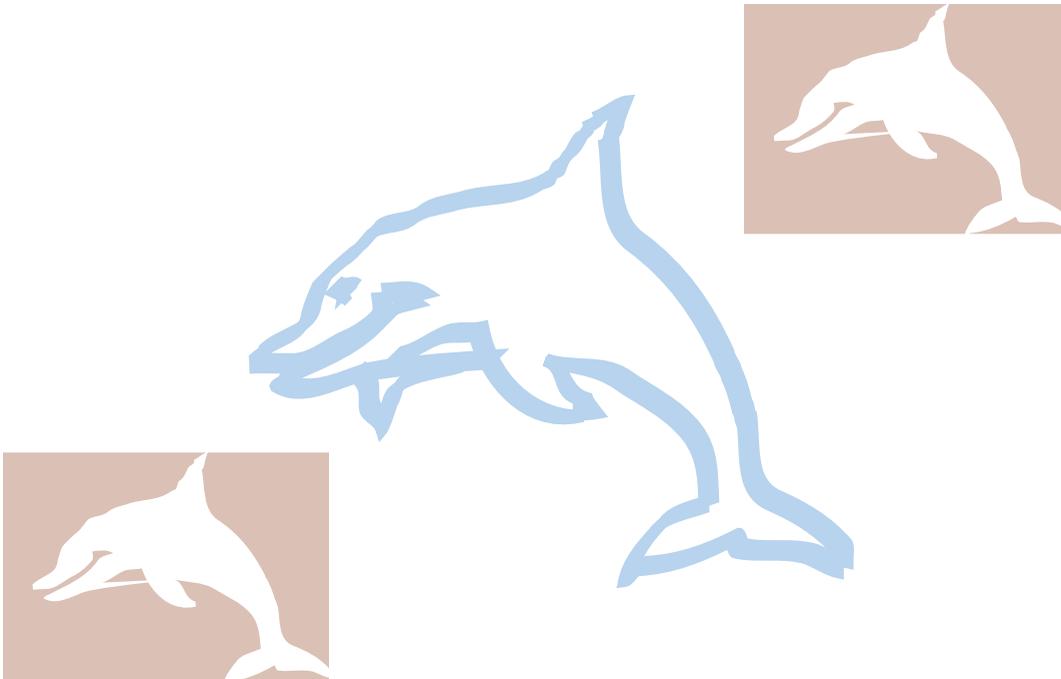
MATERIALS

- Worksheet: *Online Investigation Part 1: Reviewing Basic Problems—A Worksheet* (p.5)
- Handout: *Writing a Public Service Announcement (PSA)* (pp.6-7)
- Computer with Internet Access
- List of local TV and radio station addresses
- Television
- Video camera and videotape
- Background music
- CD or tape player
- Props and/or costumes for the announcement
- Information about BTNEP's *Seven Priority Problems* from the seven-poster set and/or online sources, such as www.btnep.org



PROCESS

1. Review and discuss the worksheet *Online Investigation Part 1: Reviewing Basic Problems* with the students.
2. Review and discuss the handout *Writing a Public Service Announcement (PSA)* with the students.
3. Ask the students to plan and write their PSAs.
4. Set deadlines for completion, revision, and submission of the PSAs.
5. Monitor the groups.





ONLINE INVESTIGATION PART ONE

REVIEWING BASIC PROBLEMS—A WORKSHEET

1. Visit: <http://www.lacoast.gov/media/videos/index.htm> and view one of the "Save Louisiana Wetlands" Campaign - Public Service Announcements (30 seconds each) featuring Harry Connick, Jr., Aaron Neville, Chef Paul Prudhomme or Kermit the Frog. Additional PSAs are available at the website: www.btnep.org. Click on the "Educator's" link.

Answer these questions:

- a. What is the major problem in coastal Louisiana?
 - b. What can individuals do to help?
 - c. Why do you think a celebrity was chosen to make the commercial?
2. After viewing one or more public service announcements, look now at the "Land Loss Video Update" on the same page: <http://www.lacoast.gov/media/videos/index.htm>.

Be sure you have downloaded Windows Media Player. Remember that this is a model based on the past, but human intervention can play a large role in changing the predicted outcome. As you review the site, answer these questions:

- a. How do you feel about losing acreage the size of a football field in Louisiana every 30 minutes?
- b. How do you think this land loss will affect your life in Louisiana?
- c. What state is equal in size to the land loss already experienced by the people of Louisiana?
- d. How would you feel if your home or neighborhood was on land that was lost this quickly?





HANDOUT:

WRITING A PUBLIC SERVICE ANNOUNCEMENT (PSA)

A PSA, the acronym for Public Service Announcement, is a 30 or 60 second commercial spot produced for radio, television, or the Internet, that calls attention to an issue that affects people's lives. You may have seen or heard some PSAs concerning education, the environment, or another cause. PSAs can help to promote understanding, cooperation, pride and action towards a community goal.

A well-written PSA can serve as a springboard for increased media attention on the seven priority problems in the Barataria-Terrebonne National Estuary. How would you like to try your hand at producing a PSA? Here's your chance to try!

My Public Service Announcement on Coastal Land Loss

Working with a partner, write a 30 or 60 second Public Service Announcement (PSA) about the coastal land loss problem in Louisiana. Consider the following tips for writing a PSA.

Planning my PSA

- Select your target audience. Appeal to their self-interests.
- Select a very specific issue.
- Research your topic for the most current information.
- Get ideas for your PSA by watching local TV and listening to the radio. Tape examples.
- View examples of PSAs that your teacher or classmates have taped. Discuss each one. What makes a good PSA?
- Call TV and radio stations and speak to the public service director. Ask for guidance and advice in preparing an effective PSA. Explain your project and ask for assistance in publicizing your issue.

HANDOUT: WRITING A PUBLIC SERVICE ANNOUNCEMENT (PSA), CONTD.

Writing and Recording my PSA

- Write the copy for your PSA. Your aim is to inform, with the hope of changing your audience's beliefs or behaviors. You may want to include a "catchy" jingle or slogan to get your message across. Later, it may be identified with your project.
- Consider existing community attitudes. Do you want to dramatize the severity of the coastal erosion problem or appeal for help on a cleanup campaign?
- Appeal to the self-interests of the audience: 
- Work together to write the script; choose the cast; design costumes, props, and scenery, and create a storyboard or a list of shots.
- Select appropriate background music/scenery to enhance your message. For examples, check the video clips at the www.btnep.org website.
- The message should be brief, accurate, understandable, and interesting. If you are writing a PSA for a video, use two columns. Write the message in the right column; in the left column write corresponding video directions (shot of dead cypress trees, cracked highways, erosion of banks).
- Time your PSA exactly to fit the allotted time segment of 30 or 60 seconds. Include a tag line to be identified with your project: "This has been brought to you by the students of _____ School".
- PRACTICE your pronunciation, enunciation, and timing on camera!
- Send your PSA to radio and TV stations via e-mail, regular mail, or personal delivery. Request a specific length of time for your PSA to be aired.

fishing
hiking
camping
business
civic pride
birding
swimming
picnicking
tourism
recreation
boating
environmental protection

Online Investigation — PART TWO

UNDERSTANDING AN AMERICAN RESOURCE



Setting the Stage

In the past century Louisiana has lost more than one million acres from its coastal zone due to both human and natural factors that have disrupted the fragile ecosystem. If this loss continues, a resource required for essential natural processes will vanish.

For the people who call Louisiana home, the cost of doing nothing has a high price tag. A cultural heritage made famous by Mardi Gras has deeper roots than parties and parades. It is a heritage of family and friends, hunting and fishing, cooking, and community that is defined, in part, by the prosperity that comes from living near the rich marshes, estuaries, and fossil fuel stores formed by the wetlands.

Objectives

- Students will
 - compare and evaluate a variety of actual coastal restoration techniques.
 - learn how information is shared from scientists to the public.
 - describe examples of current problems associated with land loss.

MATERIALS

- Handout: *Online Investigation Part 2: Understanding an American Resource—A Worksheet* (pp.9-13)
- Handout: *Online Investigation Part 2: Understanding an American Resource—ANSWER KEY* (pp.14-15)
- Computer with Internet Access

GETTING READY

- Make copies of worksheet

PROCESS

- Review and discuss the worksheet *Online Investigation Part 2: Understanding an American Resource—A Worksheet* with the students

UNDERSTANDING AN AMERICAN RESOURCE—A WORKSHEET

Our task is to learn more about the fight to keep coastal Louisiana on the US map. You will also learn how information is shared from scientists to the public. Some of the questions will be technical about math and science; some are about language, and some are about people and culture. At the end of this online investigation you will be asked to create an electronic computer-generated slide show presentation. Pay careful attention to what you read and take good notes!

1. **Go to the website: <http://www.lacoast.gov/watermarks/2002-09/index.htm>. Using WaterMarks Region 1: September 2002, respond to the following questions or statements.**

The Louisiana coast has been divided into four regions defined by Coast 2050, a strategic plan designed to create a sustainable coastal Louisiana.

- a. Which major city is located in Region I?
Go to: <http://www.lacoast.gov/watermarks/2002-09/1land/index.htm>
- b. Name 3 causes for the deteriorating marshes and swamps in Region
Go to page 5: <http://www.lacoast.gov/watermarks/2002-09/2crisis/index.htm>
- c. After reading pages 8 & 9, "A Case Study: Bayou LaBranche Wetlands Restoration," respond to the following questions or statements.
Go to: <http://www.lacoast.gov/watermarks/2002-09/5casestudy/index.htm>

What material was used to restore 436 acres of wetlands in St. Charles Parish?

Which two hurricanes contributed to the land loss on the south shore of Lake Pontchartrain during the 1960s?

Compare the pre-construction and post-construction picture. In your own words, describe the change from November 1993 to November 1997.

Was the restoration project successful? Explain why or why not.

2. **Using WaterMarks Region Two: June 2002, “ CWPPRA Projects Construction Status,” respond to the following questions or statements.**
Go to: <http://www.lacoast.gov/watermarks/2002-06/3status/index.htm>
- Of the 32 projects listed on page 7, how many have a completion date listed?
 - How can you express a mathematical formula to calculate the percent of the projects that have completion dates listed?
 - Use your formula to calculate the percent of the projects that have an identified completion date.
3. **You will notice that for each issue of WaterMarks there is an interview with an important scientist, citizen, political or community leader. The Region Two Watermarks interview is with Benny Rousselle, President of Plaquemines Parish. Respond to the questions or statements below. Go to:**
<http://www.lacoast.gov/watermarks/2002-06/6interview/index.htm>
- Why do civic leaders need to be informed about scientific happenings in their communities?
 - Identify some of the coastal land loss issues faced by Plaquemines Parish. How do they affect the people of Plaquemines?
4. **Using the WaterMarks Region 3: May 2001 article titled "Region 3- The Land and Its People," answer the following questions or statements.**
Go to: <http://www.lacoast.gov/watermarks/2001-05/1region3/index.htm>
- Name the seven (7) Acadiana parishes in this area.
 - The Atchafalaya River is the largest tributary or river branch flowing away from the main channel of the Mississippi River. Which man-made structure(s) controls the flow of water between the Atchafalaya River and the Mississippi River?

c. The culture of Louisiana's people is unique and has been shaped by the interaction of a broad range of nationalities. Identify 6 nationalities that have blended together for over 200 years to create Louisiana's distinct culture.

d. This magazine is filled with wonderful pictures and aerial photos. Why are pictures important to a publication?

Go to: <http://www.lacoast.gov/watermarks/2002-06/index.htm>

5. Using the WaterMarks Region 4: November 2000 article titled, "A Case Study: Cameron Creole Watershed Project", answer the following questions or statements. You will need to pay particular attention to the graphs and charts in the article.

Go to: <http://www.lacoast.gov/watermarks/2000c11/3casestudy/index.htm>

a. How many alligator nests were identified in 1989? 1999?

b. Explain the change in salinity rates from 1989 to 1999.

c. What is one cause of the salinity rate increase?

d. Waterfowl numbers, when compared to 1989, increase an average of 77%.
What do you think caused this increase?

6. Using the WaterMarks Region 4: November 2000 article titled, "Looking to the Future," answer the question.

Go to: <http://www.lacoast.gov/watermarks/2000c-11/4future/index.htm>

a. Which US senator is responsible for getting legislation authorized for millions of dollars to be spent to help with Louisiana's coastal wetland restoration activities?

7. **Using the WaterMarks: Summer 1999, "The Cost of Doing Nothing," in the article titled "Louisiana Offshore Oil and Gas Activity," respond to the following question.**
Go to: [http://www.lacoast.gov/watermarks/1999c-summer/2offshore/index .htm](http://www.lacoast.gov/watermarks/1999c-summer/2offshore/index.htm)
- a. Identify six factors that contribute to Louisiana's land loss problems.
8. **Using the WaterMarks: Summer 1999, "The Cost of Doing Nothing: Other Impacts from Coastal Wetland Loss," answer the following question:**
Go to: <http://www.lacoast.gov/watermarks/1999c-summer/4other/index.htm>
- a. Louisiana and the nation's economy have much to lose as Louisiana's coastal wetlands are lost. Name three industries that are affiliated with Louisiana's coastal areas.
9. **Using the WaterMarks Winter 2000 Special Edition, "Restoring Coastal Louisiana- A Resource for the Nation", respond to the following questions.**
Go to page six:
http://www.lacoast.gov/watermarks/2000a-winter/WaterMarks_2000-winter.pdf
- a. Name three of the four general project groups.
10. **Link to the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Web site "Project List by Parish" to answer the following questions or statements.**
Go to: <http://www.lacoast.gov/education/classroom/parish.asp>
- a. Identify two Louisiana coastal parishes in the Barataria-Terrebonne National Estuary you are interested in seeing restored. What are the reasons for your choices?
- b. Identify the six Louisiana parishes that currently have the largest number of coastal restoration projects planned or in progress in their communities.

- c. What does this number of projects indicate about land loss in this area of the state?

- d. Which project(s) is/are occurring in every coastal parish list in the chart?

11. To answer the following questions, go to:
[http://Coastwide Nutria Control Program \(LA 03B\)](http://Coastwide Nutria Control Program (LA 03B) and) and
<http://www.lacoast.gov/reports/gpfs/LA-03b.pdf>

- a. What is a nutria?

- b. Why are they a problem in coastal zones?

- c. Why do you think the Nutria Control Program is statewide?

12. Using the LaCoast Web site at <http://www.lacoast.gov/links.htm>, select three additional Web sites you would view to learn more about coastal studies and the environment.

Use these sites to assist in the research for your PowerPoint presentation in the next part of this lesson.



Answer Key—ONLINE INVESTIGATION PART TWO:

UNDERSTANDING AN AMERICAN RESOURCE

1.
 - (a) New Orleans
 - (b) Three major causes are: (students may choose any three listed)
 - Natural subsidence of this ancient part of the Mississippi Delta
 - Sea level rise
 - Lack of fresh water, nutrient and sediment input from the leveed Mississippi River
 - Salinity increases
 - Large populations of nutria and muskrat
 - Hurricane damage (Betsy, Camille, Andrew and Georges, in particular)
 - Lakeshore erosion
 - Draining, ponding, and canal building
 - (c) Dredged sediment was used to restore the 436 acres
Betsy and Camille were the two hurricanes
Land was added within the project area boundary
Yes, new land was added

2.
 - (a) Eight have a completion date listed.
 - (b) A math formula is: *part* divided by *total* times 100 or $8/32 \times 100$.
 - (c) $8/32 \times 100 = .25 \times 100 = 25\%$

3.
 - (a) Civic leaders need to be informed about science and environmental issues in order to help their communities make good choices and well-informed decisions.
 - (b) flooding, hurricane protection, development, habitat loss, etc.

4.
 - (a) Terrebonne, Lafourche, Assumption, St. Martin, Iberia, St. Mary & Vermillion are the seven parishes.
 - (b) The Old River Control Structure controls the flow.
 - (c) French, Spanish, Scottish, Irish, German, Italian, and African are the nationalities. Students choose six.
 - (d) Answers may vary. Example: Pictures are important because they provide readers with another way to process the information.

5.
 - (a) In 1989, there were 25 alligator nests; in 1999, there were 250 nests.
 - (b) Salinity levels dropped by 42%.
 - (c) Drought causes salinity rate increases.
 - (d) Submerged vegetation grew, providing food for birds.

6. U. S. Senator John Breaux is responsible. Senator J. Bennett Johnston was also instrumental in passing the legislation.



Answer Key—CONTD.

7. (a) Six factors that contribute to Louisiana's land loss problems include: levees, channeling, sea level rise, saltwater intrusion, subsidence, barrier island loss.
8. Three industries include: oil and gas production, shipping, and fisheries.
9. Four projects are grouped as vegetative planting, sedimentary/freshwater, structural, and hydrologic.
10. (a) Answers will vary.
(b) The six parishes that currently have the largest number of coastal restoration projects are Cameron, Jefferson, Lafourche, Plaquemines, Terrebonne, and Vermillion.
(c) The large number indicates areas of high land loss and need for restoration.
(d) The Coast-wide Nutria Control Program is occurring all along the coast.
11. (a) The nutria is a non-native semi-aquatic rodent.
(b) Nutria destroy the marsh by eating marsh vegetation. When the roots of the plant die, the soil washes away, causing coastal erosion.
(c) Answer may be similar to: Nutria do not know parish boundaries, so a program directed at their entire habitat is important.
12. Answers will vary.



Online Investigation — PART THREE

SOLUTIONS TO COASTAL LAND LOSS PROBLEM

Louisiana has been blessed with many natural resources, among them our abundant coastal wetlands. Did you know that about forty percent of the coastal wetlands of the lower forty-eight states are located in Louisiana? It's a sad fact that this fragile environment is disappearing at an alarming rate. For several decades, Louisiana has lost about eighty-five square miles of marshland a year, which represents almost eighty percent of this country's annual coastal wetland loss. If this problem is not reduced, we will lose an additional 800,000 acres of wetlands. The Louisiana shoreline will creep inland as much as thirty-three miles in some areas. What does that mean for the community where you live?

Setting the Stage



Is anything being done to save our coastal wetlands and reduce wetlands loss? There are a number of projects in the state that are currently focused on marsh creation, restoration, protection or enhancement. Will these projects produce results? Will this be enough to sustain our coast and the invaluable storm protection it provides? Answers to those questions and more are the focus of this lesson.

MATERIALS

- Handout: *Fixing Louisiana's Coastal Land Loss Problems: Creating a PowerPoint Presentation about Coastal Land Loss* (p.17)
- Rubric: *Fixing Louisiana's Coastal Land Loss Problem: PowerPoint Project—Peer Assessment Form* (p.20)
- Rubric: *Fixing Louisiana's Coastal Land Loss Problems: PowerPoint Project Rubric* (p.21)
- Computer with Internet Access
- CDs

GETTING READY

- Make copies of handout and rubrics.
- Review with the students some solutions to Louisiana's coastal land loss problem by visiting the LaCoast Web site at: www.lacoast.gov

PROCESS

- Review and discuss the handout: *Fixing Louisiana's Coastal Land Loss Problems; Creating a PowerPoint Presentation about Coastal Land Loss* with the students.



HANDOUT:

FIXING LOUISIANA'S COASTAL LAND LOSS PROBLEMS

CREATING A POWERPOINT PRESENTATION ABOUT COASTAL LAND LOSS

1. Select projects from two or three parishes in the Barataria-Terrebonne National Estuary that are funded by the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA), also known as the Breaux Act. The projects are listed at:

<http://www.lacoast.gov/education/classroom/parish.asp>. Projects may be selected by a variety of headings, but search for them by parish.

2. On a floppy disk or CD, save the following information for each project for use in your PowerPoint presentation:

Approval date	Project area	Net benefit
Project type	Location	Problems
Restoration strategy	Picture	Map

3. Read and understand the grading rubrics used for this project. Discuss them with your teacher and the rest of the class. Once you know what the expectations are for a project, you're prepared to do your best!

4. Review the PowerPoint presentation from the LaCoast website at: www.lacoast.gov/education/classroom/index.htm Make notes if necessary. You may want to include similar slides and ideas in your presentation.

5. Work in groups of four. Each group member should create a minimum of two slides for the presentation. These should include:

- | | |
|---|---|
| a. title slide | e. reasons for saving Louisiana's coast |
| b. causes of coastal erosion | f. possible solutions to land loss problems |
| c. functions and values of Louisiana's wetlands | g. projects of interest |
| d. economic impact of coastal land loss | h. closing slide |

You can add additional slides to enhance your presentation if you wish. Your slides should all be informative, interesting, and colorful.

6. Assemble your slides into a PowerPoint project that meets the criteria in the rubric distributed by your teacher. Refer to: Tips for PowerPoint Presentations:

<http://www.powerpointbackgrounds.com/powerpointtutorials.htm>

The due date for this project is _____.

Present your project to the class.



EXTENSIONS

- Stream Table Activity—Building A River
<http://www.reachoutmichigan.org/funexperiments/quick/hawaii/Streams.html>
- Beach Erosion Activity
<http://www.leeric.lsu.edu/educat/lesson1.htm>
- River Labeling Activity:
<http://www.enchantedlearning.com/usa/outlinemaps/rivers/>
- <http://www.enchantedlearning.com/usa/outlinemaps/rivers/> - Answer Key

RESOURCES

- Testroet-Bergeron, Susan. “Restoring America’s Wetland”: A Science, Social Studies and Technology Learning Unit for Students in Grades 7-12. Johnson Controls, Inc., Louisiana Coastal Wetland Conservation and Restoration Task Force; 700 Cajundome Blvd., Lafayette, LA 70506
- Tips for PowerPoint Presentations:
<http://www.powerpointbackgrounds.com/powerpointtutorials.htm>
- La Coast—Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA)
<http://www.lacoast.gov>

QUESTIONS FOR JOURNALING

1. What did you learn about environmental issues in the BTNE while working on this project?
2. What did you learn about media production and media relations while working on this project?
3. What did you learn about yourself and your team members while working on this project?

ASSESSMENT

1. Evaluate students' contributions to and participation in the project.
2. Evaluate PSA and worksheet (Assess details, illustrations, statistics, comparisons and analogies students used to state their position.)
3. Require students to evaluate their own work and the team's finished products. This can be accomplished through reflective journal entries and peer review in class, such as “Commendations & Recommendations” discussions after each presentation. Two rubrics for assessment of the PowerPoint Presentation are provided.
4. Monitor student use of the computers and their ability to stay on-task, as well as their cooperation as a member of their creative team. Assure that all members of the team have the chance to play an important role as a member of their creative team.

EXTENSIONS

1. Have students develop a budget for their media campaign.
2. Arrange for a TV or radio producer to visit the class to answer questions related to PSA production.
3. Have students arrange to publish their media campaigns and multimedia presentations on the school server or website, or ask BTNEP to create a link to their website.
4. Students could develop a newsletter (either print or HTML format) that includes all PSA messages and provides a forum for continued student environmental stewardship.

RESOURCES

WEB SITES

- Education World: www.education-world.com/a_lesson/01-1/lp231_03.shtml
- Bill of Rights Institute: <http://www.billofrightsinstitute.org/>
- Maine PBS: <http://www.mpbn.net/educators/lessonplans.html>

ASSESSMENT

PERIOD _____

NAME _____

FIXING LOUISIANA'S COASTAL LAND LOSS PROBLEMS POWERPOINT PROJECT PEER ASSESSMENT FORM

STUDENTS _____ PROJECT _____

Total Possible Points = 5 x 4 = 20 points. Evaluate each project on the following criteria:

1. Quality of Research				
1	2	3	4	5
no evidence		little evidence		much evidence

2. Visuals				
1	2	3	4	5
none		average		excellent

3. PowerPoint Presentation				
1	2	3	4	5
did little to explain		explained adequately		excellent explanation

4. Overall Project				
1	2	3	4	5
needs improvement		average		outstanding

Commendations (What is good about this project?)

Recommendations (How can this project be improved?)

ASSESSMENT

NAME _____

FIXING LOUISIANA'S COASTAL LAND LOSS PROBLEMS POWERPOINT PROJECT RUBRIC

Points Indicators	4	3	2	1
Resources	Makes outstanding use of resources	Makes good use of resources	Makes limited use of resources	Makes little or no use of resources
Content	Shows thorough understanding of issue	Shows adequate understanding of issue	Shows partial understanding of issue	Shows lack of understanding of issue
Group Work	Works very cooperatively; contributions are equal	Works cooperatively; contributions are nearly equal	Works cooperatively at times and/or contributions are unequal	Does not work cooperatively, and/or some members don't contribute
Insight/Creativity	Exhibits outstanding insight and creativity	Exhibits satisfactory insight and creativity	Exhibits some insight and/or creativity	Needs work in exhibiting insight and/or creativity
Communication	Communicates ideas clearly and effectively	Communicates most ideas clearly and effectively	Communicates some ideas clearly and effectively	Needs improvement in communicating ideas clearly and effectively

Total Possible Points = 4 x 5 = 20 points

Commendations (What is good about this project?)

Recommendations (How can this project be improved?)

Lesson Four:

Where has all the Greenspace Gone? —

CONSTRUCTING A COMMUNITY GREEN MAP



“When we see land as a community to which we belong we may begin to use it with love and respect.” Aldo Leopold, Father of Wildlife Conservation, spoke these words over a hundred

years ago. June C. Kennedy quoted them in her book *A View from the Heart: Bayou Country Ecology* (1991, p.91) in the chapter “A Journey Toward Understanding.” Kennedy concludes this chapter with her words, “How precious life is...and how small the space on Earth that supports it” (p.91).

Have you lived in the Barataria-Terrebonne National Estuary? Even if you’ve only lived there a relatively short time, I’ll bet you’ve seen changes taking place in the landscape. Have any new subdivisions been constructed? Shopping areas? Schools? While those things might be necessary or desirable, they also contribute to habitat change in the BTNE. What stories do your parents and grandparents tell about “how it used to be around here?” The longer a person lives in an area, the more changes he or she has witnessed as green space falls to development. In this activity, we will survey the areas where we live, locate remaining green spaces, and document them on a map.

Green maps give us a different perspective of our residential areas. Instead of seeing only built areas of the local urban ecology, green maps locate waterways, wildlife habitat, parks, agricultural zones, recreational, cultural and historical sites, and other interesting places that make up a local environment. The Green Map System is a global collaborative that assists people everywhere in constructing their own local Green Map. While each map is uniquely designed, every map uses a selection of Green Map icons that describe sites from public forests to toxic hot spots. You can view some of the various green maps that have already been designed and published on the Internet website www.greenmap.org



Objectives

STUDENTS WILL

- **identify greenspace, natural areas and/or other important sites in the BTNE.**
- **research history of development in the BTNE.**
- **reflect on the ecological impact of urbanization.**
- **construct a green map.**
- **communicate student findings to the community.**

MATERIALS

- Computer with Internet access
- Notebook or index cards
- Street maps of the local communities in the BTNE
- Extra copies of map section enlargements
- Markers
- Tri-fold poster board
- Handout: *Constructing a Green Map* (pp.3-7)
- Handout: *Green Map System Icons* (pp.8-9)

GETTING READY

1. Register your class or group with the Green Map Project at www.greenmap.org
2. Download the Green Map Icon poster at <http://www.greenmap.org/ymaps/kicons.html>
3. Enlarge and copy local map sections.
4. Identify sites of interest in your local area.
5. Make copies of the handout *Constructing a Green Map*.

PROCESS

This process has been adapted, with permission from Wendy E. Brawer, Founding Director of Green Map System, from the *Green Map Activity Guide*, available at www.greenmap.org

1. Distribute copies of the handout *Constructing a Green Map*.
2. Divide the class into small groups based on neighborhood proximity.
3. Review the handout with the groups.

I GETTING STARTED

- Obtain a street map of your neighborhood, city, or community. Identify and mark the area you will be researching. Enlarge that area on a copy machine. Be sure your group has several copies to mark as you work, as well as a good, clear copy for your final map.
- Study the map, becoming familiar with landmarks and crossroads, including major streets, parks, and waterways.
- Review the Green Map Icons sheet, making sure you understand what each symbol means. Chances are you already know where many places of interest in your community are located. On one of your map copies, mark as many known locations as you can, using the icons from the Green Map Project.
- With other members of your group, decide on a general outline and goals for your map project.
- Develop a Work Plan!! Organization is the key! This cannot be a haphazard effort.
- Decide how your group will display the map once it is completed. Do you need more than one map? Choose one of the following formats for your Green Map:



- Create a single, large, colorful copy of your Green Map. Draw it on a tri-fold poster board as part of your class presentation. You can also make a paper copy and glue or tape it to the tri-fold board.
- **EXTRA CREDIT:** Print color copies of your map on paper to share in the form of a folding map, adding additional highlights as needed.
- **EXTRA CREDIT:** Scan your map into a computer and submit it to the Green Map Project website. An audience all over the world will be able to view it.
- **EXTRA CREDIT:** See the technology coordinator at your school about posting links to your Green Maps on your school's website.

II SURVEY THE AREA

- Form small map making teams. Then scout your area and find places described by the icons. Your map making group should discuss the sites you've found and decide which of the icons describe them best. You may use more than one icon, if necessary.

- b. Collect notes on your general impressions about the ecological health and aesthetic features of your area's environment.

III RECORDING GREEN SITE INFORMATION

- a. While you are in the field, use a notebook or index cards to keep track of the category, name, and location of each green site. This will be turned in with your final project. Remember that some places may be very small, but, if they are important for the environment, record them for placement on your map. Be sure that you have included sewerage and water treatment plants, pumping stations, power plants, electrical substations, industrial sites and oil refineries. Write a few sentences about special features of the landscape, make sketches, or take photographs to capture the key elements of each site.
- b. **EXTRA CREDIT:** Help gather more information by interviewing local residents, business owners, and/or community officials about wildlife, significant organizations, cultural sites, and other green places in your area.
- c. Check the library for books on local tourism or natural and cultural history. Check with community and governmental offices, including Planning Boards, Tourism Offices, and the Parks Department to find out who is working behind the scenes for conservation and a healthier environment.



IV ABOUT TOXIC HOT SPOTS

- a. Most communities contain threats to the health and safety of the natural environment. As you survey the neighborhood, make note of the category, location, and name of each toxic hot spot. If you have questions, check with your teacher. Other possible information sources include newspaper files and web resources, such as the Environmental Defense Fund's Scorecard posted at www.edf.org, where you can check on toxic emissions in your zip code.
- b. Be sure to include toxic sites and explain why you included them on your map. While it may seem strange to you to include such environmental challenges on a Green Map, they are important parts of every local environment, and you should know all you can about them.
- c. **EXTRA CREDIT:** Research environmental abuse or environmental justice issues, specifically the effects of pollution in your neighborhood, especially on poorer residents. Discuss ways you can use your Green Map as an advocacy tool to identify areas in your neighborhood with special needs for government resources and public attention.

V COMPLETING YOUR LIST OF SITES

1. All members of your map making team should compare and compile the information.
 - a) Are there any categories you missed? Do you need more research?
 - b) Should more recreational, cultural or historical places be included?
 - c) Are you ready to complete your final map?

VI ORGANIZING THE GREEN SITE

1. Once your list is complete, organize the green sites by type of site and also by location. You might also consider arranging them by the relative importance and size of the sites.
2. Transfer the collected information into a computer. Enter each site's information in standard format or data base to make it easier to use and to amend later.
3. In order to be described accurately, some sites will require two or more icons.
4. **EXTRA CREDIT:** You can even make up a new category and create an icon for it if the icons provided don't describe all the places you found. Decide as a group how to design and define local icons (consider shape, color, abstract or figurative symbols). Please report any created icons to the Green Map website via e-mail. They may be included in a growing list of global icons.

VII MAKING YOUR MAP

1. Draft your map by tracing a base map or drawing a diagram of your area that fits the size of your paper. You can work freehand, trace an aerial photo or copy an existing map. Don't forget to cite any sources you use.
2. Use a copy machine and create a "working map" (map draft) of your area of study. (It may not be a bad idea to make several copies.)
3. Use colors and design elements that will enhance the map but will also reproduce well. If you select colors for the icons, make sure they will stand out clearly.
The overall visual appearance of the map itself is very important.
4. Identify your map's geographic boundaries so people viewing it will understand where your neighborhood is situated in relationship to others around it. Consider how users will navigate the map once it is completed, and how you can draw attention to the most important features of your map.



Pastel on paper drawing by Marian Brister Martinez
© 2006. Printed with permission.

5. Plot the icons in the appropriate places on your map. To identify each site by name, you can either:
 - a) put the site's name right on the map next to the icon;
 - b) number each icon on the map; then put a numerical list on the side, or
 - c) number the map; then put both icon and site name on a list on the side.
6. What key things can you say about each site? You can include things like the length of a bike path or a list of resources for further information. Any extra information that won't fit on your map must be included in your project report.
7. Consider different ways to present the information you have. For example, you can place typed text on small pieces of paper right on the working copy. Leave room for a legend or key, which explains how to read your Green Map. Create a logo for your map, and give it a name, too.

8. **You must include the following on your map:**
 - a) an arrow pointing north
 - b) the scale of the map
 - c) the date of creation
 - d) a list of the members of your map making team
 - e) the sources for your information and base map
 - f) a title block or logo for your Green Map
 - g) your own copyright & contact information
 - h) a white border (at least .5 inch) all the way around the map

(Remember: you can consult the www.greenmap.org website for answers to any questions you might have.)

9. When everything is in place on your draft map and you are satisfied with its appearance, copy or trace over it to create a clean finished Green Map. If it is to be printed, you will need special preparation.
10. **EXTRA CREDIT:** Create a computer-based map, using graphic design, desktop publishing or GIS software.

VIII TELLING YOUR STORY

1. The Green Map should tell the story of your neighborhood's ecology with words and images in a condensed and inviting way. Your map may include photos or drawings. Be creative about the way you encourage people to learn about their local environment.
2. Remember that you are creating a powerful tool for community awareness and advocacy in relation to the natural and built environments. This is an opportunity to share knowledge about important relationships in your community and to teach others the things that you have worked so hard to teach yourselves!

HANDOUT:

CONSTRUCTING A GREEN MAP, CONTD.

3. Once the Green Map is complete, display it at your school with the maps of other teams. Your teacher may take photographic slides or digital images of each map for use in later presentations. Your teacher and/or the principal may arrange for some maps to be published in local newspapers.
4. **EXTRA CREDIT:** Obtain prior approval to post your Green Map in a community development site or government official's office where others will be educated by your efforts.

IX EVALUATING YOUR MAP

Draw some conclusions from the work you have done. Reflect on the following questions. Type your responses, and submit the report with your Green Map.

1. What important observations can you make about the relationship between the natural environment and the cultural (built) environment?
2. What new things have you learned about the place where you live?
3. What was your favorite part about making the Green Map? What surprised you the most?
4. What was the strangest thing you learned about your community's environment?
5. What was the most difficult?
6. How does the number of green sites in your community compare with toxic hot spots, blighted areas, or other problem sites?
7. How can you tip the balance to have a healthier greener community? What can you do, personally, to change things for the better?

X MORE GREEN MAPS

Your teacher can use your Green Maps with subsequent classes or groups to get a fresh perspective on how your community might have changed; your information may be archived. Updates or new versions might highlight new icons or something else that is different from your first map. Some people may have suggestions for new sites to be added and may notice new places to add. They may strengthen the design or display of your Green Map in some way.

XI DUE DATE

Final copies of Green Maps and reports are due NO LATER THAN _____.





**Green Map® System
Youth Icons**

www.greenmap.org

Green Map Icons © Green Map® System, Inc. 2003

Information

- Eco-information center
- Environmental school
- Community center
- Social / political resources
- Alternative health resources

Mobility

- Bicycle site
- On road bike paths / Bridges
- Secure bike parking
- Wheelchair accessible
- Best walks
- Major public transport stop

**Economic
Development**

- Farmers market
- Organic produce / Natural food
- Vegetarian / Natural cafe
- Green business / Service
- Green / Conserving products

**Renewable
Resources**

- Solar energy site
- Composting
- Re-development opportunity site

Culture & Design

- Cultural site
- Art spot
- World music
- Historical feature
- Eco building
- Child friendly eco-site
- Senior friendly site
- Eco-spiritual site

Nature: Fauna

-  Bird and wildlife watching
-  Marine habitat
-  Amphibian habitat
-  Insect watching site
-  Farm animals
-  Dog run

Nature: Flora

-  Parklands / Recreation area
-  Special tree
-  Spring blossoms
-  Autumn leaves
-  Garden
-  Community garden

**Nature:
Land & Water**

-  River and water-front park
-  Wetlands
-  Snow activity
-  Great views / Scenic vistas

Infrastructure

-  Drinking water sources
-  Recycling

**Toxic Hot Spots /
Pollution Sources**

-  Blight site
-  Traffic hazard zone
-  Noise pollution source
-  Air pollution source
-  Toxic chemicals storage



Green Map System
Email: info@greenmap.org

Mail: PO Box 249
New York, NY 10002 • USA

Tel: +1 212 674 1631
Fax: +1 212 674 6206

About the Green Map Icons: This universal visual language identifies, promotes and links special places in the environment – both natural and cultural – on locally produced Green Maps. They guide communities to healthier options and help spread green initiatives around the world. The award-winning Icons are the heart of our global collaboration. See more at GreenMap.org!

XII ASSESSMENT

GREEN MAP ASSESSMENT RUBRIC

POINTS	4	3	2	1
MAP CONTENT	All labels included; all labels accurately placed	All labels included; most accurately placed	Most labels included; a few not accurately placed	Many labels not included; many not accurately placed
MAP CLARITY	Whole map is clean, colorful, and easy to understand	Whole map is clean; some color included; mostly easy to understand	Map is not clean; not colorful; not easy to understand	Map is not clean; little or no use of color; difficult to understand
MAP COMPONENTS	Includes all map symbols & key; includes compass rose, many pictures, titles, and captions	Includes most map symbols & key; includes compass rose, some pictures, titles, and captions	Includes some map symbols & key; includes compass rose, few pictures, titles, and/or captions	Includes few map symbols & key; missing compass rose, pictures, titles, and/or captions

GREEN MAP SCORING RUBRIC

POINTS	4	3	2	1
MAP CONTENT				
MAP CLARITY				
MAP COMPONENTS				

COMMENDATIONS:

RECOMMENDATIONS:

EXTENSIONS

Any of the “EXTRA CREDIT” suggestions listed in “Process” can be used to extend the scope of the Green Map Project.

RESOURCES

WEB SITES

The Green Map Activity Guide

www.greenmap.org

The Green Map Atlas

<http://greenatlas.org>

GMS's hometown Green Map

<http://GreenAppleMap.org>

Project Rubrics source

<http://projects.edtech.sandi.net/hover/mayacities/rubrics.html>

Salt Dough Map Rubric

http://score.rims.k12.ca.us/sub_standards/map.html

Online Map Creation

<http://www.aquarius.geomar.de/omc/>

Map Skills

<http://fga.freac.fsu.edu/misc/map.htm>

Wendy E. Brawer

Founding Director of Green Map System

Promoting sustainability & citizen participation in 250+ communities around the world

PO Box 249, New York, NY USA 10002-0249

212- 674 -1631

web@greenmap.org



Lesson Five:

Rhythm of the Tides —



Setting The Stage

The foundation of the estuary is the movement of water. Water moves through the estuary by wind, rain and tides. Where the water goes in the estuary determines where particular plants and animals live. The water in the estuary varies along a continuum from salt to fresh. The further out in the Gulf of Mexico, the saltier the water: the further inland into the marshes, the fresher. Some plants and animals are tolerant of saltwater, and some must live in freshwater. Many estuary species are adapted to a range of salinities.



The percentage of salt in a waterbody classifies that waterbody in the following categories. For example, freshwater is found in rivers and bayous, brackish water in estuaries and seawater in the ocean.

SALT IS MEASURED IN PARTS PER THOUSAND (PPT)

Fresh Water	0 - 0.5 ppt
Intermediate, Brackish	0.5 - 17 ppt
Seawater	17 - 35 ppt

WHAT ARE TIDES?

Tides have a rhythm. Tides are the rise and fall of ocean water over a period of time – about 24-25 hours. Tides are caused by the gravitational relationship between the Earth and the Moon – and a little pull from the Sun. Tides rise and fall based on the position of the Moon in its relationship to the Earth: the closer a part of the Earth is to the Moon, the more strength the pull. The water “bulges” out toward the pull of the Moon and also bulges on the opposite side of the Earth. When the water bulges, it actually rises inland causing a “high” tide. The “low” tide (water moving away from the land) occurs in-between the two high tides on the Earth’s surface. (Refer to the *Tide table of the Barataria-Terrebonne Estuary* on p.6).



When the Moon, Earth and Sun are in a straight line, the pull of gravity is the greatest so there is a big difference between the high and low tide. The highest tides are also called “spring tides” because the water appears to spring up. Spring tide of high tide occurs twice a month at the full and new Moon. At the time of the month when the Moon appears to be half full and the Sun and Moon form a right angle to the Earth, there is a smaller difference in the height of the tides. These are the lowest low tides also known as “neap tides.”

Many areas of the world have two tides a day also called semi-diurnal. For example, the Atlantic Ocean has two high and two low tides each day. The Gulf of Mexico, which influences the Barataria-Terrebonne basin, has a diurnal tide (Refer to the *Tide Table of the Barataria-Terrebonne Estuary* on p. 6.)— one high and one low tide each day. The tidal range, the change in the height of the water, in the Barataria-Terrebonne is not that great—about one to two feet. Some areas, such as the Bay of Fundy in Nova Scotia, have a difference of up to 50 feet between the low and high tide.

The Moon influences tides on Earth. Because phases of the Moon are easily predictable, they are used to predict tidal changes.

WHAT ARE THE PHASES OF THE MOON?

The lunar phases represent the angle of the Moon in relationship to the Earth and, therefore, its gravitational strength, or “power” in relation to the Earth. The phases relate to the rise and fall of the tides. The strongest tides are on the full and new moons. (Refer to the *Illustrations of the Phases of the Moon* on p.5). The Moon’s phases, and therefore the tides, are on a schedule. They have a set timing that can be predicted (Refer to *Barataria-Terrebonne Tide Table*). One could define this time as having *a rhythm*.

WHAT IS RHYTHM?

Rhythm is the foundation of music. It is the organization of sound in time. We are made of rhythm. The basic rhythm we should know intimately is the rhythm of our heartbeats – ba boom ba boom ba boom – the beat is a steady pulse. Rhythm can be fast or slow (tempo), high or low (pitch), loud or quiet, long or short .

We even speak in rhythm...

We cantalkreallyreallyfast

Or,

we can talk sl- ow- ly.

An important concept in music is to keep the beat steady. When you listen to a song you find your foot tapping steadily... one, two, three, four, depending on the tempo, how fast or slow. Rhythm is written in music using a staff. A measure is the division of beats into set groups on a staff; a measure is denoted by a bar line – a vertical dividing line between measures on the musical staff. See *Musical Notation Staff Sheet* (p.7).



WHY COMBINE TIDES AND RHYTHM FOR A LESSON?

The concepts of tides and rhythm are not easy to grasp. By having students imitate these earth and musical movements, they may better understand these concepts.

MATERIALS

- Poster board
- Colored markers/pencils or paints
- Rhythm instruments, e.g., hands for clapping, bells, tambourines, shakers, small hand-drums, sticks
- Handout: *Illustrations of the Phases of the Moon* (p.5)
- Handout: *Musical Notation Staff Sheet* (p.7)
- Handout: *Tide Table of the Barataria-Terrebonne Estuary* (p.6)

Objectives

STUDENTS WILL

- **understand the movement of the tides.**
- **learn the importance of tides on habitats.**
- **learn basic rhythm in music.**
- **learn basic rhythms in nature.**

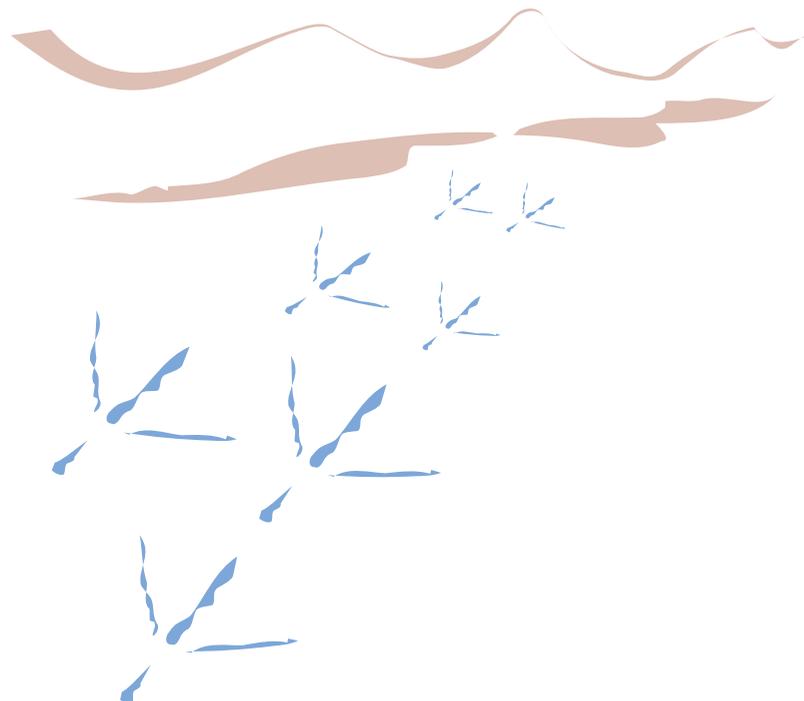
GETTING READY

1. Make copies of handouts for students.
2. Review the background material and use the references to become familiar with tides, Moon phases and rhythm.
3. Practice making rhythms.

PROCEDURE

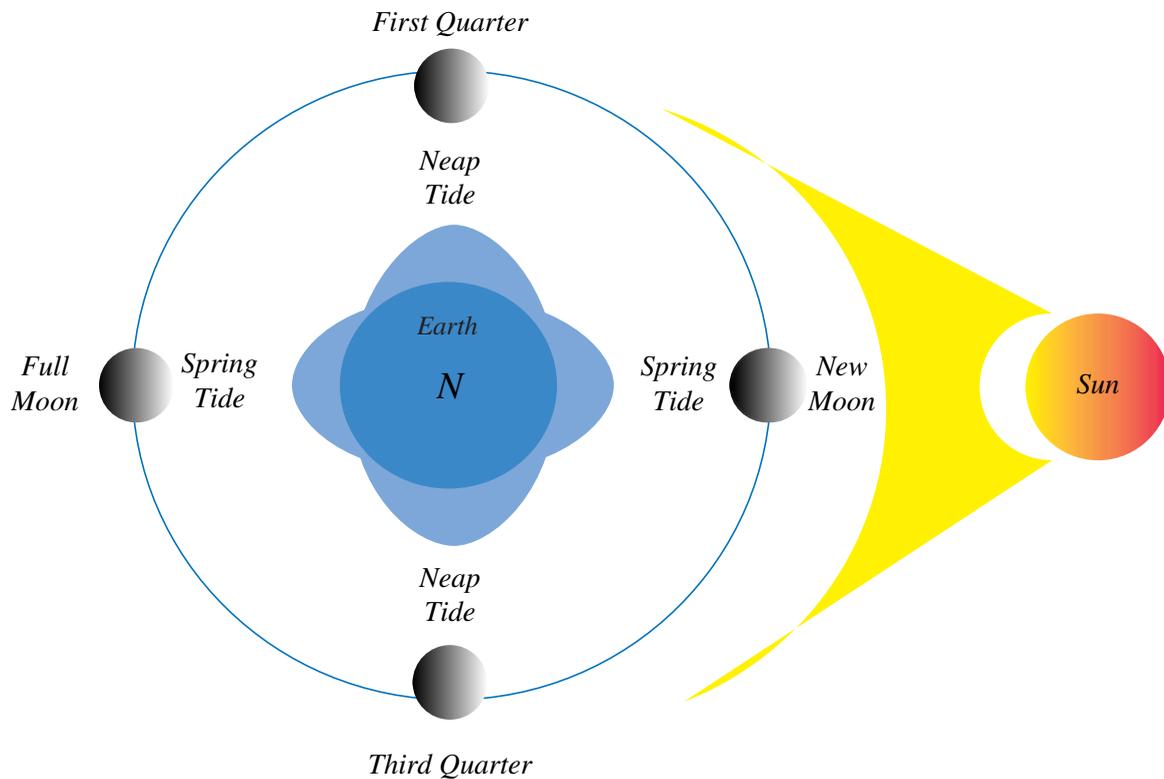
1. Use “Setting the Stage” and “Resources” provided with this lesson to introduce students to the topics of tides and rhythm.

2. Have students draw or paste pictures of the phases of the Moon on poster board.
3. Have students draw musical staves on poster board under the phases of the Moon.
4. Clap a beat with the students. First do a steady pattern of one, two, three, four, one, two, three, four (repeat several times). Make sure the students clap on the beginning of each count and that they do not stray (get faster or slower). Then try to accent (clap louder) different beats in the rhythm, one, two, three, four, one, two, three, four (repeat several times). Try emphasizing beats two and four. Now, keep counting one, two, three, four, but only clap on the one and three beats. Repeat several times. Try emphasizing the first three beats and clap softer on the fourth. There are many rhythm combinations. Have the students make some up with you.
5. Have students put their hands on their hearts to feel the rhythm. Have them tap the rhythm of their hearts on their desks.
6. Have students in groups or individually beat a rhythm that represents the phases of the Moon. In preparation, you may have them listen to songs they like to get a rhythm or look up different rhythm examples on the Internet.
7. Have students “write” their rhythm in their own symbols on the music staves drawn on the poster board. They can write it using numbers, bolding the emphasized beats and circling those beats to hold (not play). (Refer to the example and *Musical Notation Staff Sheet*). Encourage them to use their own symbols.
8. Have students perform their rhythm using instruments or, if none available, hand-clapping, foot-stomping, desk-pounding.



HANDOUT:

ILLUSTRATIONS OF THE PHASES OF THE MOON

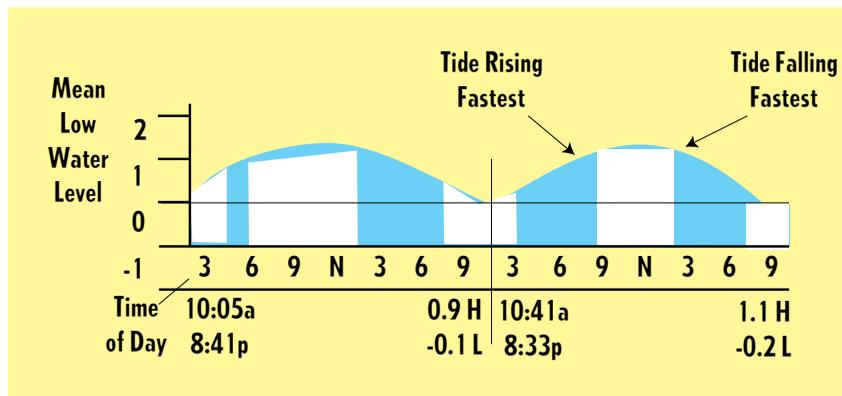
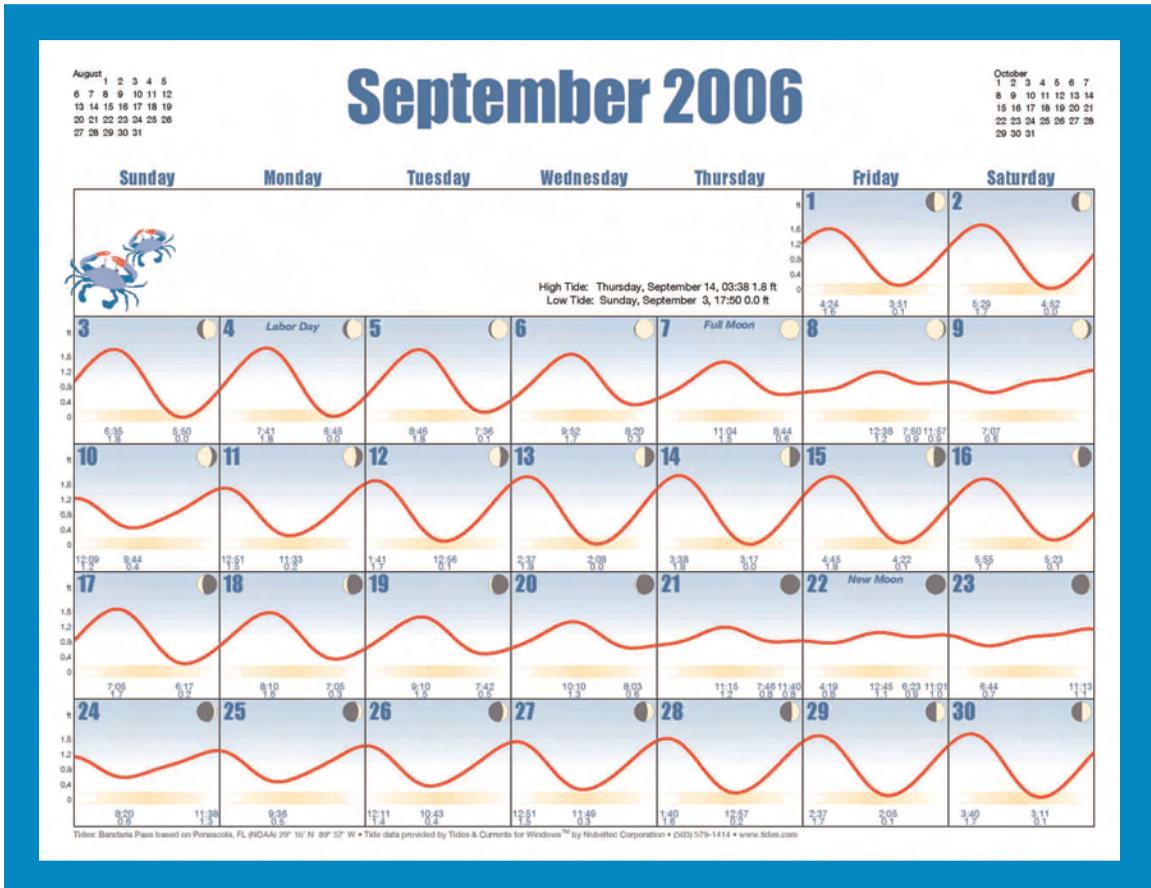


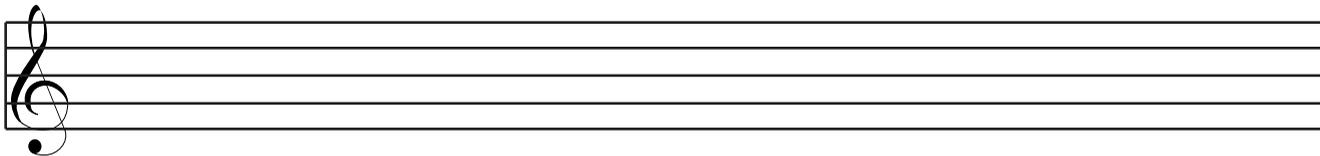
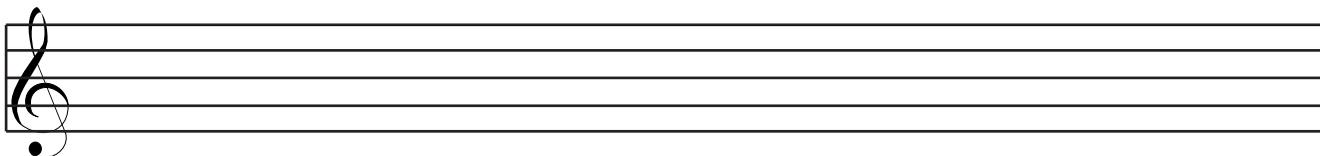
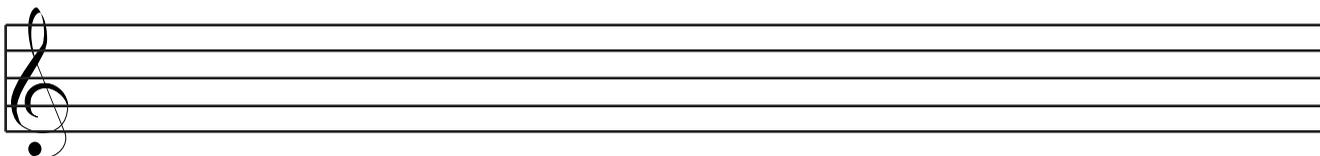
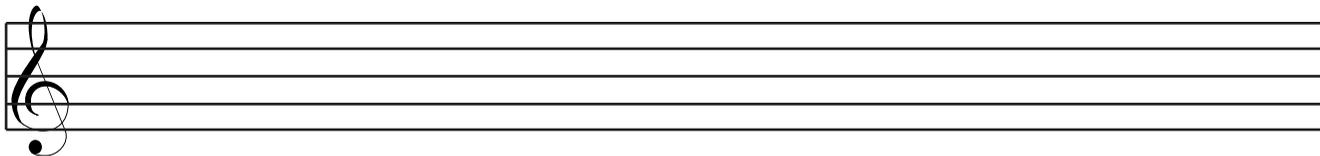
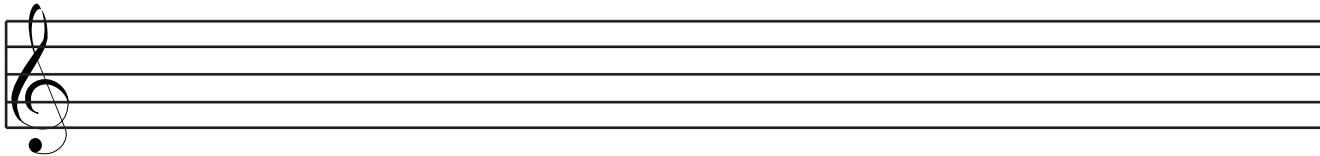
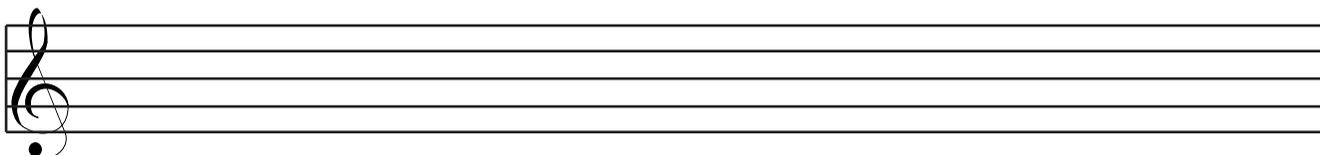
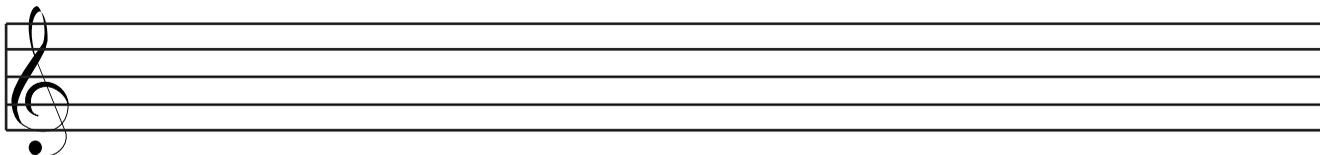
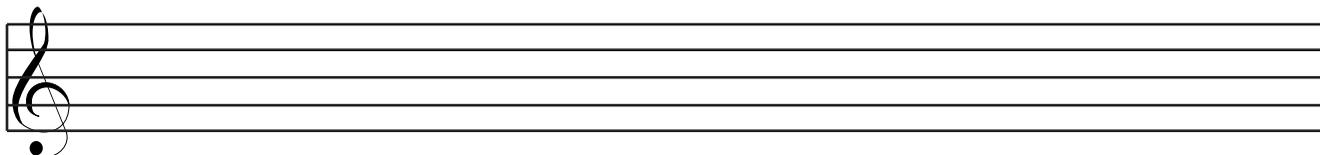
Refer to *Focus on Earth Science* by Merrill Publishing for explanation on the tides.

Looking down on the North Pole of the Earth's figure (central solid circle). The two solid ellipses represent the tidal force envelopes produced by the Moon in the positions of syzygy (new or full moon) and quadrature (first and third quarter), respectively; the patterned ellipse shows the smaller tidal force envelope produced by the Sun.

HANDOUT:

TIDE TABLE OF THE BARATARIA-TERREBONNE ESTUARY





QUESTIONS FOR JOURNALING

- What did you think of feeling your heartbeats?
- Did you find beating rhythms easy or hard? Why?
- How will you look at the Moon now that you understand its phases?
- What other parts of nature have a rhythm?

ASSESSMENT

1. Class participation.
2. Poster that contains all required elements of activity. Assessment examples: presentation use of color, accuracy, originality, as well as, “ Do the symbols the students use match their performance and the phases of the Moon?” To create a customized rubric for this poster activity, go to the Internet site <http://rubistar.4teachers.org/index.php>.
3. Performance assessment examples: enthusiasm, consistent rhythm as well as, “ Is the rhythm intensity relative to the high and low tides and the phases of the Moon – i.e. intensity using fast beats for full moon/high tide, slow beats for half moon/low tide, or intensity varying hard and soft beats – hard for full moon/high tide, soft for half moon/low tides?” To create a customized rubric for this instrumental music performance, go to the Internet site: <http://rubistar.4teachers.org/index.php>.

EXTENSIONS

- Have students make their instruments out of natural items found in the wetlands. Examples of materials include: dried seedpods to use as a shaker; a hollow cypress log for a drum; solid sticks for claves; etc.
- Have students write the rhythm of their heartbeats on musical notation paper.

RESOURCES

WEB SITES

Barataria Terrebonne National Estuary Program has a great tide table you can order. The 2007 table will be available in December, 2006. Go to www.btnep.org

Public Broadcasting Service (PBS)
Provides information on tides from a NOVA program.
http://www.pbs.org/wgbh/nova/venice/tide_nf.html

This Canadian Web site provides a very good explanation of tides.
http://www.ec.gc.ca/water/en/info/pubs/NSKit/e_chap5.htm

A lesson plan from the Virginia State Parks on tides
http://www.baylink.org/lessons/3fr_tides.html

A great site provided by the U.S. Navy for teachers.
www.onr.navy.mil/focus/ocean/motion/tides1.htm

A great site provided by NOAA for teachers.
<http://co-ops.nos.noaa.gov/restles2.html>

A site for teachers and students to get the tide tables for Louisiana.
<http://www.louisianasportsman.com/tide=guides.php>

While this is a commercial site, it has good explanations of rhythm and ways to get your students to participate.
<http://www.lprhythmix.com/activities/adv-rhythm.html>

A commercial site with good background information on rhythm.
http://www.lpmusic.com/Play_Like_A_Pro/Rhythm_To_Kids/fun_easy_rhythm.html

Lessons on rhythm for the classroom.
www.musickit.com/resources/beat.html

The home page for the National Association for Music Educators.
www.menc.org

BOOKS

Marsalis, W. (1995). *Marsalis on Music*. W.W. Norton and Company: New York.

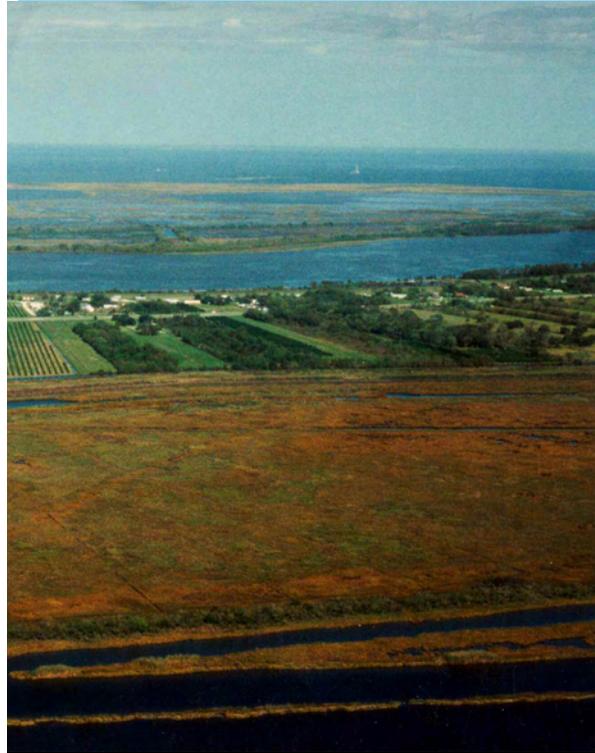
Lesson Six:

The Landscape of the Estuary



Setting The Stage

At first glance, the flatness of the landscape in the Barataria-Terrebonne Estuary may seem monotonous, but a closer look reveals a topography that is both subtle and beautiful. A glance at an aerial photograph or satellite image of the estuary will draw the eye to a pattern that looks almost like a gnarled hand with long fingers pointing down towards the Gulf of Mexico. These “fingers” are ridges of high ground, occupied by the major roads and settlements of Barataria-Terrebonne. They were created by water depositing sediment as it flowed down bayous (old distributaries of the Mississippi River) such as Bayous Lafourche, Terrebonne, Petit Caillou and Pointe aux Chenes. Towns like Thibodaux, Houma, Chauvin, and Montegut exist because the land is high enough for habitation and supports agriculture and commerce. The bayous themselves are very important to the water-borne occupations of the citizens, while the ridges have always provided routes for traveling by land around the estuary.



Overlooking Plaquemines Parish and the Mississippi River. Printed with permission by Marian Brister Martinez, ©2006. All rights reserved.

The landscape is also dynamic and changeable. Over recent years, the marsh between the fingers of high ground has “melted” away and become open water, and the ridges themselves have subsided. These changes are revealed by aerial photography taken at different time intervals and by maps made at different times. Some people can remember places where sugar cane once grew, where now shrimp may be caught. These changes are largely due to the loss of sediment-laden water that used to flow down the bayous before the Mississippi River changed its course and was controlled by flood-control levees.

Today, human-made landscape features dominate many parts of the estuary. Levees protect populated areas from tidal surges pushed from the Gulf by hurricanes and tropical storms. Canals for navigation and oil and gas access crisscross the marsh. Bridges provide crossing points at canals and bayous. Another, often overlooked human landscape feature is the prehistoric “middens” created by the Native



Americans of the area who lived intimately with the estuary, living off the natural bounty it provided. Middens are mounds or “islands” in the marsh upon which trees and shrubs grow. They are usually composed of millions of clam and oyster shells.

The following activity focuses the students’ attention on the natural and human-made landscape features of the estuary, particularly the ridges, bayous and associated settlements. The students explore their own built environment through maps, field trips and art. They create their own maps and artwork to compile tourism brochures that highlight natural and human-made features of interest.

MATERIALS

Obtain from BTNEP (Refer to “Resources.”)

- ✎ A copy of the videotape *Haunted Waters, Fragile Lands*
- ✎ Satellite image of the Barataria-Terrebonne Estuary
- ✎ Other maps and posters of the estuary

Obtain from US Geological Survey (USGS) (Refer to “Resources.”)

- ✎ Copy of USGS topographic quad sheet(s) of your area of interest

Obtain from the Internet: (Optional—depending on your computer hardware and software availability and skill level). Web site: www.atlas.lsu.edu.

- ✎ Download a copy of the Digital Ortho Quarter Quad (DOQQ) for aerial pictures of your area of interest. In order to get a quality copy, it will be necessary to download the software MrSID from the web site. Without MrSID, you may not get good resolution. Print a copy or multiple copies of the area.

Drawing / art materials

- ✎ Large format paper, pencils, charcoal, colored pencils, colored pens and pastels

Sample copies of colorful, easy-to-interpret maps found in tourism brochures. These maps often have pictorial representations of points of interest. These may be found in tourism offices, large hotels, or welcome centers.

Copies of handout *Exploring the Landscape of the Estuary* (p.8)

Objectives

STUDENTS WILL

- **study the landscape of the estuary using a variety of visual images including satellite images, aerial photography, maps and art forms.**
- **create “mental maps” of part of the Barataria-Terrebonne estuary.**
- **travel on a field trip to locations in the estuary to observe landforms and human-made features of the landscape.**
- **sketch and photograph landscape features in the field.**
- **create a tourism brochure for their part of the estuary, highlighting the most interesting natural and man-made features.**

GETTING READY

1. Collect the materials.
2. Scout a field trip that includes a variety of landforms such as river, bayou, natural ridge, swamp, or marsh, as well as human-made structures such as artificial levee, bridge, canal, midden, traditional buildings of the estuary, or traditional boats of the estuary. For field trip information go to <http://educators.btnep.org/default.asp?id=67>
3. Using the sample handout *Exploring the Landscape of the Estuary* as a guide, create a handout with a map and questions to aid the students in their observations. This could take the form of a scavenger hunt in which the students' goal is to identify a list of features.
4. Make necessary logistical plans for the field trip. If your school is within walking distance of these features (downtown Thibodaux, Houma, Donaldsonville, etc.), a walking tour may work. Otherwise, it will be necessary to arrange for bus transportation, etc.

PROCESS

1. Discuss and identify the natural landscape features of the estuary on satellite images, aerial photographs, and topographic maps of the Barataria-Terrebonne Estuary. Begin with a small-scale image of the whole estuary to identify the “fingers” of bayou ridges, swamps and marshes, and barrier islands. Zoom in to your local area of interest in the estuary, using a USGS topographic map of the area and a DOQQ downloaded from the Internet. Identify features including natural ridge, bayou, river, canal, barrier island, marsh, swamp, town, road, bridge, levee, midden. Be sure to bring the concept of scale into the discussion so the students understand that small-scale maps show a large area in less detail, and large-scale maps show a smaller area in greater detail.
2. Watch the BTNEP videotape *Haunted Waters Fragile Lands* with your students. During the video, focus the students' attention on the landforms of the estuary.
3. Take a walking tour or a bus tour of your local area of interest in the Barataria-Terrebonne Estuary. Have the students use the handout *Exploring the Landscape of the Estuary* to locate the features identified during class discussion. The students should be able to identify the natural and man-made landscape features such as: natural ridge, bayou, artificial levee, lock, floodgate, bridge and traditional architectural styles of the estuary. (Refer to lesson “The Architecture of the Barataria-Terrebonne Estuary” Section 1-Lesson 7).

4. Allow time (one hour after lunch for example) during the trip for the students to sit comfortably and sketch and/or photograph a chosen feature or features.
5. If your local area includes a museum or art gallery, allow time to visit it, or make a separate trip to a museum or art gallery that depicts relevant art or features of the estuary (Refer to “Resources”).
6. Right after the field trip, as a homework assignment, or at the first opportunity in the classroom, have the students draw their own personal mental maps of the study area and the estuary (small to large scale). Encourage the students to use their creativity, but at the same time try to be accurate with the information the map is conveying. This can be an individual or a small group activity.
7. Display the mental maps around the classroom. Use these initial maps as starting points for creating finished maps for the Estuary Tourism Brochure.
8. Introduce, analyze, and critique a variety of designs of tourism brochures. Evaluate elements such as color, font, space, illustrations, details, design, and layout.
9. Students sign up for task-specific cooperative groups according to their interests and abilities. Group assignments include:
 - Graphic designer: responsible for creating cover design, formatting photographs, maps, drawings, or other visual images, and text layout.
 - Copywriter: responsible for researching, writing and typing text for the brochure.
 - Editor: responsible for proofreading all text, graphs, and images. Assists in the layout of the brochure.
 - Marketing/Production: responsible for producing the final product, distribution, and display.
10. Ask the students to produce a tri-fold brochure, the main feature of which will be an illustrated map of their area of interest. Have them include a bayou and other natural landscape features that they have studied, visited, and collected visual images. Include maps and illustrations of points of interest such as buildings, bridges, etc., using field photos and drawings. Encourage the students to be creative in their use of colors and design features such as type of font and layout.
11. Set a completion deadline for the brochures that allows the groups time to complete their projects, but sets an expectation of the students to be businesslike in their work.
12. Create a display of the completed brochures in a prominent place in the school for visitors to see. Send copies of the brochures to local tourist agencies and select organizations.

ASSESSMENT

ESTUARY TOURISM BROCHURE: RUBRIC

Proficiency	Expert A	Practitioner B	Apprentice C	Novice D
Content	Includes captivating information about at least 3 natural and 3 human-made landscape features. 100% of the facts are accurate.	Includes interesting information on at least 2 natural and 2 human-made landscape features. 90-99% of the facts are accurate.	Includes general information on at least 1 natural and 1 human-made landscape feature. 80-89% of the facts are accurate.	Includes vague sketchy information on landscape features. Less than 80% of the facts are accurate.
Visual Appeal	Very attractive format; well organized information	Attractive format; organized information	Somewhat attractive format; somewhat organized information	Confusing format and organization
Writing	No errors in grammar, spelling, and punctuation.	No more than two writing errors in the document.	No more than three writing errors in the document.	More than three writing errors in the document.
Graphic Design	Graphics enhance the text. There is an excellent mixture of text and graphics.	Graphics explain the text, but there are too many visuals.	Graphics explain the text, but there are too few visuals.	Graphics do not match the text. Visuals appear to be randomly chosen or placed.

EXTENSIONS

1. Research the history of some of the historic buildings in your area. Include historical and architectural details in the brochures.
2. Study the styles of the landscape artists featured at the art museum or gallery you visit. Have the students develop their field sketches of landscape features into finished art using paint, pastel, charcoal or pen and ink.
3. Have students include on their mental maps good places for fishing and recreating.

RESOURCES

WEB SITES

BTNEP: Call 1-800-259-0869 to obtain a copy of the videotape: *Haunted Waters, Fragile Lands* and posters of images of the estuary, including the Thematic Mapper satellite image poster.

<http://www.btnep.org>

You can easily access printable topographic maps at this site by searching a place name.

<http://www.topozone.com>

This is the US Geological Survey's website; you can obtain a variety of topographic and aerial images.

<http://geography.usgs.gov>

This Louisiana State University site can be used to download topographic maps and digital ortho quarter quads (DOQQs). Go to "Download Data" and choose from DOQQ or Scanned topographic (DRG) images of your area of interest. DOQQs are very good quality aerial photographs. With the right software (MrSID, which may be downloaded from this site) you can zoom in on your area and get great detail and good resolution. You will also need to search for your area using the name of the USGS quadrangle. These names are found on the USGS index of quad sheets available from the USGS.

<http://www.atlas.lsu.edu>

This is an excellent Web resource for teachers. Students can take a satellite tour of Louisiana and work at their own pace by visiting

<http://lagic.lsu.edu/satelliteturn/>

The National Museum of Wildlife Art presents a teacher's guide *Mountains & More: Learning about Landforms Through Landscape Painting*

<http://www.wildlifeart.org/Education/Landforms/Landforms.cfm>

Visit museums or art galleries in your area to find images of the natural and built landscape of the Barataria-Terrebonne Estuary. Suggested sites include:

Louisiana Marine Fisheries Museum, Lafitte. 580 Jean Lafitte Blvd., Lafitte 70036.

<http://www.fisheriesmuseum.com/> This museum has a collection of historic photographs, artifacts, paintings, and boats illustrating the rich cultural heritage of the fishing industry in the Barataria area.

Bayou Terrebonne Waterlife Museum 7910 West Park Avenue, Houma, Louisiana 70364.

(504) 580-7200. Web site: <http://www.houmaterrebonne.org/waterlife.asp> This museum promotes and preserves the area's historic connection with the seafood industry, waterborne commerce and wetlands-based economy.



The Wetlands Acadian Cultural Center, 314 St. Mary Street, Thibodaux, LA 70301. (985) 448-1375. Web site: <http://www.nps.gov/jela/Wetlands-Acadian-Cultural-Center.htm>

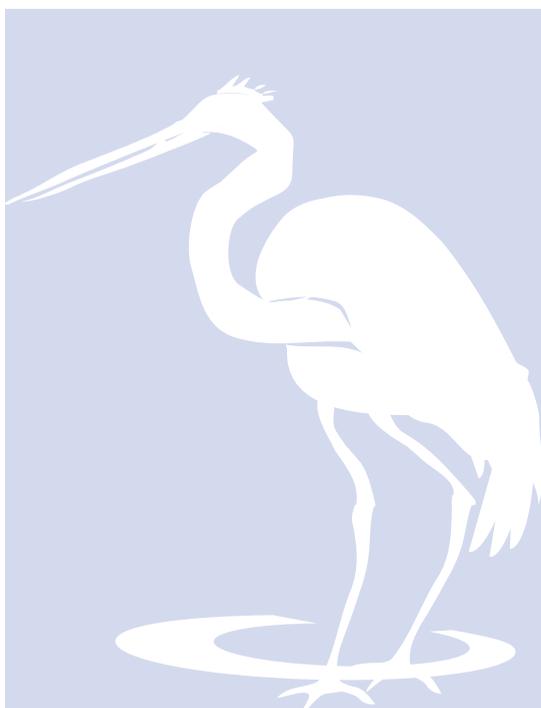
The Ogden Museum of Southern Art. 925 Camp St. New Orleans, LA. 70130 (504) 539-9600. Web site: <http://www.ogdenmuseum.org>

New Orleans Museum of Art. 1 Collins Diboll Circle, City Park, New Orleans, LA 70124. (504) 484-2631. <http://www.noma.org> Go to Louisiana Art section in the Permanent Collection portion of the web site.

Southdown Plantation and Museum. P.O. Box 2095, Houma LA 70361 (985) 851-0154. Web site: <http://www.southdownmuseum.org> The Plantation has a collection of photographs and artifacts depicting life in Terrebonne Parish and an exhibit focusing on the sugar industry. The museum has an art gallery with changing exhibits of local artists.

The Historical Donaldsonville Museum. 318 Mississippi Street, Donaldsonville, LA 70346 (225) 746-0004. Web site: <http://www.hdm1806.org/>

Grand Isle holds an annual art exhibit in May at the Grand Isle Community Center. Contact Sue Galliano at suegalliano@mobiltel.com





HANDOUT:

EXPLORING THE LANDSCAPE OF THE ESTUARY

Use your powers of observation to find the following landscape features (not necessarily in the order you find them on this sheet).

FEATURES:

- bayou
- midden
- swamp
- canal
- historic building
- natural bayou ridge
- marsh
- bridge
- levee
- traditional boat

When you find a feature named on this handout:

1. Give its specific name (e.g., Bayou Black).
2. Describe it in detail (dimensions, color, an impression it conveys to you).
3. Think about how you can show the landscape feature in its most interesting and attractive light.
4. Draw a sketch of the feature.
5. Take a photograph of the feature.
6. Think about how the feature can be depicted visually in a brochure to attract people to visit this area.

Select one of the landscape features:

- List vivid descriptive words of this physical feature.
- Describe the emotional responses you feel when you see the feature.
- List the colors and shades of this particular feature.
- Describe in detail the significant components of the landscape feature.
- Note the shapes and dimensions of the feature.
- Take time to draw one aspect of the landscape feature in more detail.
- Photograph the landscape feature from different angles.

Lesson Seven:

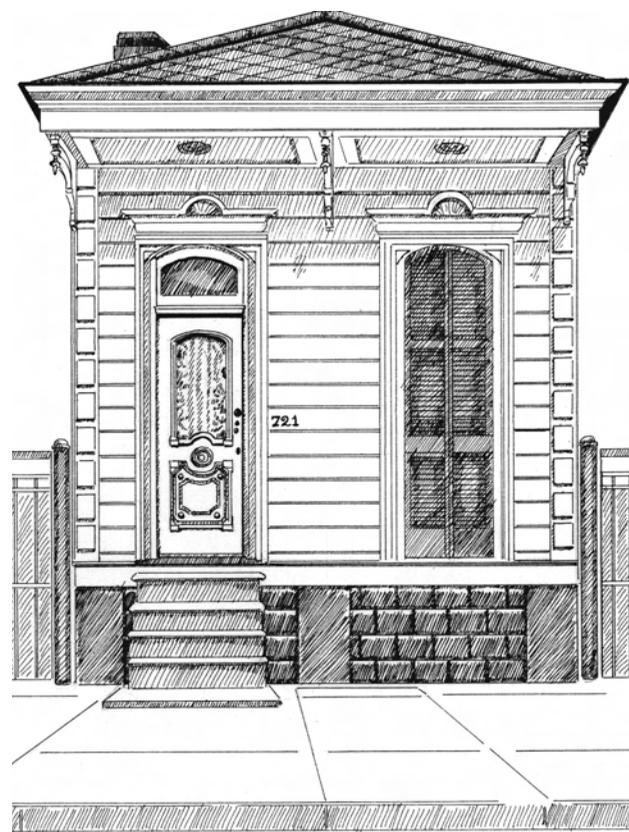
The Architecture of the Barataria-Terrebonne Estuary—



Setting The Stage

To explore the architecture found in the Barataria-Terrebonne Estuary is to embark on a fascinating journey through both time and place. Many ethnic groups have contributed their unique styles to the designs of the buildings in the estuary. They include Native Americans; Spanish, French and German colonists; Acadians (Cajuns); African slaves and free people of color. The result is a mixture of architectural styles including the palmetto huts of Native Americans, the Creole cottage, Acadian (Cajun) cottage, Antebellum plantation house, Creole plantation house, Victorian shotgun, and Pigeonnaire. Common themes related to the challenges presented by the natural environment run through the various styles. Tall ceilings, galleries, porches, hipped roofs, and living quarters raised high above ground level all tell tales of dealing with hot, humid summers and frequent floods. Local materials were traditionally used to construct the buildings of the estuary. Cypress beams, siding and shingles, and mud fortified with hair (“bousillage”) or Spanish moss are just a few of these traditional materials.

Other features of daily life and cultural traditions



“721 Kerlerec St.” Marian Brister Martinez, artist.
© 1999. Printed with permission.

are part of the building design. If only these old buildings could talk. What stories they could tell! Many notable historic buildings in the Barataria-Terrebonne Estuary are open to the public. A list of some of these sites is found in the resource section, along with information for locating other sites near you.

Newer buildings in the estuary do not display the features related to staying cool because air



conditioners now take care of that, but they are usually built to protect the occupants and their belongings from floodwaters. Modern architecture of the estuary includes fishing camps and trailers raised high on wooden pilings, as well as brick ranch houses, which are not raised at all, leaving the occupants and their belongings vulnerable to floodwater.

The following activities develop the students' observational skills as they find the historic architectural styles of the estuary all around them. The students organize architectural features using concept maps and other organizational tools.

MATERIALS

- Copies of handout *Organizing Architectural Styles of the Estuary* (p.5)
- Copies of handout *Style Features: Architecture of the Estuary* (pp.6-8)
- Copies of handout *Architectural Drawing Skills* (pp.9-11)
- Drawing materials:
 - Large format paper
 - Pencils
 - Straight edges
 - Clipboards

GETTING READY

1. Familiarize yourself with the architectural style of two or three local historically significant buildings of your area.
2. Use the following Internet links to obtain images of the main architectural features to be discussed with the students. Begin with the Heritage Education page from the Division of Historic Preservation. The URL is: <http://www.louisianahp.org/>. Explore the "Louisiana Studies Historic Preservation Supplement" found on this web page. Review the handout *Style Features: Architecture of the Estuary*.

Objectives

STUDENTS WILL

- **gather information on the characteristic features of the traditional architectural styles found in the Barataria-Terrebonne Estuary.**
- **organize the features in a graphic organizer.**
- **visit at least one historic building in their community.**
- **choose and draw a building that displays features of one of the traditional styles.**
- **contrast the traditional styles with modern architectural styles and discuss the importance of preserving historic buildings.**

3. Print or make PowerPoint slides of images that best convey the most important points.
4. Create an introductory presentation to be used as a springboard for the students' own explorations in the field and through other avenues.
5. Plan a field trip to at least one of these places.
6. Organize the materials.

PROCESS

1. Using the information you collected, present images of the basic categories of architecture that the class will be exploring: Pre-historic, Colonial, Antebellum, Victorian, and Modern. This presentation need not go into much detail; it serves as a starting point for discussion and further observation. See "Getting Ready."
2. Pass out the Handout *Organizing Architectural Styles of the Estuary*. Use this handout to reinforce the style categories and their origins. Introduce these four topics for further research.
 - Style Features, e.g., hipped roof, gallery with columns.
 - Form and Function, e.g., high ceilings for cooling interior in summer, raised on piers to avoid flooding.
 - Building Materials, e.g., bousillage, brick
 - Examples, e.g., Creole Plantation House, shotgun house.
3. Introduce and discuss different kinds of organizational charts, including "Tree Diagram" in which a main topic (Louisiana traditional architecture) is divided into sub-categories, and these sub-categories, in turn, are divided into examples or types, resulting in something resembling a family tree diagram. (Refer to handout *Organizing Architectural Styles of the Estuary*.)
4. Assign a homework activity to research information about the four topics: Style Features, Form and Function, Building Materials, and Examples. Provide the students with Internet links and ideas of where to obtain their information. See "Getting Ready" and "Resources."
5. Hold a class discussion in which members of the class present the information they have discovered.
6. Divide the class into groups and ask each group to complete the organizational chart for all of the architectural categories, including the information they have collected.

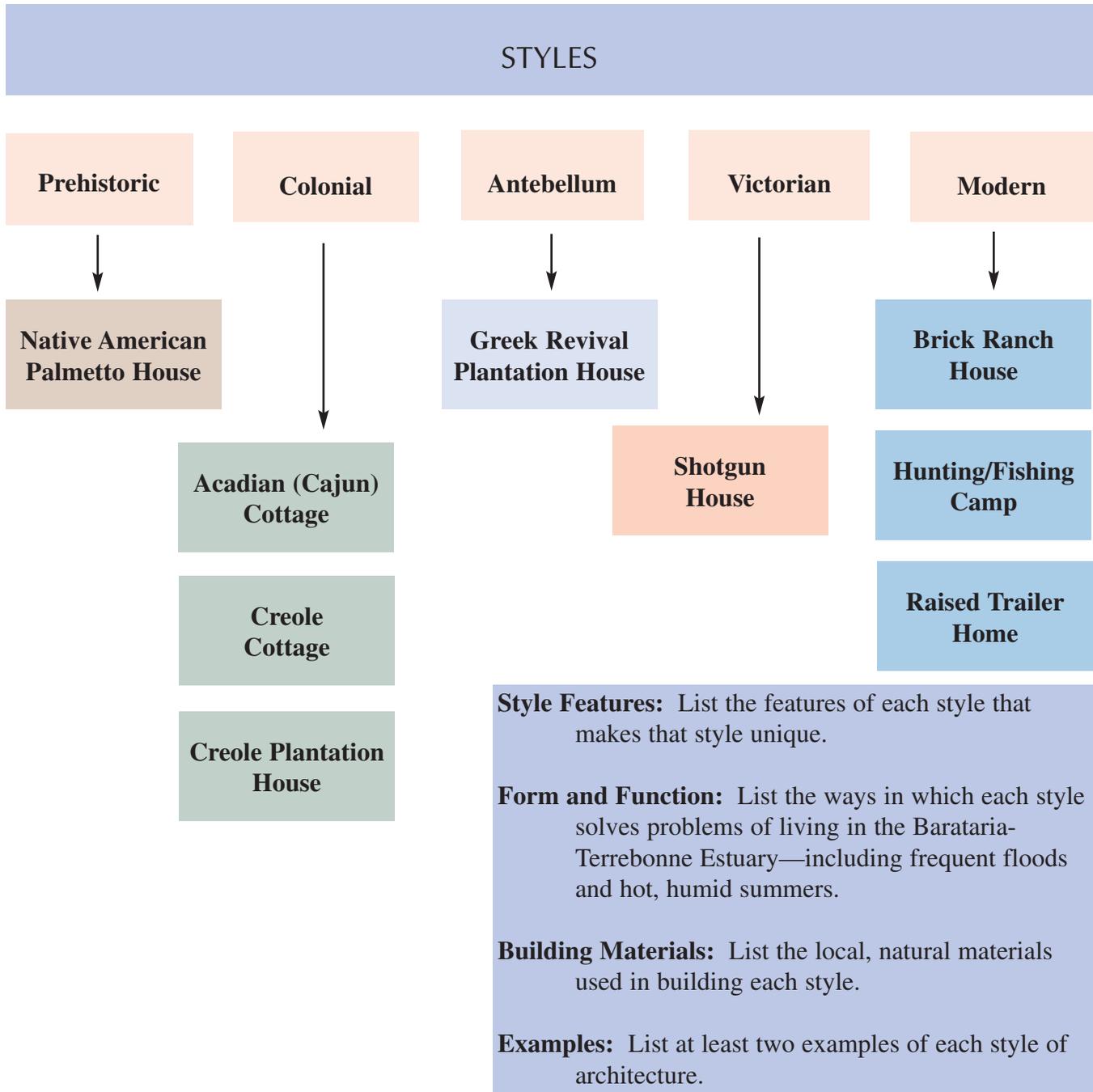
7. Using the handout *Architectural Drawing Skills*, introduce the concepts of point and aerial perspective, elevation and plan views.
8. Conduct a field trip to sites of as many of the categories as time and geography will allow. Allow time for the students to make field drawings of the building at one or more of the sites. Have the students take photographs of all of the buildings visited, including as many different styles and views as possible.
9. Ask the students to use their field drawings to make one finished view of one of the buildings. This should be as accurate and detailed as possible, carefully using perspective and proportion. Encourage the illustration of a variety of architectural styles.
10. Illustrate the organizational charts with photographs and drawings.
11. Display the students' organizational charts and illustrations in the classroom or in a prominent place in the school for others to see.
12. Hold a class discussion on the topic of "Old versus New Architecture." Introduce a hypothetical scenario in which a new development will destroy historic buildings in your town. Allow the students to express their ideas about the advantages and disadvantages of historic preservation versus new construction. Designate one or two students to take notes on an easel pad or blackboard. Organize the notes and ask the class to vote on the hypothetical problem. Should the developer be given permission to proceed?
13. Hold a class discussion on the design of slab housing and its relationship to our dependence on fossil fuels for air conditioning and levees for flood protection.



Marian Brister Martinez, artist. ©2004 All rights reserved. Printed with permission.

HANDOUT:

ORGANIZING THE ARCHITECTURE OF THE ESTUARY



HANDOUT:

STYLE FEATURES: ARCHITECTURE OF THE ESTUARY

Details and pictures of these style features and other information may be obtained from the Louisiana Studies Historic Preservation Supplement at: <http://www.louisianahp.org/>

PRE-HISTORIC

Palmetto House

The Native Americans who dwelt in the Barataria-Terrebonne Estuary when the colonists arrived in the 17th and 18th Centuries used the natural materials available to them to build their houses. The Louisiana palmetto made an ideal building material, providing strong fronds that created a weather-proof shelter.

Palmetto House

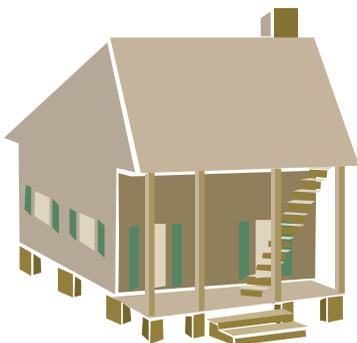
- Made of a frame of willow
- Covered with woven palmetto fronds
- One room
- Earthen floor



COLONIAL

Cajun Cottage

- Simpler than Creole cottage or Creole townhouse
- Outside staircase to attic, which was used as sleeping space
- Side chimney made of mud and sticks
- Walls of wood and bousillage*
- Gallery or front porch
- Raised above ground
- Continuous pitch roof



Creole Cottage and Cajun Cottage

The simple cottages of the Creole and Cajun (Acadian) cultures have many similar features, but also differ in many ways.

Creole Cottage

- Central chimney
- At least two rooms wide
- Two front doors
- Attic (not for living)
- Hipped roof
- No front porch
- Shutters
- Raised above ground
- No hallways
- Exterior stairs
- Wrap-around fireplace mantle
- Walls of wood and bousillage*



* Bousillage was a mixture of mud and Spanish moss, which was used for insulation between wood boards

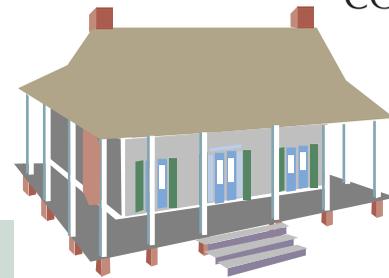


HANDOUT:

STYLE FEATURES: ARCHITECTURE OF THE ESTUARY, CONTD.

Creole Plantation House

The Creole Plantation house was much larger than the cottage. But it had similar style features.



Creole Plantation House

- Built on brick piers
- Gallery surrounding house
- French doors
- Wrap-around fireplace mantle
- Walls of wood and bousillage*
- Hipped roof
- Pillars around gallery
- Exterior stairs
- Many out buildings

ANTEBELLUM



Antebellum Greek Revival Plantation House

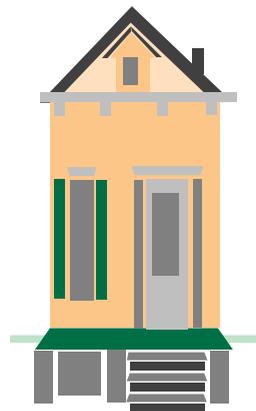
- A variety of sizes, shapes, and degrees of luxury
- Houses usually symmetrical
- Columns of several kinds (e.g., Doric, Corinthian)
- Tall entrances with transoms
- Wood clapboard siding
- Front gallery with many columns

The Antebellum Period was the period prior to the Civil War when the cotton and sugar plantations thrived in Louisiana. Greek Revival architecture was in style.

VICTORIAN

Shotgun House

- One room wide
- Doors in line (hence the name shotgun)
- Wood construction
- Front gable
- Small front porch
- House stands on piers
- Chimneys on outside and transverse walls
- High ceilings for cooling
- Generally, very simple designs in rural areas, and more decorative designs in cities



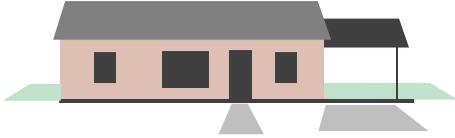
Victorian Architecture

After the Civil War ended, the influence of the Victorian Era architecture appeared in Louisiana. There are several styles represented, including Queen Anne and Eastlake. The simple shotgun is probably the most commonly seen Victorian house in the Barataria-Terrebonne Estuary.

HANDOUT:

STYLE FEATURES: ARCHITECTURE OF THE ESTUARY, CONTD.

MODERN



Brick Ranch House

- Built on a concrete slab
- Made of brick
- Cooled with air conditioning
- No porch
- Low ceilings

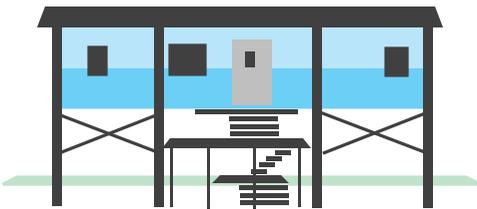
The Modern Era

In the 20th Century a wide variety of architectural styles were introduced in Louisiana and may be found mostly in the towns of the Barataria-Terrebonne Estuary. Since the 1950s the **brick ranch house** is probably the most common modern architectural style in the Barataria-Terrebonne estuary, although this style has no features suitable to the climate of the estuary as do the older styles.

Another very common dwelling of the estuary is the **fishing/hunting camp**. They are usually wood-frame buildings raised above the ground and lining the banks of the bayous and waterways. Some are permanent residences while many are “weekend homes” used by fishers who have permanent homes in larger cities.

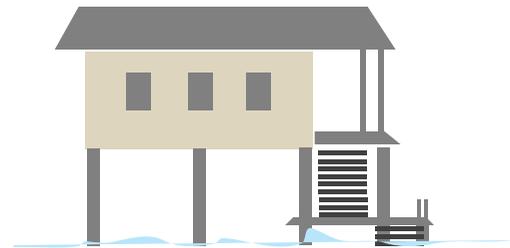
Fishing/Hunting Camp

- Made of wood
- Many different styles
- Raised above the ground or water
- Usually very simple construction, although more modern camps are larger and more luxurious



Raised Trailer Home

- Inexpensive
- Easily raised
- Made of metal and other modern materials
- Vulnerable to harsh weather



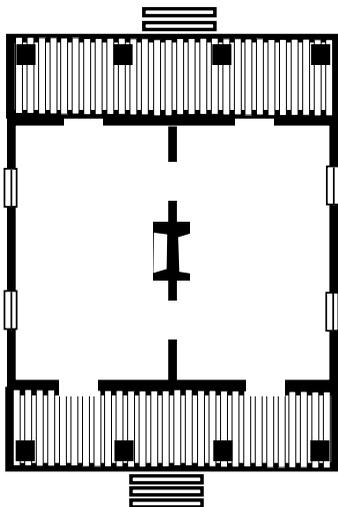
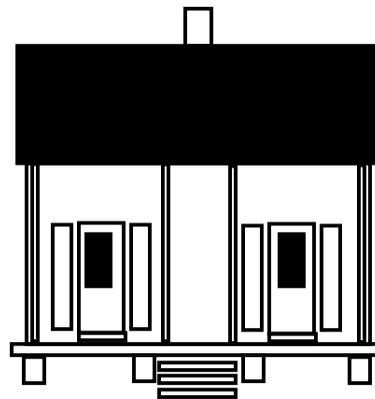
The **trailer home** is also a familiar type of dwelling in the estuary. These structures are at once suited and unsuited to the local climate. They cannot withstand high winds and harsh weather, but they can be easily and inexpensively raised above ground. Raised trailer homes are becoming more prevalent today because of frequent flooding.



If we want to accurately draw buildings, there are several basic rules to follow and skills to master. There are two main ways to view a building: elevation and plan view. Also, if we represent the building in three dimensions, we must represent perspective accurately. Perspective is the concept whereby an object that is further away from the viewer appears smaller than an object that is closer. This applies to different parts of a three-dimensional object such as a building.

ELEVATION VIEW

This is where we are viewing the building while standing on the ground. We might be looking at a house from the front, side, or back, but the wall we are facing will be shown as vertical. This is the easiest view to understand because it is the way we usually view buildings.

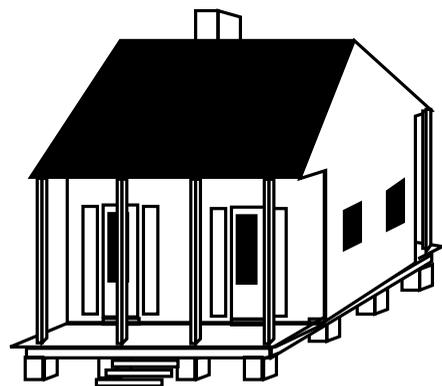


PLAN VIEW

This is the same thing as aerial view. We are looking down on the building from above. You have to use your imagination to represent this view because we cannot literally hover above the building while we draw it. Also, we usually mentally remove the roof so we can see the layout of the rooms in the building.

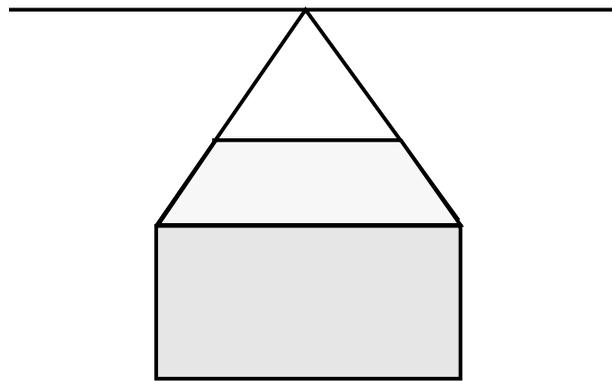
PERSPECTIVE

In order to accurately illustrate buildings or anything else in three dimensions, it is important to understand perspective. The following pages contain easy step-by-step directions for one and two point perspective. Practicing these concepts when you draw will help to create drawings of buildings with correct perspective.

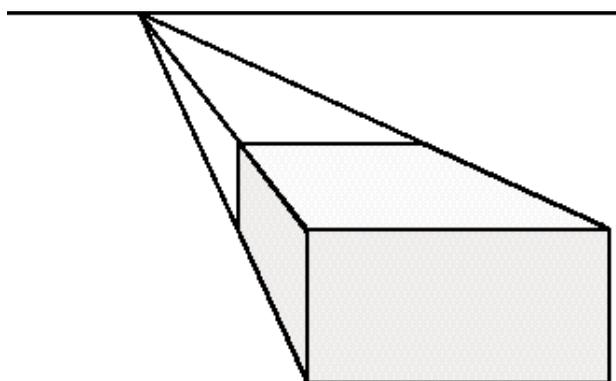


One Point Perspective

1. Draw a horizon line about one third down a blank page. Draw a dot in the center of the line. This is the vanishing point. Draw a rectangle below the horizon line, approximately two thirds down the page. Draw lines from the top corners of the rectangle to the vanishing point. These lines are the orthogonal lines. Draw a line between the orthogonal lines above the rectangle. This is the back of the box. Erase the orthogonal lines from the horizon to the back of the box. You have now drawn a 3-D box with accurate one point perspective. You are looking directly at the front of your box so you see only the front and the top. You can add shading to enhance the three-dimensional effect.

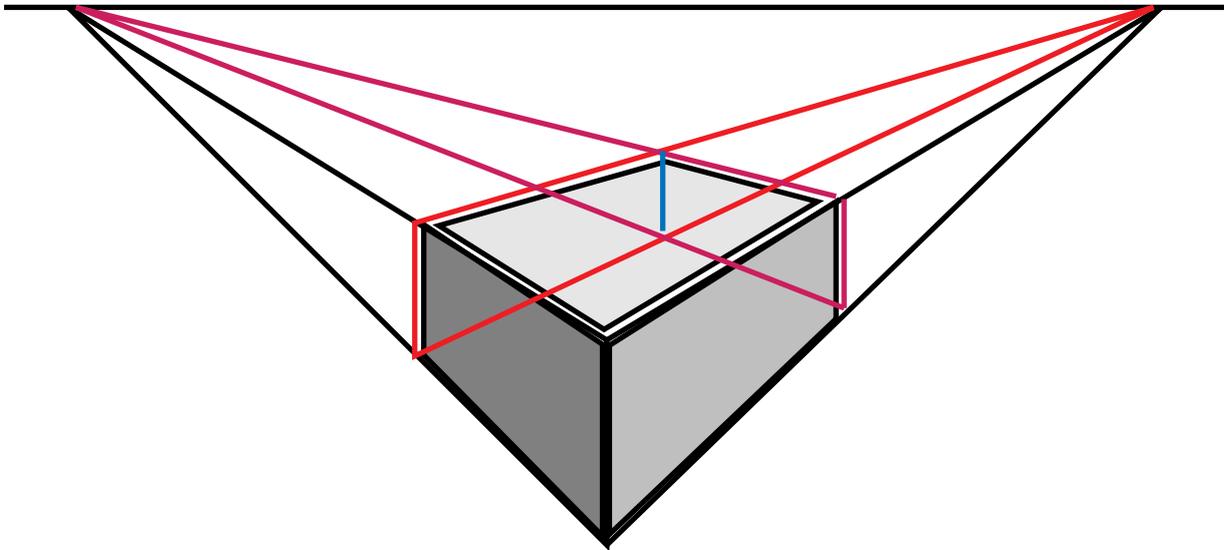


2. Make a second vanishing point on the horizontal, but to the left of center. Draw another rectangle below the line to the right of your first box. Draw orthogonal lines from the vanishing point to three corners of your rectangle: top right and left and bottom left. Draw a horizontal line between the orthogonal lines that meet the two top corners. Draw a vertical line from the top left orthogonal to the orthogonal that meets the bottom left corner of the rectangle. The vertical line should meet the horizontal line to make a back left corner of a 3-D box. Add shading to complete your drawing.



Two Point Perspective

Two-point perspective enables you to draw a box or building at the corner so two sides are visible with accurate perspective. Draw a horizon line. Mark two vanishing points on opposite ends of the horizon line. Draw a vertical line below the horizon line and near the center of the page. This is the front corner of the box (thick black line on diagram). Draw four orthogonal lines from the top and bottom of this line to meet the two vanishing points on the horizon line (thin black lines). Now draw red vertical lines to the right and left of the vertical “corner” line and between the top and bottom orthogonal lines. From the top and bottom of these two lines, draw red lines to meet the vanishing points on the opposite side. So from the top right corner, go to the left vanishing point and so on. To complete the drawing, draw a blue vertical line to join the rear corners of the box, between the crossing points of the four red orthogonal lines. This is the back corner of the box. You can erase the orthogonal lines between the vanishing point and the box you have drawn. Now add shading to finish your drawing.



ASSESSMENT

ARCHITECTURE ORGANIZATIONAL CHART RUBRIC

Proficiency	Expert A	Practitioner B	Apprentice C	Novice D
Content and Organization	All of the information is clearly and logically organized.	Most of the information is clearly and logically organized.	The information is incomplete, and the organization is not clear or logical.	The information is sketchy at best, and the organization is neither clear nor logical.
Main Concepts and Sub-concepts	All main concepts are clearly evident; all sub-concepts are accurate and complete.	Most main concepts are clearly evident; most sub-concepts are accurate and complete.	Either the main concepts are not clearly evident, or the sub-concepts are not accurate and complete.	The main concepts are not clearly evident, and the sub-concepts are not accurate and complete.
Visual Appeal	The chart is well-balanced, very attractive, and contains excellent graphics/illustrations.	The chart is balanced, visually attractive, and has good graphics/illustrations.	The chart is somewhat attractive, but the graphics/illustrations are not logically placed or used appropriately.	The chart is not attractive, and it lacks adequate and appropriate graphics/illustrations.

EXTENSIONS

1. Investigate the use of scale in creating architectural models. Use the drawings and photographs collected in the activity to construct scale 3-D models of favorite buildings. Use index cards, balsa wood, or other similar materials.
2. Invite an architect or historic building preservation expert to speak to the class or visit an architect's offices and studio to find out about the profession.
3. Survey the students at school to investigate the architectural styles of their homes. Find out about recent changes such as families who have raised their homes in response to flooding in the past few years.

RESOURCES

WEB SITES

Within this site are pages on French Creole architecture
<http://www.cr.nps.gov/nr/travel/louisiana/architecture.htm>

National Park Service Links to the Past
<http://www.cr.nps.gov/nr/travel/louisiana>

This site describes aspects of French Creole culture
<http://www.cr.nps.gov/creole/index.htm>

National Park Service's National Register of Historic Places

This site can be searched by parish for specific sites of interest. Each entry includes photographs of the buildings, detailed information about the architectural styles of the buildings and location, tour and contact information. Those sites on the west bank of the Mississippi River are in the Barataria-Terrebonne Estuary. Included are Evergreen Plantation in Wallace, Laura Plantation in Vacherie, Homeplace Plantation in Hahnville, Donaldsonville Historic District, the Aillet House at the West Baton Rouge Museum in Port Allen, and the Plaquemine Historic District.

<http://www.cr.nps.gov/nr/travel/louisiana/sitelist.htm>

LaFourche Parish Office of Tourism

This site provides information about historic buildings and other sites open to the public in LaFourche Parish. These include Madewood Plantation in Napoleonville and Laurel Valley Plantation near Thibodaux.

<http://www.lafourche-tourism.org/attractions.php>

Louisiana State Office of Culture, Recreation and Tourism

Within this site, you can search for specific buildings listed on the National Register of Historic Places. To do this, go to the Division of Historic Preservation and click on National Register Database. You can then search by parish for locations near you. Each entry in the database contains maps and photographs of the buildings.

<http://www.crt.state.la.us>

Louisiana Division of Historic Preservation

From here navigate to the Heritage Education page. This site contains excellent curriculum materials about building types found throughout Louisiana linked to the State Social Studies standards.

<http://www.crt.state.la.us/crt/ocd/hp/heritedu.htm>

Southdown Plantation and Museum

Many cultural activities take place at Southdown Plantation in Houma, including art exhibits.

<http://www.southdownmuseum.org/>

Wetlands Acadian Cultural Center in Thibodaux (National Parks Service)

The history and culture of the Acadians is the feature of this visitors' center and includes information on Acadian architecture.

<http://www.nps.gov/jela/Wetlands-Acadian-Cultural-Center.htm>

BOOKS

Fricker, J., Fricker, D., & Duncan, P.L. (1998). *Louisiana architecture: A handbook on styles*. Lafayette, LA: Center for Louisiana Studies at the University of Louisiana.

Lesson Eight:

Form & Function of Boat Designs — IN THE BARATARIA-TERREBONNE ESTUARY



Original photograph by Marian Brister Martinez. Printed with permission.

Setting The Stage



The people of the Barataria-Terrebonne estuary have a close relationship with water and the bountiful resources it offers. It follows that they also have a long and close relationship with boats designed to navigate the shallow water of the estuary or the deep waters of the Gulf of Mexico, and to harvest the plentiful fish and shellfish living there. When the European settlers first arrived in Barataria-Terrebonne, the Native Americans of the region helped them navigate the waterways using dugout pirogues made from cypress logs or cane rafts known as *cajeux*.

Since those days, the traditional boats found in the Barataria-Terrebonne Estuary and in other parts of coastal Louisiana have evolved from these and other designs brought by people who came to live here. The pirogue and several other simple, practical designs have survived the years because they are ideally suited to the jobs they do in the shallow, often meandering waters of the estuary. The banks of Bayou Lafourche, Bayou Barataria, Bayou Terrebonne or other waterways of the estuary are lined with working boats. Some are designed for navigating the open and often rough water of the Gulf of Mexico, while others are suited more for the shelter of the inland bayous and bays. Some are made from wood and other traditional materials; while others are made from steel and aluminum. Each has a unique history. All have a specific job to do, and their design features match those tasks.

In this lesson the students will explore the idea of form following function as they study four of the basic boat designs commonly found in the Barataria-Terrebonne Estuary: the pirogue, the oyster lugger, the shrimp trawler and the Lafitte skiff. The background information found in the handout *The Form and Function of Louisiana Fishing Boats* (pp.5-7) provides only a brief snapshot. For more in-depth information, visit www.louisianafolklife.org and read the contributions of historian and folklorist C. Ray Brassieur. Photos of these boats can be found in the Louisiana Folklife Photo Gallery at <http://www.louisianafolklife.org/FOLKLIFEimagebase/photogallery.asp>



Objectives

STUDENTS WILL

- **study, compare and contrast the design features of four boat types described in the handout *The Form and Function of Louisiana Fishing Boats* and on the Louisiana Folklife website.**
- **create a Venn diagram to highlight the similarities and differences between two fishing boat designs.**
- **draw their favorite fishing boat designs either from life (preferred if possible) or from a photograph.**
- **describe and explain in both oral and written form the design features they consider most important to the specific job their chosen boat does and how form follows function.**

MATERIALS

- Handout: *The Form and Function of Louisiana Fishing Boats* (pp.5-7)
- Photographs of each of the boats described in the handout, printed from Photo Gallery on the Louisiana Folklife Web site:
<http://www.louisianafolklife.org/FOLKLIFEimagebase/photogallery.asp>
- Handout: *Venn Diagram: Two Fishing Boats* (p.8)
- Drawing paper
- Pencils, pens, colored pencils and pens, water colors
- Cameras (optional)

GETTING READY

1. Gather information and photographs of the pirogue, lugger, Lafitte skiff and Louisiana shrimp trawler from the website Photo Gallery on the Louisiana Folklife Website:
<http://www.louisianafolklife.org/FOLKLIFEimagebase/photogallery.asp>.
The students should explore this site to get their own information, too.
2. If possible, copy images of a selection of boat designs into PowerPoint slides to introduce them to the students.

3. If your school is located near a waterway in the estuary, pick out a site that would lend itself well to observing and photographing the boats.
4. Seek out a local boat builder or fisherman with knowledge of boat design who may be willing to talk to the students.
5. Arrange a field trip to the bayou and/or to one of the facilities listed in the resource section.
6. Gather photographs and drawing materials.
7. Copy Handouts for the students.



PROCESS

1. Introduce the topic of Louisiana traditional boat design to the students by asking them to describe the types of boats with which they are familiar. Ask the students to brainstorm what they already know about the design of local fishing boats. Record responses on the board and, with the students' input, organize the ideas.
2. Show photos or slides of a selection of traditional fishing vessels found in the Barataria-Terrebonne Estuary. Include pirogue, lugger, shrimp trawler, and Lafitte skiff. Ask the students to make observations about the design features of the boats, including the shape of the bow, stern and bottom of each boat. Discuss the rigging and its function. Discuss the idea of “form following function.”
3. Assign and distribute the handout *The Form and Function of Louisiana Fishing Boats*. Have students use the handout as well as the Louisiana Folklife website to research two types of fishing boats, listing all their design features and details.
4. In the second class period, after the students have had time to research, distribute handout *Venn Diagram: Two Fishing Boats* and ask students to complete the Venn diagram using the information they have gathered.
5. If a field trip is possible, visit a location listed in the resource section or go to a nearby bayou where you know there are the types of boats you are studying. Provide the students with drawing materials to sketch their chosen boat design. If a field trip is out of the question, the students could be assigned this task independently as homework. Or as an alternative, provide the students with photographs printed from the Internet from which to make drawings.

6. If possible, invite a boat builder, retired boat builder, or a person knowledgeable about the design of fishing boats to talk with the students.
7. When the students have completed their research, Venn diagrams, and drawings, ask them to describe, first in writing, then in an oral presentation to their classmates, what they have discovered about how this design evolved and the importance of boat design to the function of the boat itself.
8. Display the drawings and Venn diagrams in the classroom.



Computer art by Marian Brister Martinez.



THE FORM AND FUNCTION OF LOUISIANA FISHING BOATS



THE PIROGUE

The Pirogue is the oldest boat design commonly used today in the waters of coastal Louisiana. First used by the Native Americans, the design can be found throughout the coastal waters of the Gulf of Mexico and the Caribbean. The basic form has altered little over the centuries.

The pirogue is a relatively small, narrow flat-bottomed boat suited for use in the narrow, overgrown and shallow waterways of the Louisiana swamps and marshes. The classic dugout pirogue was 14 feet long and light enough to be carried by one person. Originally carved from one complete log, pirogues now are made from wood planks, marine plywood, aluminum and other materials. Pirogues vary in size and may be paddled while sitting, or poled with the occupant standing. The classic pirogue has a pointed bow and stern, while some are made with a flat bow and stern. Some boat builders combine the features of a pirogue and a skiff. The appearance and details vary widely even within coastal Louisiana, but pirogues all have the same basic features. The pirogue is a favorite boat of the duck hunter and the fisherman who likes to get off the main waterway and far into the marsh or swamp where a larger, heavier boat would easily get stuck.

Go to the Photo Gallery of The Louisiana Folklife Organization at <http://www.louisianafolklife.org/FOLKLIFEimagebase/photogallery.asp>

Use the search word “pirogue” to find photographs and more descriptions of the design of these boats.

THE OYSTER LUGGER

Early in the colonization of coastal Louisiana, the problem of navigating the shallow coastal waters was solved by the development of a small boat with a rounded hull and a shallow keel. This was called a *canot*. It was used to transport goods from a large ship to the shore. *Canots* could be rowed or sailed. Their sails were four-cornered and named “lug sails.” Adaptations were made to the design of the canot to create the “lugger”, named for the distinctive, square lug sail.



The Croatian oyster fishermen in Louisiana were responsible for developing the New Orleans oyster luggers, which were very common, hard working boats during the early twentieth century. The flat, broad bottom enabled the lugger to navigate the shallow inland waters where oyster reefs were located. A centerboard that can be raised or lowered was fitted in place of the keel. On the deck were

HANDOUT:

THE FORM AND FUNCTION OF LOUISIANA FISHING BOATS, CONTD.

four to six large hatches into which the oysters or other cargo were loaded. The word “lug” denotes carrying heavy loads over a long distance, which is what the New Orleans oyster luggers did as they carried their cargo to New Orleans to supply the oyster trade.

During the twentieth century, the lug sails disappeared and were replaced by inboard diesel engines. Today, the lugger is much less commonly seen than in the past. Many modern oyster luggers are completely computerized.

Go to the Photo Gallery of The Louisiana Folklife Organization at <http://www.louisianafolklife.org/FOLKLIFEimagebase/photogallery.asp>

Use the search words “oyster lugger” to find photographs and more descriptions of the design of these boats.

THE LAFITTE SKIFF



A skiff generally refers to a small boat that tends larger vessels. This is how the Louisiana skiffs came about. However, certain features were adopted to create a very special boat of the inland waterways of Barataria-Terrebonne. In fact, it was the World War II P.T. boat, which was constructed in Louisiana, that inspired a new twist to an old skiff design and resulted in the Lafitte Skiff. Emile Dufrene of Lafitte, a small town in the BTE, is considered the father of the Lafitte skiff. He

incorporated the semi-V hull design with a steep sheer and flare in the bow (look at the shape of the bow of the Lafitte skiff). The distinctive fantail transom (stern deck) was added. This feature of the boat’s stern provides the fisherman with a large area in which to work, sort and carry the catch. In addition an ice hold was added for storage. Today Lafitte skiffs are very popular among the shrimpers of Barataria-Terrebonne because they are sturdy boats that can travel at high speed in both shallow inland waterways and open, choppy water. A shrimper can spend a few days catching a load of shrimp and then return to port. These larger trawlers are designed to take longer, slower trips to the deep waters of the Gulf. These trips require much more expense than a shorter trip in a Lafitte skiff. As a result, more fishermen prefer the Lafitte skiff as a working boat today. The Lafitte skiff can be rigged in several ways. It can catch shrimp in a trawl dragged behind the boat or in wing nets, which are lowered on either side of the boat. In addition, Lafitte skiffs are also used for crabbing. They have a low freeboard (the distance between the surface of the water and the sheer or the top of the boat’s side). This aids the fisherman in pulling full traps on board.

Go to the Photo Gallery of The Louisiana Folklife Organization at <http://www.louisianafolklife.org/FOLKLIFEimagebase/photogallery.asp>

Use the search words “Lafitte skiff” to find photographs and more descriptions of the design of these boats.



HANDOUT:

THE FORM AND FUNCTION OF LOUISIANA FISHING BOATS, CONTD.

THE LOUISIANA TRAWLER

In the 1930s, Florida fishermen introduced a boat to Louisiana in order to harvest shrimp from the deep waters of the Gulf of Mexico. The Louisiana fishermen called it the “Floridiane” and adopted the design, adapting it to suit their needs. In fact there are many variations on the design created by the diverse cultures that added their distinctive features. Today these boats line the banks of the larger bayous and represent

a large part of coastal Louisiana’s economy. The trawler has some features of both a skiff and a lugger, but also has distinct differences. The features that set the trawler apart from the lugger are its deep hull and forward cabin. Also distinctive is the steep sheer, or the angle at which the sides of the boat slopes up to the point of the bow. This enables the boat to handle the rough waters of the Gulf of Mexico during bad weather. The trawler is powerful, stable and versatile. It is able to pull several large trawls in deep offshore water. It can also be rigged with butterfly wing nets and used to catch shrimp in the shallow bays. In the modern economy shrimpers are finding that the large trawlers can have the disadvantage of being costly to run compared to the smaller Lafitte skiff.



Go to the Photo Gallery of The Louisiana Folklife Organization at

<http://www.louisianafolklife.org/FOLKLIFEimagebase/photogallery.asp>

Use the search words “Louisiana trawler” to find photographs and more descriptions of the design of these boats.

HANDOUT:

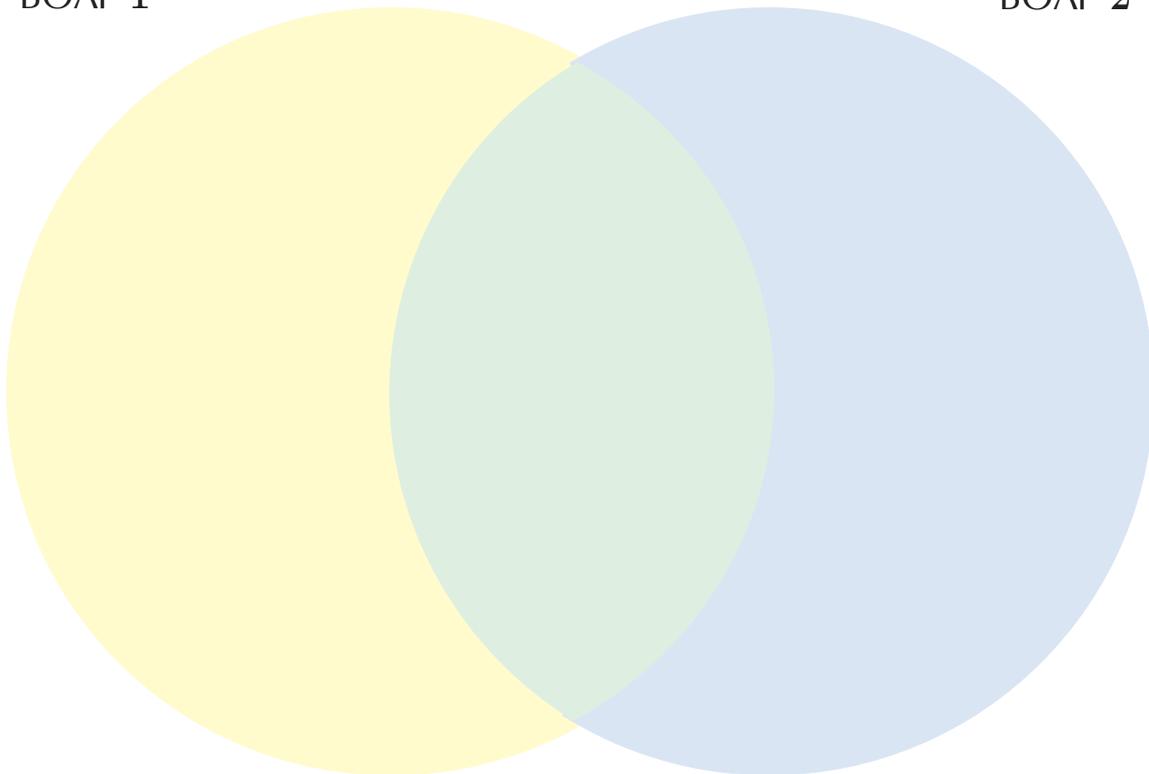
VENN DIAGRAM: TWO FISHING BOATS

The Venn Diagram is a useful tool for organizing the similarities and differences between two objects. In this lesson, you compare/contrast the features of two types of fishing boats commonly found in the Barataria-Terrebonne estuary.

1. Use your research to complete the VENN diagram.
2. Write features that are true only for Boat 1 in the left hand space.
3. Write features that are true only for Boat 2 in the right hand space.
4. Write the features the boats have in common in the overlapping space in the center.
5. Analyze your information.
6. Write a conclusion about the similarities and differences between the two boats.

BOAT 1

BOAT 2



ASSESSMENT

Rubric for assessing the quality of students’ Venn Diagrams, drawings, and presentations explaining their chosen boats’ form and function.

Proficiency	Expert A	Practitioner B	Apprentice C	Novice D
Venn Diagram: Content	The Venn diagram compared and contrasted all the features of the two boats accurately.	The Venn diagram compared and contrasted most of the features of the 2 boats, with no more than 3 errors.	The Venn diagram compared and contrasted all or most of the features of the 2 boats, but there were more than 3 inaccuracies.	The Venn diagram compared and contrasted only a few of the features of the 2 boats. There were more than 3 inaccuracies.
Venn Diagram: Organization & Visual Appeal	The Venn diagram was well organized and typed—with no typos.	The Venn diagram was organized and hand written.	The Venn diagram was somewhat organized. There were 1-3 typos, or 1-3 of the handwritten words were somewhat difficult to read.	The Venn diagram lacked organization. There were more than 3 typos, or more than 3 of the handwritten words were difficult to read.
Drawing: Visual Appeal	The drawing was very eye catching and detailed. The student displayed talent in the use of color, shading, and representation.	The drawing was simple. It was pleasing to the eye. The student showed ability in the use of color and representation.	The drawing was “sketchy”. The representation of the subject was difficult to visualize; it needed more detail and more effective use of color.	The drawing was not finished. It lacked the detail and attention to detail and color to convey the design of the boat.
Drawing: Accuracy	The drawing effectively and accurately conveyed all the details of the design of the boat.	The drawing was simple and, for the most part, accurate, with no more than two errors.	The drawing showed some of the required design detail, but there were 3-5 errors.	The drawing was not finished or not accurate. There were more than 5 errors.
Presentation	The student effectively presented the subject in an interesting/unusual way, describing how the boat design evolved and the importance of design to the function of the boat itself.	The student presented the subject in an informative matter-of-fact way, describing how the boat design evolved and the importance of design to the function of the boat itself.	The student barely described how the boat design evolved and the importance of design to the function of the boat itself.	The student did not describe how the boat design evolved and the importance of design to the function of the boat itself.

EXTENSIONS

1. Expand the research of boat design by including more boats.
2. Ask the students to develop an interview with a boat designer and arrange interviews that can be recorded or videotaped with the interviewee's permission. The older members of the community who have such skills are often happy to share, and they feel appreciated when they are included in such projects.
3. If your school has a woodworking shop, discuss with the teacher an opportunity for the students to make a scale model of a pirogue.
4. Hold a Barataria-Terrebonne Estuary Culture Day at school. Invite local artisans, including boat builders and fishers. Ask them to bring model boats if they have them. Include traditional music and dancing. This could become an annual tradition.

RESOURCES

WEB SITES

Center for Traditional Louisiana Boatbuilding, Nicholls State University, Thibodaux
Call 985-448-4634. This center is located on the grounds of Nicholls State University, while archival materials associated with the museum are housed in the university's library. A display of small craft is found in the first floor of the library. An annex containing boats from the Center is maintained at Laurel Valley Village in Thibodaux.

<http://www.nicholls.edu/boat/index.html>

Louisiana Folklife Program, Louisiana Division of the Arts
Particularly relevant on this site are the contributions of historian and folklorist C. Ray Brassieur, including the essay: "Louisiana Boatbuilding: an Unfathomed Fortune" and the many photos of these boats found in the searchable Louisiana Folklife Photo Gallery.

www.louisianafolklife.org



Louisiana Voices: An Educator’s Guide to Exploring our Communities and Traditions

This site uses C. Ray Brassieur’s essay “Louisiana Boatbuilding: an Unfathomed Fortune” as a springboard for cross-curricular activities focusing on the Pirogue and Lafitte Skiff.

www.louisianavoices.org

Pontchartrain Basin Maritime Museum, Madisonville

This museum features excellent exhibits about traditional boat design in south Louisiana. Boatbuilding workshops are offered at the museum.

<http://lpbmaritimemuseum.org>



Computer art by Marian Brister Martinez.



<http://www.btnep.org>

Lesson Nine:

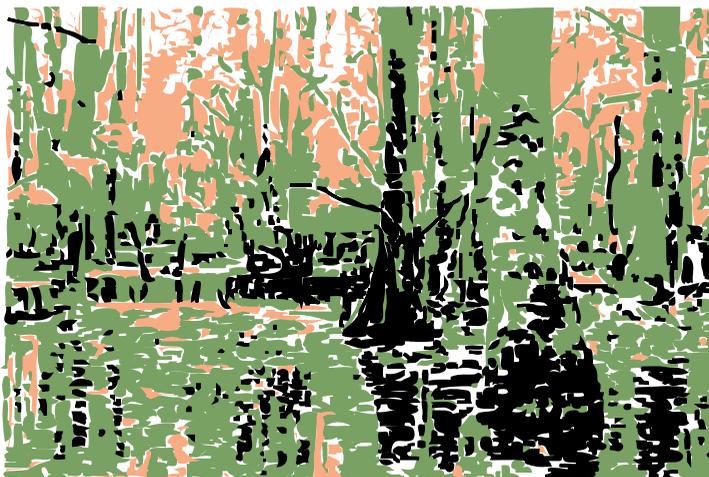
Be Instrumental—

Humans have always been musical. Archaeologists have found crude instruments dating back to pre-historic times. Whether mimicking an animal or the sound of thunder, humans have expressed themselves and communicated via musical sounds. Most of the primitive instruments were used for producing rhythms, the basis of all music. Up until the mid-20th Century most of the instruments were made of natural products such as wood, ivory, cat gut (for strings), skins (for drum covers), seeds, and so on. Many of the early instruments were made of materials found in the immediate environment. So was the case in the Louisiana wetlands. Native Americans used many resources of the wetlands for instruments such as reed flutes and seed rattles. African American musicians used drum skins, and Cajun musicians used wood for their guitars, accordions, and spoons.

Setting The Stage



The wetlands hold many natural materials that can be turned into instruments: the hollow log of a cypress tree for a drum, the reeds of the rouseau cane for a recorder, the seeds of the acacia tree for a rattle, the fronds of the palmetto palm for slapping, and the shells of oysters for clacking. All of these instruments have something in common besides coming from wetlands. They are used for percussion to make the rhythm of the song. Usually, the human voice was placed on top of the beat to produce the melody (Refer to “Rhythm of the Tides” for a description on rhythm). Many of the songs were originally created as types of chants that would tell stories or pass down important information because the cultures had no written language.



“Swamp” Computer art by Marian Brister Martinez.
©1999 Printed with permission.

Objectives

STUDENTS WILL

- **learn about the natural products of wetlands that humans used to create instruments.**
- **create their own instruments from the wetlands.**
- **create their own chant to tell the story and importance of wetlands.**

MATERIALS

- Guide books to wetland plants, trees, and animals (aquatic, terrestrial, mammals, invertebrates, fish, amphibians, reptiles, etc).
- Natural wetland products that can be used to make instruments. Examples of natural items that the teacher or students may collect include: palmetto palms wound tightly to be used to slap out the beat; oyster and clam shells to clack together; rouseau cane cut to make a flute-like instrument to hum through; a log that can be used as a drum; seed pods that can be used as a rattle.
- Copy of handout *Chant Sheet* (p.6)
- Copy of handout *Wetland Blues* for use as a model for students to create their own chant. (p.7)

GETTING READY

1. Collect a variety of natural wetland products that can be used to create instruments.
2. Make copies of the handouts *Wetland Blues* and *Chant Sheet*.
3. Review guidebooks to see which natural products might be best used to create instruments.
4. Find CDs with Native American chants and review them to present to class as examples of style. You may want to refer to the following Internet sites:
Native American Chants and Dances: Red Road Crossing CD
<http://www.amazon.com>
Earthsong: Native American Chants and Dances CD
<http://www.emusic.com>
5. If possible, locate someone in the community who knows Native American chants and is willing to perform for your class.

PROCESS

1. NOTE: Plants or animals must not be harmed or destroyed in order to make an instrument. Only use products that are discarded, fallen, or already dead.
2. Have students listen to Native American chants CD.
3. Review guidebooks with students and show them some of the items that may have been used as instruments.
4. Have students go to a wetland area (a class field trip is preferable) and try to find natural items to create their instruments. Or, if you've collected items for the class, have them choose the one they want to use. Let them play and experiment with them.
5. Hand out and review the words to *Wetland Blues*. Instruct students to use these words as a model for creating their chant.
6. Ask students to review the guide books to wetland plants, trees, and animals, and take notes that will help them write their chants.
7. Allow students to take instruments home to create their chant. Instruct them to write the words and the rhythm on the *Chant Sheet* handout (Refer to the "Rhythm of the Tides" lesson on how to write rhythm.)
8. Have students perform their chant using their instrument and words.
9. Make a class tape of the chants with a narrative describing the natural products used to "be instrumental."

QUESTIONS FOR JOURNALING

1. Why did you choose your particular natural item for your instrument?
2. What about the sound it makes appeals to you and why?
3. When you play the instrument and chant the song, how does it make you feel?

ASSESSMENT

CHANT SHEET RUBRIC

1. The words in the chant are:

1

2

3

4

bland

somewhat descriptive

descriptive

vivid

2. The message of the chant is:

1

2

3

4

not clear

somewhat clear

clear

very clear

3. The topic of the chant is:

1

2

3

not clear

somewhat related to wetlands

related to wetlands

4. The chant is:

1

2

3

4

not original

somewhat original

original

very original

INSTRUMENT

5. Does the natural product function as an instrument?

1

2

3

4

needs work

somewhat

well

very well

6. Are there added features to the natural product that “dress it up” so that it looks like an instrument?

1

2

3

no added features

an attempt to add features

features make product look like an instrument

PERFORMANCE

7. Did the chant and the sounds from the instrument compliment each other?

1

2

3

need work

somewhat complement each other

a real performance

Total Possible Points = 25 x 2 = 50 points

EXTENSIONS

- Have students form a band or bands to coordinate their instruments and voices.
- Have students research a particular Native American tribe and learn about their use of the wetlands for their livelihood, recreation and art.
- Have students research Native American poetry.
- Discuss the habitat type from which the resources came: barrier island, salt marsh, brackish marsh, fresh marsh, swamp, bottom land hardwood.

RESOURCES

WEB SITES

The Kennedy Center Arts Edge

<http://artsedge.kennedy-center.org/content/2245/>

Rambles: A Cultural Arts Magazine

http://www.rambles.net/rrc_namchant97.html

Native American Chants and Dances: Red Road Crossing CD

<http://www.amazon.com>

Earthsong: Native American Chants and Dances CD

<http://www.emusic.com>

University of Louisiana Lafayette

http://ccet.louisiana.edu/03a_Cultural_Tourism_Files/01.02_The_People/Native_Americans.html

Louisiana Folklore Center

<http://www.nsula.edu/folklife/database/cultures/NativeAmer/NativeAmericans.html>

BOOKS

Kniffen, F. B., Gregory, H.F., & Stokes, G.A. (1987). *The Historic Indian tribes of Louisiana*. Baton Rouge: LSU Press.

Dardar, T. M. (2000). *Women chiefs and crawfish warriors: A brief history of the Houma people*. Translated by Clint Bruce. Golden Meadow, LA: United Houma Nation



HANDOUT:

WETLAND BLUES

Redfish, blue crab, white shrimp, black duck
Tadpole, bullfrog, cypress log, marsh buck

Gray goose, swamp rabbit, dragonfly, crab roe
Barnacle, jumping mouse, fish hook, mosquito

Snowy egret, periwinkle, snapping turtle, snail
Diving beetle, flatfish, raccoon, cattail

(faster)

Alligator, garfish, lily pad, food chain
Sea lettuce, pelican, scuba diver, acid rain

(slow again)

Oyster shells, sea oats
Water birds, motorboats

Green fern, laughing gull, least tern, scud
Mosquitofish, clamworm, salt marsh mud

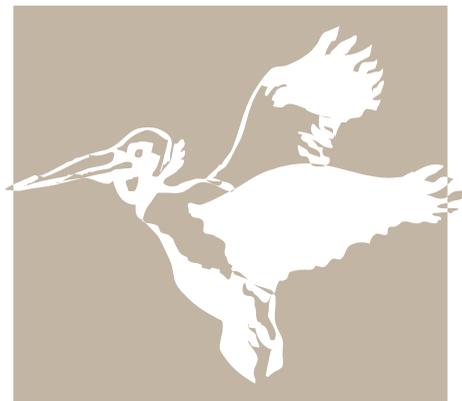
Speckle trout, bluegill, waterfern, mink
White heron, pitcher plant, water to drink

Sawgrass, ladybug, fiddler crab, rail
Duckweed, bull tongue, kitchen sink, rusty nail

(faster)

Rockweed, horsefly, oak seed, water snake
Pintail, muskrat, windsail, mallard drake

Whooping crane, rainstorm, swamp rat, muddy shoes
Stingray, weeping willow, wetland blues.



Source: Project CEED's video "Wetland Blues:" Funded by the University of New Orleans Urban Waste Management and Research Center. Disseminated by the Lake Pontchartrain Basin Foundation.

Lesson Ten:

Birds of Paradise — PROTECT MY HOME



The Barataria-Terrebonne Estuary is home to 353 species of birds. Sixty-four species are considered resident inhabitants and 185 species are migrants. This vast variety of bird species is due to two factors:

- The Barataria-Terrebonne Estuary is at the center of the migratory pathway of many species of birds during both spring and fall. The barrier islands are the first and last land that birds can access before and after their long flight across the Gulf of Mexico.

- The Barataria-Terrebonne Estuary has a rich variety of habitats for forest, marsh, and shore birds.

The birds of the estuary are vital to Louisiana for several reasons:

- Birds play an integral part in the Barataria-Terrebonne ecosystem. Birds are necessary for insect control and seed dispersion.

- Birds are aesthetically pleasing in both song and appearance. Birdwatching has become a multi-million dollar industry that provides an important boost to the Louisiana economy.

- Birds are an indicator when something is out of balance within an ecosystem.

Setting The Stage



Habitats change naturally over time from one type to another. These gradual conversions take place over hundreds of years, which allow time for plants and animals to adapt to their new environments. These changes can actually help species diversify. However, due to human intervention, the habitats of the Barataria-Terrebonne Estuary have been altered very quickly. The following fast, dramatic changes have greatly affected the native and migratory birds that rely on the estuary for food and shelter.

- The course of the Mississippi River has been contained by a levee system that disrupts the natural flooding and land building processes, altering bird habitats.

- Pesticides used to control insect populations are passed on to birds either directly or indirectly through the food chain.

- Some agriculture and logging practices cause the destruction of natural bird habitats.

- The industry release of pollutants into the aquatic ecosystem and the channeling of canals have accelerated the loss of wetland habitats by allowing salt water to intrude and kill off vegetation that holds the land together, affecting the food chain.

- Before hunting regulations were in place, hunting for food, sport, and feathers greatly diminished the populations of many bird species. For example, at the beginning of the 20th Century, the Snowy egret was nearly hunted to extinction for its feathered plumes used in ladies' hats.

Objectives

STUDENTS WILL

- **list threatened/ endangered birds of the Barataria-Terrebonne estuary.**
- **examine and describe the role of humans in threatening /endangering the birds of the Barataria-Terrebonne estuary.**
- **examine and describe the role of humans in protecting the birds of the Barataria-Terrebonne estuary.**
- **create a postcard urging people to protect the threatened/ endangered birds of the Barataria-Terrebonne estuary.**

MATERIALS

- “Wings Over the Wetlands” video available from the Barataria-Terrebonne National Estuary Program
- TV and VCR
- Computer and Internet access
- Ornithology resource materials—(Refer to “Resources”)
- One 4 x 6 plain white postcard for each student
- Colored pencils
- Pastels
- Copies of the handout *Disappearing Birds of the Estuary* (p.7)

GETTING READY

1. Gather all materials.
2. Duplicate the handout *Disappearing Birds of the Estuary*.
3. Preview the video “Wings Over the Wetlands”.

PROCESS

1. Assess prior knowledge by brainstorming a list of human-caused changes to the habitats of the Barataria-Terrebonne estuary. Ask students to think about how these changes could affect both native and migratory birds. Record their responses. After assessing what the students know, ask them what they would like to learn about the effect of changes on birds of the estuary. Record their questions. Discuss background information on changing habitats with students.

2. View the video “Wings Over the Wetlands” with students.
3. Lead a class discussion:
 - Why do such a large number of birds live in the wetlands?
 - How have humans affected the bird population?
 - What steps have we taken to save the threatened /endangered birds of the wetlands?
 - Why are birds important to us?
4. Distribute copies of the handout *Disappearing Birds of the Estuary*. Each student will list a minimum of two threatened/endangered bird species of the Barataria-Terrebonne estuary. Students may gather information on threatened/endangered birds at the Barataria-Terrebonne National Estuary Program Web site <http://www.btnep.org>. Students will also examine and describe the role of humans in threatening/endangering/protecting the birds of the Barataria-Terrebonne estuary.
5. Ask each student to choose a threatened/endangered bird of the Barataria-Terrebonne estuary to research. Provide ornithology resource materials, such as birding field guides and Internet access for student research.
6. After researching a threatened/endangered bird, the student will create a postcard entitled “Protect My Home.” Students will illustrate the postcard with their chosen threatened/ endangered bird and offer one suggested way humans could positively affect the bird’s habitat. For example: “Protect My Home – Stop Using Pesticides Today.”
7. Have students create a collage of postcards. Display their work.

QUESTIONS FOR JOURNALING

1. What choices do you make every day that may adversely affect the habitats of the birds of the Barataria-Terrebonne Estuary?
2. What caused the extinction of some bird species of the estuary?
3. Why should humans value the birds of the estuary?



ASSESSMENT

1. The students will correctly complete the handout *Disappearing Birds of the Estuary*.
2. Students will illustrate a postcard with a threatened/endangered bird of the estuary and one suggested way that humans can positively affect the bird's habitat.

“Protect My Home” Postcard: Rubric

Directions: Place an X in the appropriate box. Add points and multiply by 5 for the total score.

The Student . . .	1 Beginner	2 Novice	3 Apprentice	4 Master
Illustrated one threatened/endangered bird of the Barataria-Terrebonne estuary.				
Listed one way humans could positively affect a threatened/endangered bird's habitat.				
Used color, shape, lines, textures, and shapes to enhance postcard.				

Total possible points = 12 weighted x 5 = 60 points.

Total: _____

EXTENSIONS

1. Start a bird-feeding program in your neighborhood. For more information see *Urban Wildlife Program: Feeding Birds* at <http://www.deq.louisiana.gov/portal/tabid/1945/Default.aspx>
2. Plant a wildflower garden in an area of your backyard or schoolyard. Choose plants that are indigenous to your area. They will add beauty and provide habitat for local birds.
3. Engage in a global study of wildlife migration and seasonal change. K-12 students share their



own field observations with classmates across North America at the web site *Journey North* (Annenberg, CPB). Students track the coming of spring through the migration patterns of Monarch butterflies, bald eagles, robins, hummingbirds, manatees, whooping cranes, other birds and mammals, the budding of plants, changing sunlight, and other natural events. Learn more about this project at <http://www.learner.org/jnorth/>.

4. Visit a birding festival near you. For a complete list of Louisiana birding festivals organized by season and location go to Birdwatching Louisiana-Bird Festivals in Louisiana at <http://www.birdlouisiana.com/>
5. Birds use songs to communicate with potential mates, rivals, and predators. They can communicate over long distances because sound travels in all directions, and it can penetrate through or around objects. Bird songs can carry through thickly wooded areas as well as the darkness of night. Each species of bird has its own song, though similar species may have a similar song structure pattern. The following Web sites offer free recordings of bird songs throughout the world.
<http://www.oldbird.org>
<http://enature.com/>
<http://flmnh.ufl.edu/birds/>
Recreate bird songs with natural objects and/or musical instruments such as rattles, sticks, whistles, plastic recorders, or bottles filled with water.

RESOURCES

- Videos available through the Barataria-Terrebonne National Estuary Program:
 - “Wings Over the Wetlands”
 - “Vanishing Wetlands, Vanishing Future: BTNEP Priority Problems Video” – This documentary identifies problems facing the estuary as well as possible solutions.
 - “Rescuing the Treasure” – A film portraying the ecological struggle of the estuary.
- America’s Wetland Birding Trail along the Louisiana Great Gulf Coast
<http://www.fermatainc.com/la/index.html>
- Barataria-Terrebonne National Estuary Program Web site offers an abundance of information on birds of the estuary and their habitats at
<http://www.birds.btnep.org/birds/>
- See beautiful photographs and descriptions of birds of Louisiana at the Louisiana Ornithological Society Web site
<http://www.losbird.org/labirds/labirds.htm>



- Cornell University is the national leader in bird education and research. Its Web site offers excellent scientific information on North American birds in an understandable manner
<http://birds.cornell.edu>
- National Wetlands Research Center – Louisiana has a “kid’s corner” that includes animal and bird identification and trivia, free materials for teachers, news about wetlands, fact sheets, and Louisiana Coastal Land Loss maps and projection.
www.lacoast.gov/wetlands/index.htm
- Journey North (Annenberg, CPB) K-12 students share their field observations with classmates across North America. They track the coming of spring through the migration patterns of bald eagles, robins, hummingbirds, manatees, whooping cranes, other birds, Monarch butterflies, and mammals.
<http://www.learner.org/jnorth/>





DISAPPEARING BIRDS OF THE ESTUARY

Directions: Research and respond to the following questions.

	What birds of the BTE are threatened/endangered?	What are humans doing that threaten or endanger the birds of the BTE?	What are humans doing to protect the birds of the BTE?
1.			
2.			
3.			



Lesson Eleven:

A Time to Be Born; A Time to Die—WHO ARE THE THREATENED & ENDANGERED

SPECIES OF THE BARATARIA-TERREBONNE ESTUARY?

An endangered species is one that is in danger of becoming extinct throughout all or a large part of its range. A threatened species is one that is likely to become endangered in the near future. There are many reasons why a plant or animal becomes threatened or endangered, such as habitat destruction, overexploitation, pollution, disease, and introduction of exotic species into the ecosystem. Louisiana has 30 threatened and endangered plant and animal species.

(U.S. Fish & Wildlife Service [April, 2006] Retrieved April 22, 2006 from

http://ecos.fws.gov/tess_public/StateListing.do?state=LA&status=listed)



Setting The Stage



Bear, Louisiana black
Beetle, American burying
Curlew, Eskimo
Eagle, bald
Frog, Mississippi gopher
Heelsplitter, Alabama
Jaguar
Mucket, pink
Panther, Florida
Pearlshell, Louisiana
Plover, piping
Sea turtle, green
Sea turtle, hawksbill
Sea turtle, Kemp's ridley
Sea turtle, leatherback
Sea turtle, loggerhead
Sturgeon, gulf
Sturgeon, pallid
Tern, least
Tortoise, gopher
Turtle, ringed map
Vireo, black-capped
Whale, finback
Whale, humpback
Wolf, gray
Woodpecker, red-cockaded
Chaffseed, American
Geocarpon minimum (No common name)
Pondberry
Quillwort, Louisiana



What is the present status of each of these animals and plants? Have any of them made a recovery from the Endangered Species List?

Research which of these species can be found in the Barataria-Terrebonne Estuary. Select one or two of them to research for this activity. Investigate the primary reasons for their endangered or threatened status.

Now compare your findings to this list of the “Seven Priority Issues Affecting the Barataria-Terrebonne Estuary”:

- Hydrologic Modification
- Sediment Availability
- Habitat Loss and Modification
- Changes in Living Resources
- Eutrophication
- Toxic Substances
- Pathogen Contamination

Which issue(s) do you think could have caused these species to become threatened or endangered?

That’s right! All of them! In this lesson, you will learn more about the threatened and endangered species of the Barataria-Terrebonne Estuary. But you’ll also learn about the “comeback kids,” those species whose populations have recovered enough to take them off the threatened or endangered status list. That’s reason for a party, don’t you think?

MATERIALS

- Copies of handout *Obituary Template* (p.8)
- Copies of handout *Comeback Party Invitation* or *Birth Announcement Template* (p.9)
- Copies of handout *Comeback Party Invitation for the American Eagle* (p.10)
- Computer with word processing software
- Card stock of varying color and weight
- Magazines or clip art with pictures of threatened/endangered/revived species of animals
- Scissors and glue
- Pencil
- Scrapbooking Art
- Markers, crayons, color pencils
- Stencils
- Samples of obituaries

Objectives

STUDENTS WILL

- **identify threatened/endangered species of the Barataria-Terrebonne Estuary.**
- **identify comeback species of the BTE**
- **understand the causes of the threatened or endangered status of those animals or plants.**



GETTING READY

1. Make copies of the handout *Obituary Template* for Student Guided Practice and Independent Practice. Make an overhead transparency for teacher model and guided practice.
2. Make copies of the handout *Comeback Party Invitation or Birth Announcement Template* for Student Guided Practice and Independent Practice. Make an overhead transparency or digital file for the teacher model and guided practice.
3. Research a list of endangered, threatened, or comeback species of animals and plants in the BTE.
4. Research facts about each species, including the reason for its status and its range in the BTE.
5. Search magazines, newspapers, resource file, or the Internet for pictures of threatened, endangered, or comeback animals and plants of the BTE. Extra credit can be offered to students who draw their own pictures.

PROCESS

RESEARCH

1. Have students research a list of endangered, threatened, or comeback species of animals and plants in the BTE.
2. Ask students to research facts about each species, including the reason for its status and its range in the BTE.
3. Have students search magazines, newspapers, resource file, or the Internet for pictures of threatened, endangered or comeback animals and plants of the BTE. Extra credit can be offered to students who draw their own pictures.

WRITING THE OBITUARY OF A THREATENED/ENDANGERED SPECIES OF THE BTE

MODEL

1. Have students examine obituary samples.



- Using a computer, guide the students through the completion of an obituary template for the Leatherback Sea Turtle (*Dermochelys coriacea*), an endangered species, complete with pictures.
- After completing the obituary template, demonstrate how to take information from the template and develop a colorful, authentic, and meaningful obituary paragraph.



GUIDED PRACTICE

- As a class, have students brainstorm an obituary form for the Louisiana Black Bear, a threatened species.
- In groups of 3-4, have students develop an obituary paragraph for the Louisiana Black Bear.
- As a class, select the best sentences from each group's obituary. Form the sentences into one cohesive paragraph. Have each group assign a typist to type its sentence in the computer in sequential order.
- Provide students with a copy of the obituary to be used as a model for their independent practice.

INDEPENDENT PRACTICE

- Using the obituary template as a reference, have each student complete an obituary paragraph for one of the threatened/endangered species of the BTE.
- Students will place their obituary on the computer in the obituary format with pictures.

WRITING A BABY BIRTH ANNOUNCEMENT OR PARTY INVITATION FOR A COMEBACK SPECIES OF THE BTE

Repeat the process described above, using examples of comeback species of the BTE. Students may choose from the list below or may research their own. A species that appears on both lists has been reclassified from endangered status to threatened status. That's a comeback story, don't you think? What about redfish? They were never endangered or threatened, but overfishing seriously reduced their population. Once catch limits were put in place, redfish numbers have rebounded. But we have to really work on solutions to the Seven Priority Problems, so that those comeback stories will keep coming!

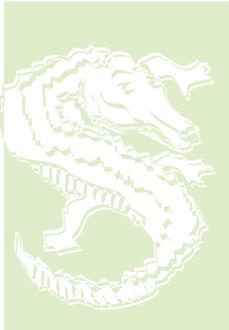
American Alligator
Osprey

American Bald Eagle
Brown Pelican

QUESTIONS FOR JOURNALING

1. If humans were an endangered species, what would be some of your strategies for survival?
2. How can humans solve some of the problems associated with threatened/endangered species?
3. Write a creative poem, using the Acrostic model for one of the threatened/endangered/comeback species. An Acrostic is a form of non-rhyming poetry in which the first letters of each line spell a vertical word, phrase, or sentence.

The following Acrostic poem was written by Sally Merideth.



ALLIGATOR

Allegiance to the scaly one
Lift my primeval spirits
Lock your jaws on my cold-blooded fright
Infest my subconscious bayous
Gator primordial
Antediluvian stalker
Thrash my moss-shrouded reveries
Oh, rake your tail through my swamp dreams
Reptilians welcomed

ASSESSMENT

OBITUARY/COMEBACK NOTICE RUBRIC

Grade	Accuracy	Creativity	Appearance	Format	Language
A	Most research information on the species is correct.	Informative, interesting, and creative	Aesthetically pleasing; exceeds expectations	Followed format throughout the work	Language enhances the meaning of the work
B-C	Some research information on the species is correct.	Informative and interesting	Legible; meets expectations	Followed format for most of the work	Language conveys the meaning of the work
NEEDS WORK	Little research information on the species is correct.	Informative; does not attract interest	Illegible and/or does not meet expectations	Did not follow format	Language detracts from the meaning of the work

EXTENSIONS

1. Have students send obituaries and rebirth notices to the Barataria-Terrebonne National Estuary Program for possible publication in their newsletter.
2. Have students participate in an art activity to make tombstones for threatened/endangered species of the BTE. Using polystyrene blocks, sturdy cardboard, or wood, students will paint and label a tombstone from their previously written obituaries.
3. What is the Endangered Species Act? When was it enacted? Has it been amended? Research this important legislation and prepare a report for your class.
4. Contact the LA Department of Wildlife & Fisheries. Ask for a copy of the recovery plan for the endangered species you have studied. If there is no recovery plan, ask why. (Not all listed species have a plan, even though the Endangered Species Act requires one for every listed species.) Find out what programs have been initiated to help the species recover. Ask about the status of these recovery programs. Make a list of ways your community can support the recovery efforts. Develop a plan of action to get involved in saving your endangered or threatened species.



5. Plan a field trip to one or more of these sites: the Audubon Louisiana Nature Center, Audubon Aquarium of the Americas, Audubon Zoo, Bayou Segnette State Park, Barataria Preserve-Jean Lafitte National Historical Park & Preserve, the Creole Nature Trail. Observe some of the threatened/endangered and revived estuary species in artificial and natural environments.
6. Make a baby announcement or congratulations card for one of the comeback species.

“Red-Cockaded Woodpecker” Pen & ink wash. Marian Brister Martinez, artist.
© 2006. Printed with permission.



RESOURCES

WEB SITES

Barataria-Terrebonne National Estuary Program Resources

www.btnep.org

- Salt Marsh Habitat of the Barataria-Terrebonne Estuary (Activity Book)
- “Rescuing the Treasure” BTNEP video
- “Wings Over the Wetlands” BTNEP video
- Clawdette’s “For True or What” BTNEP poster
- “Explore Coastal Louisiana with Boudreaux” BTNEP CD

Louisiana Coast Web site

www.lacoast.gov/wetlands

Red List of Threatened Species

<http://www.redlist.org/>

Black Bear Conservation

<http://www.bbcc.org/>

Greenwing

<http://www.greenwing.org/>

North American Bullfrog

http://animaldiversity.ummz.umich.edu/site/accounts/information/Rana_catesbeiana.html

Endangered Species

<http://www.endangeredspecie.com/>

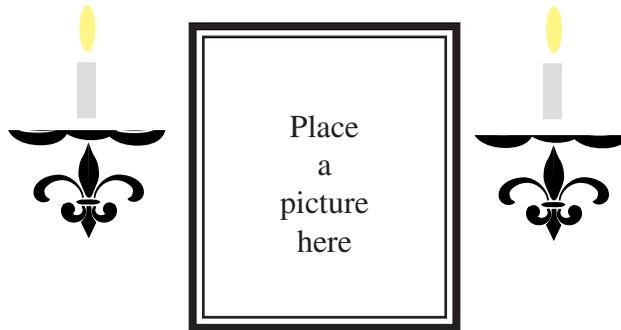
U.S. Fish & Wildlife Service

<http://endangered.fws.gov/>



HANDOUT:

OBITUARY TEMPLATE



Common Name

Scientific Name

Date and Range of
Threatened/Endangered
Status:

Habitat
Description:

Cause(s) of
Threatened/Endangered
Status:

In Lieu of Flowers,
the last remaining members of
this species request:



COMEBACK PARTY/BIRTH ANNOUNCEMENT TEMPLATE



Common Name
Scientific Name

*Date and Range of
comeback
Status:*

*Habitat
Description:*

*Cause(s) of
comeback
Status:*

*In Lieu of gifts,
members of the
comeback species request:*

HANDOUT:

COMEBACK PARTY FOR THE AMERICAN BALD EAGLE



Common Name

American Bald Eagle
Haliaeetus leucocephalus

Scientific Name

*Date and Range of
comeback
Status:*

1995 - Reclassified from endangered to
threatened status in the BTES

*Habitat
Description:*

Cypress swamps; tall trees; abundant fish

*Cause(s) of
comeback
Status:*

Banning of the pesticide DDT;
protection under the Endangered Species Act

*In Lieu of gifts,
members of the
comeback species request:*

Protection of critical wetlands habitat
Banning of persistent toxic substances, such as PCBs
Strengthening the Endangered Species Act
Limited commercial fish catches

Lesson Twelve:

Jambalaya, Crawfish Pie, Filé Gumbo—

LOOKING AT A GALLON OF MUD: An Interview with Chef Paul Prudhomme

(T.Vedros, personal interview, April 18, 2004)



Setting The Stage



Q. How did you learn to cook?

I was the youngest of 13, and realized pretty early on that I could spend some time with my mom if I was the one helping her to cook. I also saw the emotion that was attached to food. No matter what was going on, or who was upset, when we sat down to eat, that passion went into the food rather than into the anger, and we all found ourselves laughing and talking around the family table. I saw the power of family meals and the emotion involved in eating together.

Chef of the Month Club (n.d.) Retrieved April 15, 2004 from <http://topchefs.chef2chef.net/recipes/chef-paul/>

Q. Do you think kids are still learning to cook by helping their mom or dad in the kitchen?

Today's lifestyle is more rushed and hectic than when I was a child. I think the joy of cooking and preserving a heritage is still being passed on, although to a lesser extent. However, it does seem to be resurging as more people realize the importance of family meals, and are making an effort to have meals together throughout the week in spite of hectic schedules.



Q. We use food in a variety of social situations – births, funerals, and everything in between. Why do you think this is such a focus in our area?

It is an amazing part of our culture; we celebrate everything with food. As a mother nurtures a baby with milk, we nurture friends in that same manner – through food. We will work for hours, or even days to feed family, friends, and even strangers. It's something that crosses gender and race and age—you see men, women, young, old, and every skin color cooking for others. When you think of the festivals and fairs in this area, and the large number of people who are cooking to nourish others, it really is amazing. Food is one of the most emotional aspects of our culture, with most important events taking place in conjunction with a meal—business meetings, wedding proposals, award banquets, and many other events usually involve a meal that is shared with others.

Q: How does the estuary influence the cooking of this area?

The abundance of fish and fowl, as well as all of the herbs and spices that are abundant in this area has a definite impact on our cooking and our culture. We have everything we need literally right at our fingertips. Having these natural resources readily available provides us with a nice variety of items to use in our cooking, and we definitely take advantage of what nature supplies us with.

Q. How does cooking in the estuary differ from that in other regions?

*Every area has an emotion, and that emotion is reflected in the cooking. The emotion in this area is one of great pride in our heritage, and the desire to keep that heritage strong. We also have a unique blend of heritage emotion, with French, Spanish, African, and Italian being our most influential heritages. In the New Orleans area, these cultures have blended into a sophisticated culture with a charm all its own. In the swamp areas, this heritage is reflected in a more basic way of life. We lived off of the land, and used what we had available. We also had a community with the others in our neighborhood. A driving theme in these areas was wanting to win—the game, the best recipe, the best music—everyone wanted to be the best at something. In this way, recipes were passed through generations and always trying to have what it took to be **THE BEST!** I think today we are becoming interested in recapturing these emotions as a way of preserving our heritage. It is an enriching feeling to be around the elements of the estuary, and we are realizing the beauty of the life within it.*

Q: How does food and cooking reflect the spirit of the estuary?

Of all the marvelous things in the estuary, one of the most remarkable things is looking at a gallon of mud from this region – not just looking at it, but really getting into it. It is amazing to see the life that is in just one gallon of mud! There are so many forms of life in just this tiny amount of space that is truly spectacular. This is the future – or spirit – of the estuary. This gallon of mud contains the nutrients for the plants, and provides food for the birds and animals who make this their home. The life, the odor, the nutrients - this is the future of the estuary, and when these things are gone, the spirit of the estuary will also be gone.





The estuary plays an important role in both the culture and the cooking of the people of this region. Nature has provided a smorgasbord of ingredients in this nutrient-rich ecosystem that are used in kitchens throughout the area. Recipes from the estuary have a tendency to be passed from one generation to the next; they serve as a way to preserve our heritage. We have festivals and fairs celebrating the food and resources of this area, and cooking is truly honored as an art form in this region. Just see what some people say about the influence of food on a culture.

Gutierrez, C. P. (1985) in *Louisiana Folklife: A Guide to the State*, edited by Nicholas R. Spitzer, Louisiana Office of Cultural Development, defines “foodways”

The term foodways, as it is now used by writers in various disciplines, has a broad definition. The study of foodways may include the production, distribution, preparation, preservation, serving, and eating of food, as well as the social, symbolic, psychological, and behavioral aspects of food. Food serves as nourishment, but specific foods and food habits are part of our social, technological, economic, religious, aesthetic, and communicative systems. Thus food has meaning beyond that of mere survival, making its significance in human life both varied and complex (p. 151).

Ulysses S. Ricard recognizes the impact of Louisiana’s cultural diversity and its food traditions in his article “Louisiana Cooking: A Way of Life” (1987) Retrieved November 25, 2004 from http://www.louisianafolklife.org/LT/Articles_Essays/creole_art_cooking_life.html)

The influence of the many peoples and cultures that came to Louisiana, the cooking traditions and methods of these people, the natural richness of Louisiana's soil, and its abundant supply of seafood have all had a part in creating the native culinary richness that Louisiana offers and that cannot be matched in any other state or region in the United States.

However, it is Chef John Folse who links foodways and art to capture the spirit of the estuary:

Like all great artists, chefs must create a style that is recognizable. In order to stand out, you should stay true to your roots, stay true to your region and stay true to your heart and soul.

Folse Philosophy (n.d.) Retrieved November 25, 2004 from http://www.jfolse.com/mm_philosophy.htm

Objectives

MATERIALS

STUDENTS WILL

- **state the impact the estuary has on culture and cooking.**
- **create an authentic Southern Louisiana-style cookbook, with both recipes and cultural stories.**
- **illustrate the recipes through drawings and/or photography**

- Various cookbooks from the region. Suggested titles include:
Chef Paul Prudhomme's Louisiana Kitchen Cook Book by Paul Prudhomme;
Louisiana Sampler : Recipes from Our Fairs & Festivals by Chef John Folse;
Who's Your Mama, Are You Catholic and Can You Make a Roux: A Family Album Cookbook by Marcelle Bienvenu; or any other cookbook that mixes traditional recipes with cultural stories.

- General cookbooks
- Computers with Microsoft Word
- A printer
- A scanner
- Food magazines and the Food section from local newspapers
- Drawing paper
- Pens
- Fine point black permanent markers
- Digital camera or film camera & film
- Chart paper to record information from student discussions
- Handout *VENN Diagram: Traditional & Regional Cookbooks* (p.11);
- Handouts *Cajun/Creole Cooking Vocabulary* (One blank; one completed) (pp12-13);
- Handouts *Ingredients from the Estuary* (One blank; one completed) (pp.14-15)
- Handout *Tips for Typing Your Recipe* (p.16)

GETTING READY

1. First explore the list of resources provided by Louisiana Voices for their lesson “Introducing Louisiana Foodways” at the URL
http://www.louisianavoices.org/Unit7/edu_unit7_lesson3.html#resources

In particular, read/download the following articles:

- “Louisiana's Food Traditions: An Insider's Guide” by Maida Owens
http://www.louisianafolklife.org/LT/CSE/creole_food_trad.html
- “Louisiana Foodways in Ernest Gaines's A Lesson Before Dying ” by Courtney Ramsay
http://www.louisianafolklife.org/LT/Articles_Essays/main_misc_gaines_foodways.html
- “Louisiana Cooking: A Way of Life” by Ulysses S. Ricard
http://www.louisianafolklife.org/LT/Articles_Essays/creole_art_cooking_life.html

2. Ask students to bring in cookbooks—both regional and traditional. Assign cooperative groups and ask them to examine the cookbooks and create a list of observable characteristics. Be sure they include the sections of a cookbook, how the recipes are written, an index, illustrations, etc....
3. Ask the groups to use the handout *Venn Diagram: Traditional & Regional Cookbooks* to compare and contrast regional cookbooks with non-regional ones.
4. Distribute the handout *Cajun/Creole Cooking Vocabulary* to the groups for them to make a list of the vocabulary that is associated with cooking in the estuary. Students can either complete the empty chart which would allow them the opportunity to use their own knowledge and resources to create the definitions, or you can distribute the completed chart.
5. Review organisms of the estuary that are used in recipes—include animals, fruits, vegetables, spices, and herbs. A completed web *Ingredients from the Estuary* handout is provided as well as a blank one where students can brainstorm their own lists.
6. Make copies of *Tips for Typing Your Recipe* for use in the activity.
7. Engage the students in discussions about “foodways” talking about
 - where the cooks in their families acquire their ingredients – for example, do they buy, grow, hunt, or fish;
 - how and when the cooks in their families learned to cook;
 - where do the cooks in their families acquire their recipes;
 - gender and age roles in preparing, cooking, serving, and cleaning up;
 - how is the food presented;
 - what rituals or unwritten rules govern mealtime;
 - special holiday meals and activities connected to food;
 - use of space and time, e.g., what do the eating areas look like; what time do families eat;
 - family stories linked to recipes, customs or rituals, holidays or festivals.



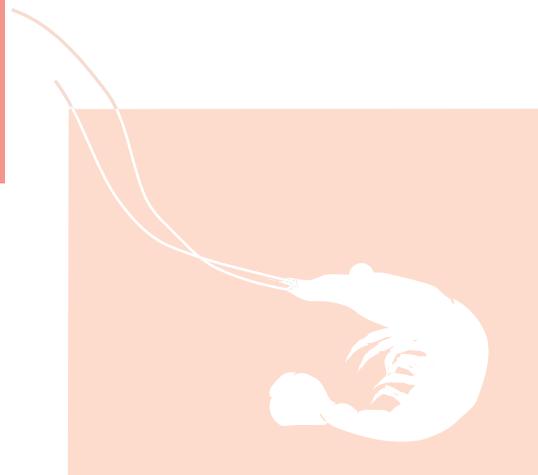
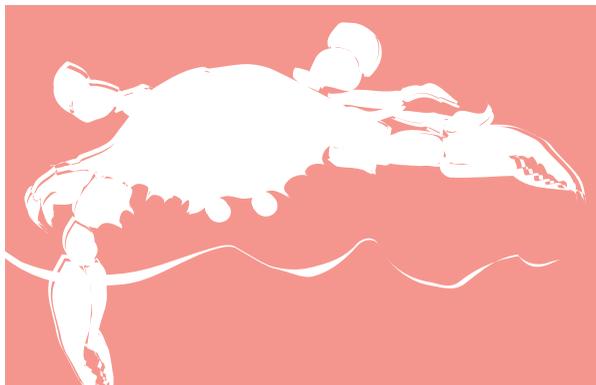
PROCESS

1. Ask students to make a list of the sections that will be in their regional cookbook. (Appetizers, Salads, Soups, etc...)
2. Have students sign up for categories for which they would like to submit a recipe. Encourage them to think of their “family specialties” and the categories that these recipes would come under.
3. After looking at several cookbooks, discuss the components of a recipe—ingredients, amounts, precooking procedures, ordered directions, times, serving size, etc...
4. Set a time limit for the students to collect their recipes.
5. Have students type their recipes. The handout *Tips for Typing Your Recipe* gives specific tips for typing the recipes to ensure that they look the same when the book is assembled. Decide if these will be typed as a home assignment or as a class assignment to complete in a computer lab.
6. Share the recipes with the class as they are brought in. Discuss which ingredients are indigenous to the estuary.
7. Have students write paragraphs or vignettes describing aspects of foodways linked to memories of acquiring ingredients, recipes, equipment, cooking, presenting, and cleaning up. These memoirs will be included with each recipe to make the cookbook more personal to the reader. Remind students to sign and date their work.
8. Have students proofread each other’s stories; then edit, and type them.
9. Ask students to look through cookbooks again, this time focusing on any illustrations and photographs. Discuss with students the importance of illustrations in a cookbook.
10. Have them also look at food ads in magazines, as well as the food section of the newspaper and food magazines. Discuss the things that make these ads and pictures appealing.
11. Inform the students that they will be adding illustrations to their recipes to make them more appealing to the readers.

12. Allow the students the opportunity to select how they will illustrate their recipes.
 - Illustrations could be authentic drawings of the dish, using an actual sample as a still life, drawing from a picture, or using personal knowledge. Students might choose to sketch some of the main ingredients found in their signature dish, such as crawfish, shrimp, crab, onion, and/or garlic. Draw in light pencil, and trace with a fine point black permanent marker.
 - Another option for illustrations is to prepare the recipe, and photograph the finished product. These photographs should be free of distractions and focus on the presentation of the dish—similar to the photographs that one would see in food magazines.
 - Students may want to consider including some family photographs celebrating the food of the estuary.
13. Instruct students to scan and save their illustrations to a CD or disk.
14. Have students insert the pictures into the recipes.
15. Make copies of the recipes and memories.
16. Ask students to collect the copies of recipes and memories and separate them into sections of the cookbook.
17. Have students create a title for their cookbook, one that truly reflects the project. They need to also decide on names for each section of the cookbook.
18. Have students work in groups or select specific individuals to create the cover and the section dividers. Each of these pages should have text and illustrations. The section dividers should either be done on colored paper or cardstock, making it easy to see where each section begins. Copy the cover onto cardstock, and add a piece of cardstock to the back.
19. Bind the books – many schools have a book binding machine that is easy to use.
20. NOTE—a copy store can copy recipes and bind the book if this project has a small budget.
21. Distribute the books to each student who participated. Place a copy in the school library.

QUESTIONS FOR JOURNALING

- Describe your memories and feelings associated with the recipes that you have selected to contribute to our cookbook.
- What living creature indigenous to the estuary do you think is the most important to regional cooking? Why?
- How does the food and cooking of this area capture the culture?
- Compare and contrast dishes from the estuary to dishes in another area of the country. Consider consulting the Association of National Estuary Programs for a look at the other twenty-seven estuaries around the United States. Have any of those programs produced a cookbook or recipes using ingredients from their estuary?



ASSESSMENT

ESSAY QUESTION: Imagine that you are a chef from the estuary. You have been invited to cook for the President and his guests at the White House, and you want to prepare a meal that will show him the true spirit of the estuary. What do you prepare? Why?

RECIPE RUBRIC

Five Star Chef 5 points	Four Star Chef 4 points	Apprentice Chef 3 points	Novice Chef 2 points	Orders Take-out 1 point
Recipe is perfectly typed according to the directions.	Recipe is mostly typed according to the directions, although it may have a few errors.	Recipe is partially typed according to the directions.	Recipe is not really typed according to the directions.	Recipe is not typed
All headings of the recipe are included.	Most headings of the recipe are included.	Some headings of the recipe are included.	Few headings of the recipe are included.	Recipe does not use headings.
The directions are logically ordered, detailed, and are easy to follow.	The directions are logically ordered and clear, but may lack a few minor details.	The directions may be lacking a few details, but are mostly clear and orderly.	The directions are hard to follow, and may be out of order.	The directions have no order and are confusing.
A well-written memoir is included that gives an insight into the submitter's personal life.	A well-written personal memoir is included.	A memoir is included, although it is not very detailed or personal.	A poorly written or impersonal memoir is included.	A memoir is not included.
A realistic drawing or quality personal photograph was inserted into the recipe.	A good illustration was included with the recipe.	A fairly adequate self-made illustration was inserted into the recipe.	A hastily-done illustration or a computer graphic was included.	An illustration was not included with the recipe.
The recipe and illustration were completed on time.	The recipe and illustration were completed no more than one day after due date.	Only the recipe was completed and turned in on time.	Recipe and illustration were not completed on time.	Recipe and illustration were not handed in at all.
Student participated in all class activities.	Student usually participated in class activities.	Student occasionally participated in class activities.	Student rarely participated in class activities.	Student did not participate in class activities.

Total possible points = 35 points x 3 = 75 points

EXTENSIONS

- Have a “TASTE PARTY” – Invite each student or family to bring a prepared version of their recipe and allow everyone to get a taste of all of the dishes.
- Host a “Book Release” party where family and community members can purchase copies of the completed cookbook and get autographs from the contributors.
- Invite a local chef to come talk to the students about the impact the estuary has on his cooking.

RESOURCES

WEB SITES

John Folse’s website that gives the history of cooking in this area, as well as a section on Cajun ingredients
http://www.jfolse.com/mm_biography.htm

Recipes and cooking tips from Chef Paul Prudhomme
<http://www.chefpaul.com>

Paul Prudhomme answers questions at
http://www.paulprudhomme.com/html/home_page.html

An interview with Chef John Folse and the impact of the estuary on his cooking
<http://www.pepperjam.com/ChefJohnFolseInterview.htm>

Terminology and recipes for Cajun and Creole cooking
<http://cookinglouisiana.com/index.htm>

BOOKS

Fontenot, M. A. (1995). *Lunch Louisiana Style*. Nutrition Education Training Program: State Department of Education Box 94064, Baton Rouge, LA 70804-9064.

A glossary defines many Louisiana food terms and an overview summarizes regional foodways. Lessons include family recipes, class tasting parties, food story prompts and spice smelling. A 30-minute companion video gives historical look at various groups' contributions to Louisiana foodways. Video is available through the Louisiana Department of Education Resource Center Audio/Visual Lending Library, Nutrition Education and Training (NET) Program. From the menu, select "Cultural Foods."

Gutierrez, C. P. (1992). *Cajun foodways*. University Press of Mississippi: Jackson, MS. Order from the Press, 3825 Ridgewood Rd., Jackson, MS 39211.
Phone 1- 800-737-7788.

Louisiana Cookin'. A magazine that features food traditions throughout Louisiana. Published six times a year, \$15/year subscription, 129 S. Cortez St., New Orleans, LA 70119, 888/884-4114, 504/482-3914, subscriptions@louisianacookin.com



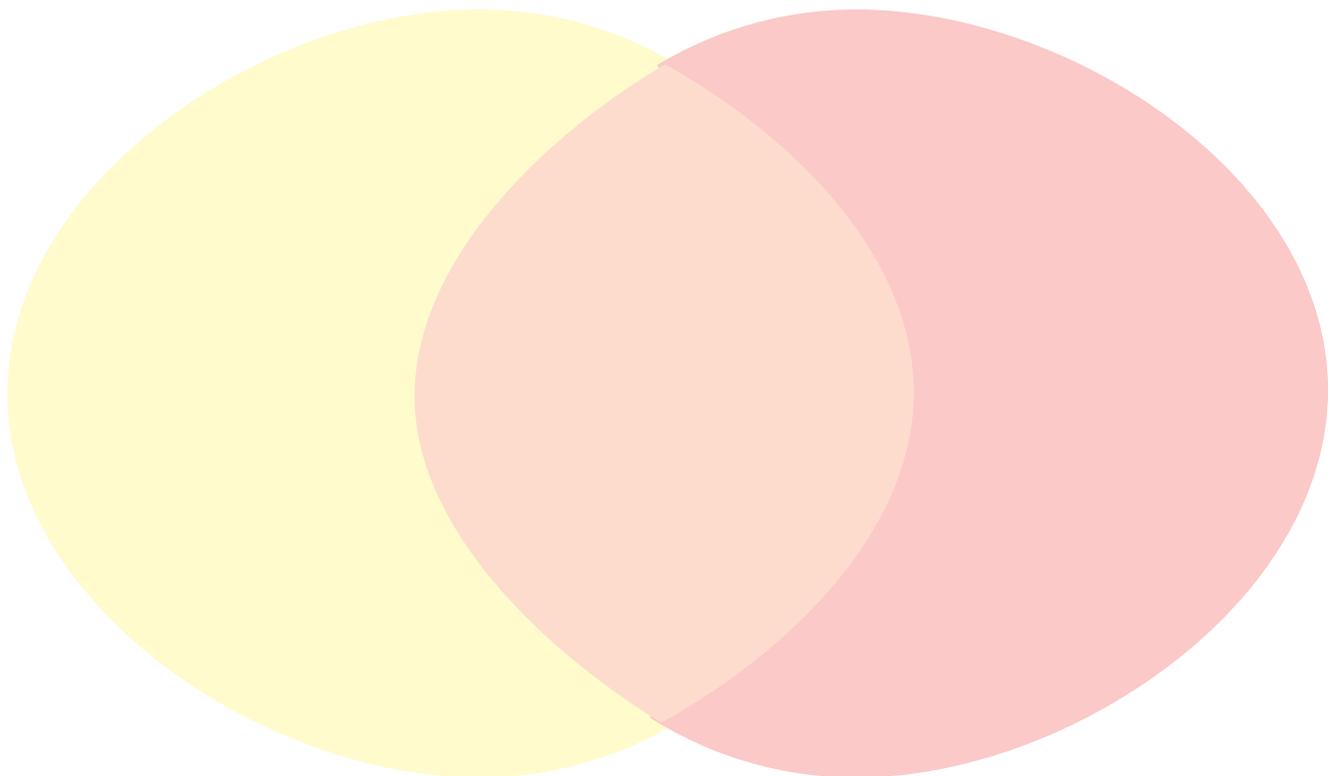
HANDOUT:

**VENN DIAGRAM:
TRADITIONAL & REGIONAL COOKBOOKS**

DIRECTIONS: Compare and contrast regional cookbooks with non-regional ones.

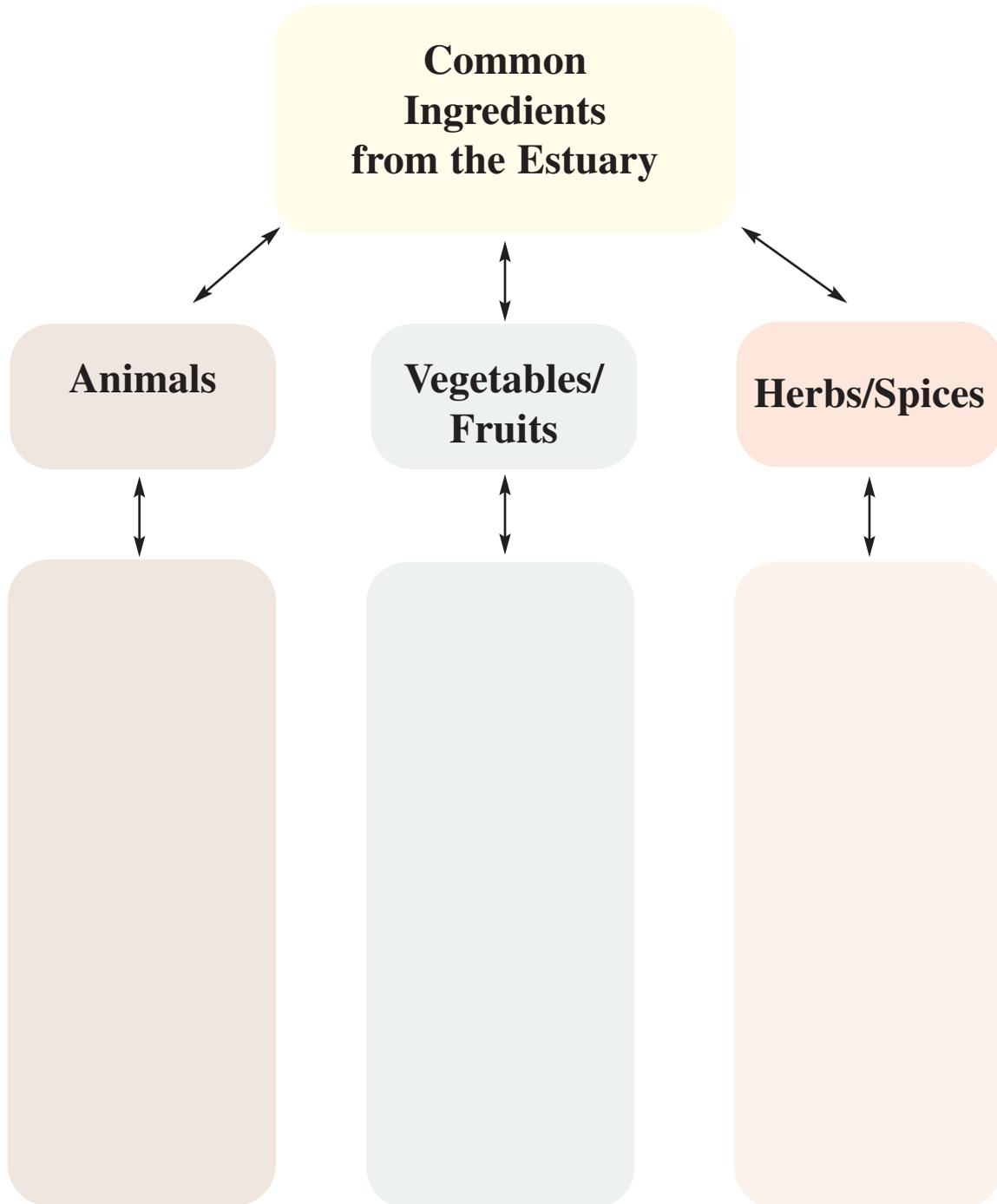
TRADITIONAL
COOKBOOKS

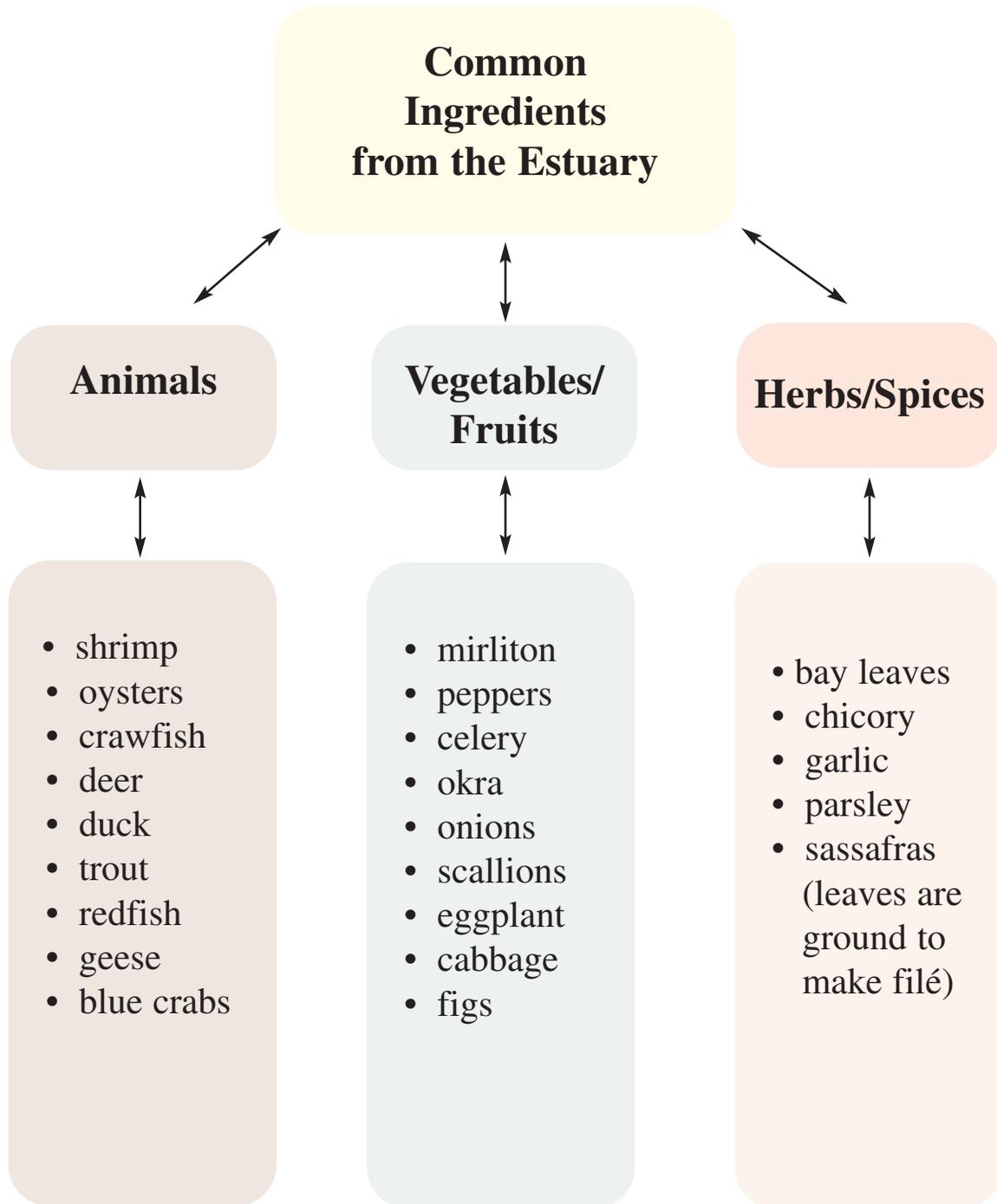
REGIONAL
COOKBOOKS



CAJUN/CREOLE COOKING VOCABULARY
--

Word	Pronunciation	Definition
Andouille	(ahn-do-ee)	spicy sausage used in many Cajun dishes
Beignet	(ben-yea)	doughnut-like pastry covered with powdered sugar
Boudin	(boo-dan)	hot, spicy pork ground with onions, rice and herbs
Courtbouillon	(coo-boo-yon)	a stew, made with fish filets, tomatoes, onions and mixed vegetables
Crawfish	(craw-fish)	small crustaceans known in other parts of the country as “mudbugs” because they thrive in the mud of freshwater bayous and ponds
Etoufée	(ay-too-fay)	a delicious, tangy tomato-based sauce used often with shrimp and crawfish
Grillades	(gree-yads)	squares of broiled beef or veal
Gumbo	(gum-boe)	a thick, rich soup that is prepared with many variations of shrimp, poultry and meat
Jambalaya	(jum-bo-lie-yah)	a Louisiana specialty that includes almost everything in the kitchen—a thick soup-like dish with rice, chicken and whatever!
Mirliton	(mel-e-taun)	sometimes referred to as a “vegetable pear”; its texture resembles squash and is often stuffed with shrimp or sausage





1. Software program: Microsoft Word
2. Margins: one inch on the top, bottom, left, and right.
3. Font: Times New Roman
4. Title: Font size 24 points; top line; centered; bold.
5. Recipe: Font size 12 points; left alignment; regular (non bold)
6. **First heading: INGREDIENTS**
7. List your ingredients in the order of use in the recipe, along with the amounts.
8. **Second heading: BEFORE YOU BEGIN**
9. Type any pre-cooking instructions, e.g., preheat oven, grease pan, chop vegetables, etc...
10. **Third heading: DIRECTIONS**
11. Type the directions for your recipe in a logical, detailed manner, numbering each step. Be sure to include any required cooking and/or cooling times.
12. **Fourth heading: TIPS**
13. Include any tips that your family's chefs have discovered. Make the preparation of this meal easier, distinctive or unique.
14. **Fifth heading: CULTURAL MEMORY**
15. Using italics, write a paragraph about the significance of this recipe to your family in acquiring ingredients, using equipment, cooking, presenting and cleaning up. In addition, include a memory that you associate with this recipe.
16. Print a copy of your recipe and also save it to a disk.

Capturing the Spirit of the Estuary

How can creating art help me understand
the estuary?



Looking East" oil pastel on paper, by Marian Brister Martinez
printed with permission by the artist © 2006. All rights reserved.

Lesson 1. A Handful of Estuary Critters	p.1-11
Lesson 2. Natural Notes	p.1-8
Lesson 3. This is Driving Me Buggy. . . So Let's Wrap It Up!	p.1-6
Lesson 4. Painting in Style: Flowers of the Estuary	p.1-23
Lesson 5. We Walk in Beauty	p.1-17
Lesson 6. Cherokee Leaf Painting	p.1-8
Lesson 7. The World's Greatest Sculptor	p.1-5
Lesson 8. Doin' What Comes Naturally: Naturalist? Artist? Or Both?	p.1-9
Lesson 9. Nature's Art	p.1-15
Lesson 10. Mamas, Your Babies Grow Up To Be _____	p.1-7
Lesson 11. Cajun Music: Traduire (To Translate)	p.1-9
Lesson 12. Bals De Maison (House Dances)	p.1-5
Lesson 13. Dialogue: Disappearing Wetlands	p.1-11
Lesson 14. From The Sugar Cane Fields to the Easel: The Mystery of George Rodrigue's Blue Dog	p.1-23

Lesson One:

A Handful of Estuary Critters

MAMMALS

Nutria
Mink
Otter
Muskrat
Swamp Rabbit
White-tailed Deer

INVERTEBRATES

Periwinkle Snail
Fiddler Crab
Blue Crab
Brown Shrimp
White Shrimp
Ribbed Mussel
Oysters
Monarch Butterfly
Praying Mantis

Setting The Stage



Estuary critters are as numerous and diverse as the habitats in which they live. You can find animals everywhere you look! They inhabit the land, the air, and especially the water. There are animals that live in freshwater, saltwater, brackish water and everywhere in between! You can find them on barrier islands, in bottomland hardwood forests, in swamps and marshes. How many do you know? I'll bet you can name a lot of estuary critters, but here's a list to get you started. Feel free to add your favorite—or least favorite!—estuary critters.

In this activity you will select one of the animals to create an original artwork—on your hand! Just follow the directions and get ready to paint a hand-some critter!

BIRDS

Great Egret
Tri-colored Heron
White Ibis
Roseate Spoonbill
Herring Gulls
Brown Pelican
White Pelican
American Bald Eagle
Great Horned Owl
Barn Owl
Red-winged Blackbird
Barred Owl
Wood Duck

FISH

Red Drum (Redfish)
Croaker
Black Drum
Sheepshead
Flounder
Gambusia (mosquito fish)
Mullet
Speckled Trout
Menhaden

AMPHIBIANS

Tree Frog
Spring Peeper Frog
Gulf Coast 3-Toed Toad
Salamander
Bullfrog
Toads
Amphiuma

REPTILES

Diamondback Terrapin
Eastern Cottonmouth
American Alligator
Red-eared Slider
Snapping Turtle
Mud Turtle
Green Anole



Objectives

STUDENTS WILL

- **list a minimum of 10 critters of the Barataria-Terrebonne Estuary.**
- **select one critter and research, observe and describe it.**
- **paint as realistically as possible one critter on their partners' hand using craft paint or tempera paint.**
- **photograph and display their work.**

MATERIALS

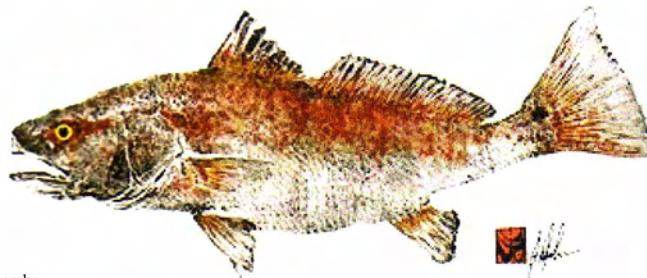
- Research materials—books, pamphlets, photographs and Web sites
- Handout: *My Estuary Critter* (p.4)
- Handout: *Hand Me My Estuary Critter* (p.5)
- Colored copies of paintings by *Robyn Kennedy: Estuary Critter Hands* (pp.7-10)
- Craft paints or tempera paints
- Water containers
- Paper, pencils, erasers
- Lotions or Vaseline
- Brushes-various sizes
- Camera, display board
- Paper towels

GETTING READY

1. Collect research materials.
2. Make copies of handouts *My Estuary Critter* and *Hand Me My Estuary Critter*.
3. Display/review examples of Robyn Kennedy's *Estuary Critter Hands*.
4. Collect and organize paint materials.

PROCESS

1. Introduce lesson by showing examples of critter hand paintings. Ask questions such as: “What critter is this?” “How is the hand being held?” “Which hand critter do you like best?”
2. Distribute handout *My Estuary Critter*. Analyze the examples of critter hand paintings using the elements of design, e.g., color, texture, shape and line.
3. Distribute research materials.
4. Brainstorm and list types of critters found in the estuary. (Students can conduct research, or you can distribute the list from the beginning of this lesson.)
5. Ask students to select the critter from the estuary that they would like painted on their hands.
6. Have students research, observe, and describe their critters. Each student should complete the handout *My Estuary Critter*.
7. Review painting directions described in *Hand Me My Estuary Critter*.
8. Ask students to pair off and take turns painting each other’s hand.
9. Photograph each student’s critter. Place name of the critter and the artist on the back of the photograph.
10. Display the hand critter photographs.



artist, Robyn Kennedy



HANDOUT:

MY ESTUARY CRITTER

Directions: Choose a critter that lives in the estuary. Use the Internet and/or printed materials to find information about your estuary critter. Record your findings on this Data Sheet.

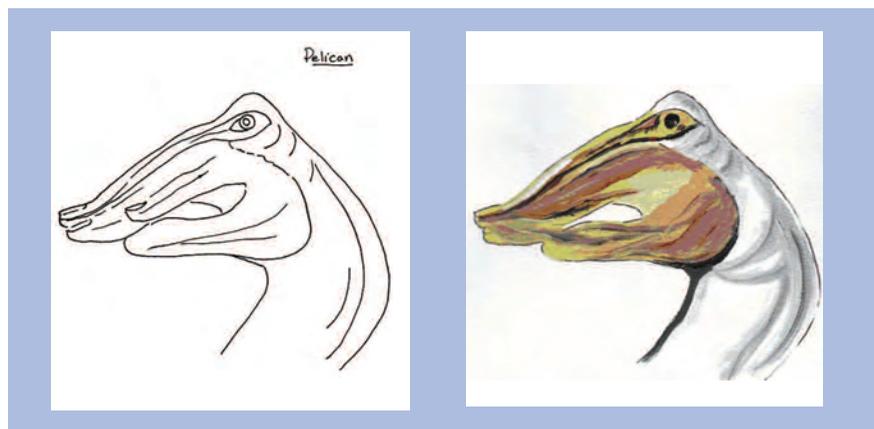
Name: What is its name?	
Habitat: Where does it live?	
Physical Characteristics: What does it look like? (Be very specific; list all of its features.)	
Color: What are its colors or shades of color? (List the features and the color of each one.)	
Texture: How does it feel? (List the features and the texture of each one, e.g., rough, smooth, bumpy.)	
Shape: What does each feature of its body look like? (List the features and the shape of each one, e.g., round, rectangular, triangular, irregular, or worm-like? Use adjectives, similes, or metaphors to describe the features.)	
Line: What type of lines can be used to outline each feature, e.g., straight, vertical, horizontal, diagonal, squiggly, zigzag, thick or thin?	

HANDOUT:

HAND ME MY ESTUARY CRITTER

Directions for hand painting:

1. Find a partner.
2. First discuss how to shape your hand, fingers or fist to form your critter. See it in your mind's eye.
3. Next, trace or sketch your partner's hand/fist on a sheet of paper. Sketch your critter on it with a pencil. This may take a few tries. Find which direction of the hand works best. Maybe use only the head of the critter or the entire body. Make a decision based on shape and space.
4. Rub a light coating of Vaseline or lotion on your partner's hand.
5. Using water-soluble markers, trace your animal onto your partner's hand.
6. Begin painting.
Use large brushes first to fill in large areas of color. Allow to dry.
Add another layer using medium brushes. Allow to dry.
Add details with small brush. Make sure paint is not too dry or too wet. If dry it will flake off easily. Fill in background color; then add details such as feathers, scales, and fur.
7. Photograph your work.
8. Place your name and the name of your painted critter on back.
9. Show your hands! Display your hand critters of the estuary.



ASSESSMENT

List 10 critters of the estuary.

HAND CRITTER RUBRIC

Criteria	Novice 1	Apprentice 2	Artist 3
Physical Features: Does it look like the critter?	If you have a good imagination!	Yes, it resembles it.	Yes—like looking in a mirror—photo ready!
Color: Are the colors accurate?	Colors exist.	Yes, colors are similar.	Yes—like looking in a mirror—photo ready!
Texture: Is the texture visible?	Texture?	Yes, you can discern texture(s)	Yes—like looking in a mirror—photo ready!
Shape: Is the form accurate?	If you have a good imagination!	Yes, it resembles it.	Yes—like looking in a mirror—photo ready!
Line: Are the lines clearly defined?	If you have a good imagination!	Yes, it resembles it.	Yes—like looking in a mirror—photo ready!

Total Possible Points = 15 x 2 = 30 points

HANDOUT:

ESTUARY CRITTER HANDS

art by Robyn Kennedy

NUTRIA

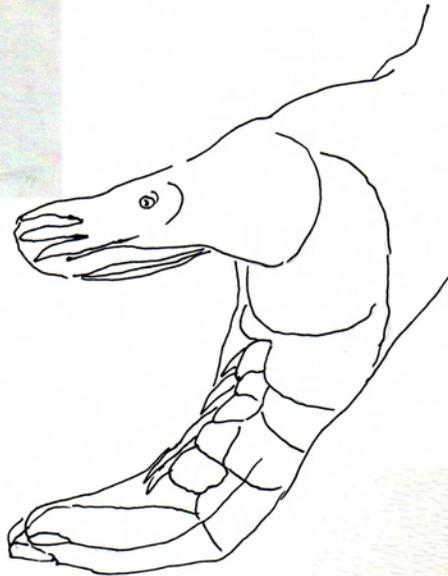


HANDOUT:

ESTUARY CRITTER HANDS

art by Robyn Kennedy

SHRIMP

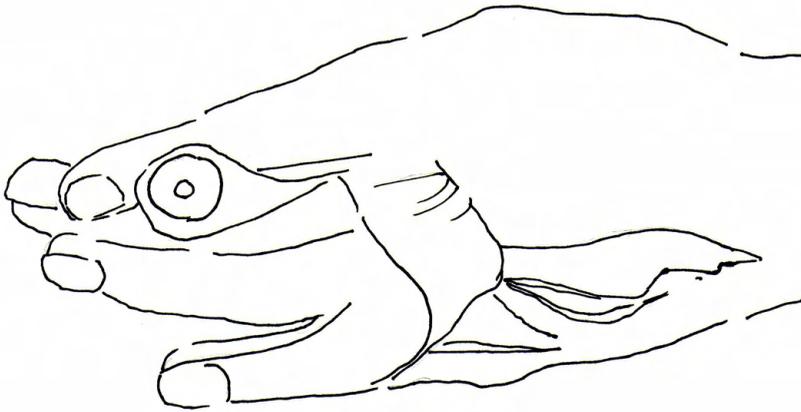
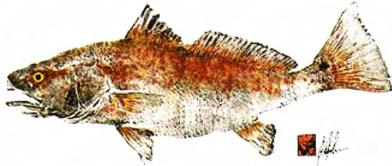


HANDOUT:

ESTUARY CRITTER HANDS

art by Robyn Kennedy

FISH



HANDOUT:

ESTUARY CRITTER HANDS

art by Robyn Kennedy

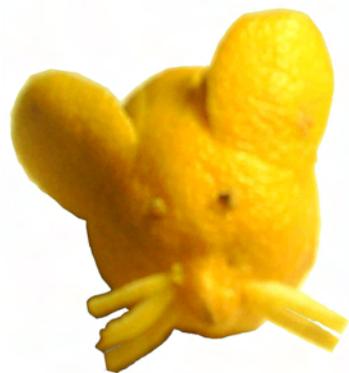


PELICAN



EXTENSIONS

Create VEGGIE CRITTERS! “Play” with lists of critters and vegetables from the estuary. In your mind’s eye, visualize which vegetables you would use to create selected critters. Make sketches. Buy vegetables. Create your VEGGIE CRITTER! Display and photograph. Here are some examples of Veggie Critters created and photographed by Christy Rogers.



RESOURCES

Mariott, M. (1988). *Hanimations*. Kane/Miller Book Publishers: Brooklyn, NY.

Make-Up Artists at Large: Hanimals

<http://www.make-upartistsatlarge.com/cgi-bin/imageviewer.pl?category=Hanimals>



Lesson Two:

Natural Notes—



detail from "Beach Gulls" by Marian Brister Martinez.

MATERIALS

- Tape recorder (optional)
- Internet access
- CDs of animal sounds (if possible)
- Handout *Poster Tips* (p.6)
- Handout *T-Shirt Tips* (pp.7-8)

Setting The Stage



If you've ever been in the marsh around dusk, you know how powerful the sound of croaking frogs can be. You cannot hear the person next to you speaking!

Different sounds are made by animals to communicate information to each other. This communication is just as important to animals as it is to humans. The sounds may convey information about a predator, a mate, a food source, or where family members are located, etc. Communication through sounds is important to the survival of an animal.

Objectives

STUDENTS WILL

- **understand the importance of sound in the natural world and wetlands in particular.**
- **mimic the sound made by their chosen animal.**
- **understand the habitat niche of the animal.**



GETTING READY

- Acquire CDs
- Make copies of handouts *Poster Tips* and *T-Shirt Tips*.
- Find a place to take the students on a field trip (contact Jean Lafitte National Park and/or the Barataria-Terrebonne National Estuary Program – see Internet listings in the resource section of the lesson).

PROCESS

1. Play CDs of animal sounds for the students. Have them identify the animals.
2. Direct students to research animals of the wetlands and choose one for their project. Have them locate a CD or web site that plays the sound of their chosen animal. The Georgetown University Internet site is a good resource for animal sounds.
<http://www.georgetown.edu/faculty/ballc/animals/animals.html>
 - Instruct students to listen to the sounds the animals make and practice mimicking the sounds.
 - Use an example of the old Girl Scout song, “Tomato, Potato.” This little tune mimics the sounds of frogs. One group will begin chanting “tomato, tomato, tomato” over and over in a very deep voice (that’s the bull frog). While this group continues chanting, a higher-voiced group starts chanting, “potato, potato, potato” over and over (that’s the tree frogs). Both groups can start off softly and slowly, then progressively get louder and louder until they reach a deafening crescendo! That’s how it happens in the swamp as the sun goes down.
3. If possible, take the students on a field trip to the wetlands to listen to sounds. See if they can identify the animals just by sound. They may tape record the sound.
4. Ask the students to research the habitats of their chosen animal. Have them create a poster or T-shirt with pictures of the animal in the habitat displaying some behavior. Have them write the sounds. For example, they may have a picture of a barred owl in a tree with the caption “hoo hoo hoo hooooo” above it. They can also include text that describes the habitat and behavior of their animal.



5. Distribute and review the handouts *Poster Tips and T-Shirt Tips*.
6. Have the students show their posters or t-shirts to their audience while performing the animal calls.

QUESTIONS FOR JOURNALING

- Why did you choose your animal?
- What is the position of your animal in the food web?
- Do you like mimicking the sounds your animal makes? Why?
- How do the sounds of your animal contribute to the wetlands' chorus?

ASSESSMENT

- Is the chosen animal a creature of the wetlands?
- Can the student accurately mimic its sound?
- Is the poster or T-shirt creative/original?
- Is there a picture of the animal on the poster or T-shirt?
- Is the picture of the animal vivid and eye-catching?
- Is the sound of the animal written in such a way that it can be accurately mimicked?
- Are the animal behaviors clearly and accurately depicted?
- Did the student display his/her poster or t-shirt while performing the animal call?

EXTENSIONS

- Suggest that students make costumes of their animals and wear them for a performance of the animal sounds.
- Have students research the “sound niche” of major species in a particular wetland habitat.
- Students can use pre-cut sponges shaped into various animals and wetland shapes to print t-shirt designs. Dip the pre-cut sponges into the fabric paint and stencil on to the shirt.

RESOURCES

BOOKS

Lyons, S. E., & Banbury, M.M. (1992). *Urban stormwater runoff: How to stem the toxic tide*. New Orleans: Society for Environmental Education: New Orleans, LA.

Wieberg, D. G., & Banbury, M.M. (1992). *Wearing our habitats out*. New Orleans: Society for Environmental Education: New Orleans, LA.

WEB SITES

America’s Wetland Campaign

Provides information to the public about Louisiana’s coastal wetland loss.

<http://www.americaswetland.com/>

Barataria-Terrebonne National Estuary Program

This is the home site for the Barataria-Terrebonne National Estuary Program. It provides resources for teachers that are organized by topic, media type, and grade level. In particular, explore the CD *Explore Coastal Louisiana with Boudreaux and Marie*.

<http://educators.btnep.org/Resources>

Enature

Fun site with a chorus of animated, singing frogs.

<http://www.enature.com/sitenav/boyzindapond.asp>



<http://www.btnep.org>

Georgetown University

This site is a good resource for animal sounds.

<http://www.georgetown.edu/faculty/ballc/animals/animals.html>

Jean Lafitte National Historical Park

This park has several locations in the Barataria-Terrebonne estuary and conducts excellent education programs. There are many nature trails throughout the park facilities.

<http://www.nps.gov/jela/>

Lake Pontchartrain Basin Foundation

A private, non-profit organization; its mission is to restore and protect the Pontchartrain Basin for this and future generations. Its programs include water quality monitoring, habitat protection, education/outreach, and public access.

<http://www.saveourlake.org/>

Louisiana Department of Natural Resources

This site has useful information for teachers about Louisiana's natural resources and wetlands in particular.

<http://www.dnr.louisiana.gov/teach.ssi>

Louisiana Department of Wildlife and Fisheries

This site has good information about the variety of animal and plant species living in Louisiana wetlands.

<http://www.wlf.louisiana.gov>

National Wildlife Federation

The National Wildlife Federation created this site to provide information to students and teachers about natural habitats and wildlife.

<http://www.nwf.org/education/>

Nature Songs

Another good resource for animal sounds.

<http://www.naturesongs.com/otheranimals.html>

USGS: National Wetlands Resources Center

Located in Lafayette, Louisiana, this agency conducts research about the wetlands of the state.

<http://www.nwrc.usgs.gov/>





POSTER TIPS

1. Conduct your research.

Animal:	Habitat:
Behavior:	Sounds:

Title of Poster:

Text:

2. Determine your target audience, e.g., elementary class, your class, school, community.
3. Collect and organize all your materials.

- posterboard
- adhesive-backed letters (optional)
- pencils, crayons, colored pencils, or markers
- drawings, photographs, clip art, or magazine pictures

4. Decide upon the following:

- Colors
- Lettering
- Illustrations
- Design/Layout

5. Plan your poster by first drawing a draft of your design in pencil. Experiment with different layouts.
6. Review project deadlines and assessment criteria.
7. Consider laminating your final product for durability.



T-SHIRT TIPS

1. Conduct your research.

Animal:

Habitat:

Behavior:

Sounds:

Slogan/quote/saying:

2. Collect and organize all your materials.

- Clean t-shirt
- Sponges
- Straight pins
- Tracing paper
- Iron-on pencil
- High-quality washable fabric paints. Select a variety of colors and types.
- Tulle may be used to transfer the pre-drawn pattern to shirt.
- Wonder Marker may be used to transfer patterns since it will wash out with water.
- Permanent marker for outlining. Test it on the fabric first.
- Cardboard covered with plastic wrap or waxed paper to be placed inside the shirt to make a solid painting surface.
- Brushes
- Spray bottle
- Masking tape
- Fine point permanent marker

3. Plan your t-shirt by first drawing a draft of your design on paper. Experiment with different layouts.

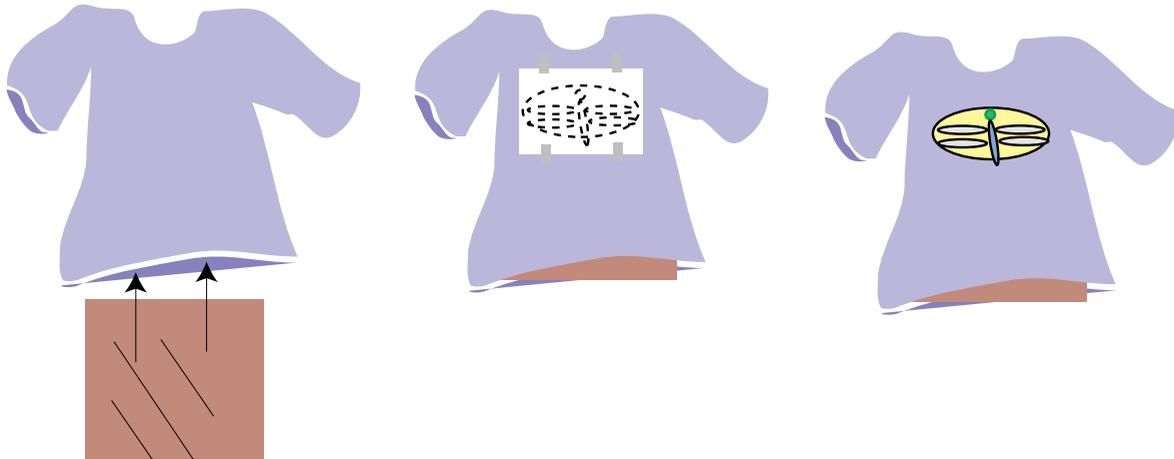
4. Review project deadlines and assessment criteria.



HANDOUT:

T-SHIRT TIPS, CONTD.

- Place cardboard covered with plastic wrap or waxed paper inside shirt.
- Transfer, trace, or draw design on shirt.
Transfer design: Trace design on tulle with permanent marking fine-point pen. Tape tulle on shirt. Retrace with Wonder Marker pen.
Trace design: Trace design on tracing paper. Draw over lines on reverse side with iron-on pencil. Iron design on shirt.
- Pin excess material out of your way.
- Mix paints.
- Paint design, one area at a time.
- When dry, add detail with fine-point permanent marker.
- Heat set: After paint has dried, set iron to correct fabric setting. Iron on wrong side until paint feels hot (about 30 seconds). Continually move iron or cover painting with pressing cloth or brown craft paper. Move iron over each area for about 30 seconds. This will “set” the paint and allow for washing. Always wash T-shirts inside out for long-lasting designs.
- Consider adding sequins, beads, rhinestones, etc. for the “dazzle” effect. Use hot glue to add these. (They make nice “eyes” for animals or highlight message.)

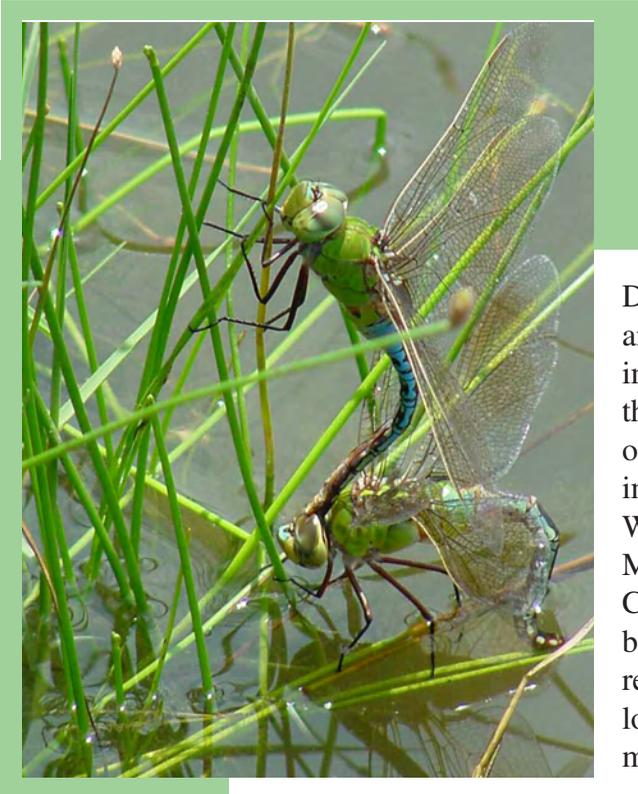


Adapted from: Wieberg, D. G., & Banbury, M.M. (1992). *Wearing our habitats out*. New Orleans: Society for Environmental Education: New Orleans, LA.

Lesson Three:

This is Driving Me Buggy . . .

—SO LET'S WRAP IT UP!



Setting The Stage



Do insects sometimes drive you buggy with their buzzing and biting? That can be irritating, but insects are really important creatures in any ecosystem. We might find them disgusting, but they are “yummies” in the food web of many estuarine organisms. Insects are also very important as pollinators of food and flower crops. Which insects do you see most often in the BTE? Mosquitoes? Yep! Honey bees? Right! Dragonflies? Check! I'll bet you can identify a lot more. Insects can be found on the land, in the water, and in the air. They're really fascinating creatures, and all you have to do is look for them. Let's learn about a woman who spent most of her life studying insects.

For this activity, we will draw our inspiration from the work of a famous artist/naturalist who was a pioneer in her field, Maria Sibylla Merian (1647-1717). Maria kept a journal of her nature observations from age 16 to age 69. Can you imagine keeping a journal of your nature studies for 53 years? Her journal was rediscovered and published in 1976. Understanding animals became the focus of her life, and from 1660 on she collected insects, recording and painting everything she could observe about their life cycles and behavior. Maria was the first person in history to record observations on insect metamorphosis. When she was 13, she wrote, "I collected all the caterpillars I could find in order to study their metamorphosis. I therefore withdrew from society and devoted myself to these investigations." (Retrieved March 20, 2005 from "Moths, Caterpillars, & Foliage:")

<http://www.library.wisc.edu/libraries/specialcollections/womennature/sectionpages/MariaSibyllaMerian.html>

Let's try to capture Maria's interest in insects for this project. You will design your own wrapping paper, and it will have an insect pattern. This will be perfect for holidays, Mother's Day, Father's Day, or a special person's birthday!

As you spend time outdoors or on a class field trip, observe some of the insects you see. Some types of insects you might want to draw are butterflies, dragonflies, or beetles. If you do any dip-netting, you might net some aquatic insects to draw, such as water striders or whirligig beetles.

Objectives

STUDENTS WILL

- **research common insects of the BTE.**
- **sketch outlines of insects or find patterns of insect shapes.**
- **make potato prints or Styrofoam stamps.**
- **design and print wrapping paper with an insect pattern.**

MATERIALS

POTATO PRINTS

- one potato per pair of students
- tempera paint, fabric paint, or stamp pads
- flat bottom container for paint
- butcher paper, kraft paper, or newsprint paper
- knife
- pencil
- grapefruit spoon or other scraping utensil
- brushes

STYROFOAM STAMPS

- Polystyrene meat trays, one per student
- Tempera paint, fabric paint, or stamp pads
- Flat bottom container for paint
- Rolling pin or brayer
- Butcher paper, kraft paper, or newsprint paper
- Scissors or knife
- pencil
- brushes

GETTING READY

POTATO PRINTS

1. Collect and organize materials.
2. Have students select partners.

STYROFOAM STAMPS

1. Collect and organize materials.
2. Have students select partners.

PROCESS

POTATO PRINTS

1. Working with a partner, students should cut their potato in half.
2. Have students draw a simple insect shape or outline on the sliced portion of the potato with a pencil.
3. Students should then use the spoon or other tool to scrape away the part of the potato outside of their insect design. The shape of their insect should be raised on the potato surface. Everything else should be removed.
4. Have students cut the paper into desired lengths to make rolls of wrapping paper or into squares for sheets of wrapping paper.
5. Students may select the color paint they wish to use on their wrapping paper. Have them pour a little of it in a flat paint tray. Polystyrene trays work well for this.
6. Students should lightly apply paint to the raised insect design with a brush, roller, or brayer.
7. In the next step, have students firmly press the potato on the paper to make a print. They will be able to stamp several designs before reapplying paint to their design. Each print will be lighter than the first. Tell them to be sure to leave room between images if they are going to stamp more than one insect design on their paper.
8. Students can make their paper even fancier by adding a second layer to their design. With the spoon or scraping tool, they should remove a little more of the remaining shape. They can paint a different color on the potato shape and press the insect design on top of a previous one. Explain that it's like shading the outline of a design when they color, and that it will add dimension to their insect.
9. Students should repeat cutting more insect designs and stamping with different colors until their desired pattern is finished.

STYROFOAM STAMPS

1. Clean enough polystyrene meat trays for students to use for the activity.
2. Have students trace or draw their pattern on the polystyrene, pressing lightly with the blunt tip of a pen or pencil. They can find ideas from coloring books or books about insects for young readers, or they can examine insects up close.

3. Instruct them to make a handle by cutting a thin piece of the tray, then gluing or taping it to the back side of the stamp.
4. Students should cut the paper into desired lengths to make rolls of wrapping paper or into squares for sheets of wrapping paper.
5. Once students have made their styrofoam stamp, they can ink it with tempera paint, fabric paint, or a stamp pad. They should use a foam brush, a rolling pin or a brayer to ink the surface. Remind them that they should spread an even layer over their stamp, without putting too much ink on the surface.
6. Have them carefully lay the inked stamp face down on their paper and press down firmly.
7. With the help of their partner, students should carefully turn the paper and stamp over together. Roll evenly over the design several times.
8. Instruct them to gently remove the paper from their stamp and check their work. They can make any adjustments necessary for their next effort.
9. Allow students to experiment with different colors of paper and ink.
10. Let them have fun designing wrapping paper, or even note cards and gift bags.

ASSESSMENT

Students will be assessed according to the neatness and quality of their work, dedication to the task, cooperation, and individual designs.

DRIVIN' ME BUGGY RUBRIC

GRADE	ACCURACY	CREATIVITY	APPEARANCE	FORM	GROUP WORK
A	All or most details of insect are correct	Fully developed, interesting, and creative	Aesthetically pleasing; exceeds expectations	Followed form throughout the work.	Student participated fully in all aspects of the project
B-C	Many details of insect are correct	Well developed and interesting; needs to stretch imagination	Neatly done; meets expectations	Followed form for most of the work	Student participated most/some aspects of the project
NEEDS WORK	Work on researching more details of insect	Work on development and originality	Work on neatness; review the expectations	Work on form	Work on being a cooperative member of the group

EXTENSIONS

1. Try making prints with other objects from around the house or classroom, or even from the outdoors! You might want to try a bar of soap, a carrot, crumpled paper or aluminum foil, leaves, etc., to add texture and detail to your work of art.
2. Research food chains or web to see who is eating your insect or whom your insect is eating. Try putting both predator and prey on paper.
3. Instead of insects, try making other organisms to print. For example, you may want to try Gyotaku (Gee-oh-TAH-koo) the Japanese art of fish printing. Research Gyotaku on the Internet. For example, the Hawaii Fishing News, September 2000, has an article by Brian Funai that describes unique uses for fish printing, complete with photographs at http://gyotaku.com/news_item.php?id=2&h=4000. Also check out “Welcome to Reel Dreams” at <http://www.fishsarasota.com/prints5.html> for additional illustrations.
Materials include: fish; acrylic paint; paint brushes and rollers; foam brushes; paper plates for mixing paint; newspaper; paper towels; construction, tissue, or rice paper; plastic sealable bag filled with sand.

Directions:

- Catch or buy a fish, preferably with large well-defined scales (Fish should be fresh as possible; experiment with different species.).
- Use newspaper to cover your work area.
- Wash the mucus off the fish, pat it dry, and lay it flat on the newspaper. Dish washing liquid works nicely.
- Use the plastic sealable bag filled with sand to stabilize the fish.
- Use a paper plate for mixing your paint.
- Paint the fish thoroughly—except the eye. Paint from tail to head against the lay of the scales. You may want to fan out the fins. (Experiment with different brushes and rollers and even your fingers.)
- Smooth the paper directly and firmly over the entire fish (You can experiment with different types of paper.).
- Remove the paper very carefully and lay it flat to dry.
- Paint the eye as lifelike as possible.

4. Try printing on a t-shirt instead of on art paper or newsprint.
5. Visit *La Fete d' Ecologie*—the BTNEP ecology festival held in Thibodaux at the end of each September.
www.btnep.org

RESOURCES

Hirshhorn Museum & Sculpture Garden: Animals in Art

<http://hirshhorn.si.edu/education/animals/animals.html>

Biography of Maria Sibylla Merian

<http://www.library.wisc.edu/libraries/specialcollections/womennature/sectionpages/MariaSibyllaMerian.html>

Maria Sibylla Merian

<http://www.astr.ua.edu/4000WS/MERIAN.html>

National Science Teachers Association (NSTA) book on Science and Art: *Art in Chemistry, Chemistry in Art at*

http://science.nsta.org/enewsletter/2005-01/books_high.htm



Lesson Four:

Painting in Style — FLOWERS OF THE ESTUARY



Not every plant in the Barataria-Terrebonne Estuary (BTE) actually belongs there. Those plants that originated in the BTE are called “native,” and those that were brought from other areas or countries are called “invasive.” Native plants are indigenous (meaning from the area). Due to climate changes, erosion, flooding, drought, and human causes, some native plants of the BTE have been lost. But one of the biggest culprits of native plants’ demise is the taking over of their habitat by the invasive plants. Most invasive plants are brought to an area that is not their original home by ships from foreign countries, people dumping their aquariums into local waterbodies, gardeners planting them and birds or other animals spreading the seeds. Because the invasive plants are new to the area, no diseases or insects have adapted to keep control of their growth. They proliferate and take over so the native plants have no room to grow. While their flowers are beautiful, and some were planted here for that reason, they are not good for the native plants.

FLOWERING PLANTS OF THE BARATARIA-TERREBONNE ESTUARY

NATIVE PLANTS

Bull Tongue	Morning Glory
Coral Honeysuckle	Swamp sunflower
Trumpet Creeper	Evening Primrose
Cattail	Spider Lily
Blackberry	Pickrel weed
White Water Lily	Yellow Jessamine
Wild Rice	Louisiana Iris
Evening Primrose	Water Lotus
Magnolia	Salt Marsh-mallow
Button Bush	Elderberry
Cardinal Flower	

INVASIVE PLANTS

Alligatorweed (Native of South America)	
Eurasian Water-milfoil (Native of Eurasia)	
Hydrilla (Native of Africa)	
Water Hyacinth (Native of Brazil)	
Salvinia	Chinese Tallow Tree
Purple Loosestrife	Sago Pondweed
Water Lettuce	Japanese Honeysuckle
Cats-claw Vine	Kudzu

Artists have used nature as subjects for paintings for thousands of years. Different eras in history give rise to different styles of paintings. The styles emphasized in this lesson are Egyptian Hieroglyphics, Realism, Impressionism, Surrealism, and Abstract Art. It uses nature flowers of the estuary to explore these six styles of painting.



Objectives

STUDENTS WILL

- describe the following styles of art: **Egyptian Hieroglyphics, Classical Realism, Impressionism and Pointillism, Surrealism, and Abstract and Cubism.**
- identify paintings from each of the above styles.
- identify the following flowers of the estuary: **Water Hyacinth, Louisiana Iris, Cardinal Flower, White Water Lily, and the Spider Lily.**
- research and identify at least ten flowers of the estuary and their habitats.
- create artwork using one of the above styles.
- identify and discuss the elements and principles of design in their paintings.

MATERIALS

- Photographs by Sue Ellen Lyons of estuary flowers: Water Hyacinth, Louisiana Iris, Water Lotus, Spider Lily and the Cardinal Flower (pp.14, 16, 18, 20, 22)
- Prints of the following images, artist works and styles:
 - ❧ **Egyptian Hieroglyphics:** "Fowling Scene From the Tomb of Nebamun" Thebes, Egypt, c 1400 b.c.
www.netserves.com/moca/lectures/skuzegyp.htm
 - ❧ **Realism:** Jan Vermeer's 1665-1667 "The Girl with a Pearl Earring"
<http://girl-with-a-pearl-earring.20m.com/>

- 
Impressionism: Claude Monet’s 1899 “The WaterLily Pond”
<http://www.nationalgallery.org.uk/cgi-bin/WebObjects.dll/CollectionPublisher.woa/wa/work?workNumber=NG4240>
- 
Pointillism: George Seurat’s 1884-1886 "Sunday Afternoon on the Island of the Grande Jatte"
www.arthistory-archaeology.umd.edu/resources/modules/modern/sld007.htm
- 
Surrealism: Joan Miro’s 1949 "Woman and Bird in the Moonlight”
<http://bertc.com/subthree/miro.htm>
- 
Abstract/Cubism: Pablo Picasso’s 1937, "Weeping Woman"
http://www.artquotes.net/masters/picasso/pablo_weeping1937.htm
 George Braque’s 1929 "Still-Life: Le Jour"
www.colby.edu/chemistry/PChem/art/braqueLeJour388x300.jpg

- Plant identification books (Refer to “Resources.”)
- Pamphlets on plant identification from the Barataria-Terrebonne National Estuary Program
- Copies of the handout *Styles of Painting* (p.8)
- Copies of Student Worksheets:
 - *Hieroglyphics Hyacinth* (p.9)
 - *A Real Iris* (p.10)
 - *Impression of a Crimson Cardinal* (p.11)
 - *Linear Lily* (p.12)
 - *Abstract Spider Lily* (p. 13)
 - Art Supplies – (Refer to each Student Worksheet.)
- Copies of paintings by Robyn Kennedy representing the styles of painting (pp. 15, 17, 19, 21, 23).

GETTING READY

1. Collect prints of artists’ illustrations representing the various styles of painting.
2. Make copies of photographs of flowers--enough for every table or group of students to have one.
3. Make copies of the handout: *Styles of Painting*.
4. Make copies of the student worksheets: *Hieroglyphics Hyacinth*, *A Real Iris*, *Impression of a Crimson Cardinal*, *Linear Lily* and *Abstract Spider Lily*.
5. Make copies of the paintings: *Hieroglyphics Hyacinth*, *A Real Iris*, *Impression of a Crimson Cardinal*, *Linear Lily*, and *Abstract Spider Lily*.
 Put out art materials for each activity (listed on each student worksheet), or you may choose to teach one activity at a time.



PROCESS

1. Introduce the lesson by hanging several of the artists' prints on the board, placing books on the tables, setting up computers, or using other resources available for viewing.
2. Involve students in a discussion by asking questions about art:

- What words or phrases would you use to describe this painting?
- How would you describe the line, shapes, and colors in this painting?
- How does the artist use light in this painting?
- How do the objects in this painting differ from real life?
- If it were possible, what questions would you ask the artist about this work?
- What title would you give to this painting?
- Which painting would you buy? Why?
- Which paintings do you like best? Why?

3. Distribute and review the handout *Styles of Painting* and student worksheets.
4. Distribute photos of flowers and paintings representing the various styles. Discuss each style, photo, and representative painting.
5. Distribute resource materials. Have the students research flowers of the estuary and label each flower. They may also use the Internet for research, exploring such sites as:
6. Have the students identify native and invasive plants. For each invasive plant, research its country of origin and method of entry into the Barataria-Terrebonne Estuary. Additional sites to explore include:

Invasive Species: Water hyacinth profile

www.invasivespecies.gov/geog/state/la.shtml

Hydrilla, Invasive Plants of the Eastern United States

www.invasive.org/eastern/species/2626.html

Invasive Species: Eurasian water-milfoil profile

www.invasivespecies.gov/profiles/watermilfoil.shtml

Alternanthera philoxeroides -- Center for Aquatic and Invasive Plants

www.plants.ifos.ufl.edu/wphpic.html

Invasive Species: Chinese Tallow profile

www.invasivespecies.gov/profiles/chtallow.shtml



University of Florida: Center for Aquatic and Invasive Plants
<http://aquat1.ifas.ufl.edu/>

Brown, C. A. (1972). *Wildflowers of Louisiana and Adjoining States*. Louisiana University Press: Baton Rouge, LA.

Common Vascular Plants of the Louisiana Marsh by R.H. Chabreck and R.E. Condrey, Sea Grant Publication Number LSU-7-79-003

7. Ask the students to share their findings.
8. Each group of students is to choose one flower and a style of painting.
9. Time to create! Get materials for each activity and begin.
10. Display each group's painting.
11. Discuss the elements and principles of design in each painting.

ASSESSMENT

Choose five different artists representing the following styles of art: Egyptian Hieroglyphics, Classical Realism, Impressionism and Pointillism, Surrealism, or Abstract and Cubism. Ask students to research and find one artwork representing each style. They must then describe how the artists represent the five styles, name the paintings, list the materials used to create the artwork, and tell how each artwork is similar to or different from that of our chosen artist.

RUBRIC

The student(s) selected a flower from the estuary.	Yes	No
The student(s) selected a style of painting.	Yes	No
The flower was painted in the designated style.	Yes	No
The elements of art (e.g., color, line, shape, space) are used effectively.	Yes	No
The principles of design (e.g., balance, proportion, repetition) are used effectively.	Yes	No
The painting is mounted on a background.	Yes	No
The painting is labeled with the name of the plant.	Yes	No
The painting is displayed.	Yes	No
The student can name a minimum of ten flowers found in the estuary.	Yes	No
The student can name and describe the five styles of painting.	Yes	No

Total possible points= 10 x 5=50 points



DISCUSSION QUESTIONS

What style did you choose for your painting?

What qualities of that style did you use?

Describe the elements of design used in your painting:

- **Line:** Are there contour lines? Are the lines expressive, gestural (indicating action), implied, thick and/or thin? Is there hatching (many lines placed next to each other) or cross-hatching (many parallel lines cross each other)?
- **Color:** What are the primary/secondary hues (names of colors)? Are the colors blended? Are the colors warm or cold?
- **Value:** Are the hues light or dark? Is there one light source?
- **Space:** Does the painting fill the entire space? What is the perspective?
- **Shape/Form:** Are the shapes/forms geometric or organic? Does the painting have a two-dimensional shape or a three-dimensional form?
- **Texture:** How is texture achieved?

Describe the principles of design used in your painting:

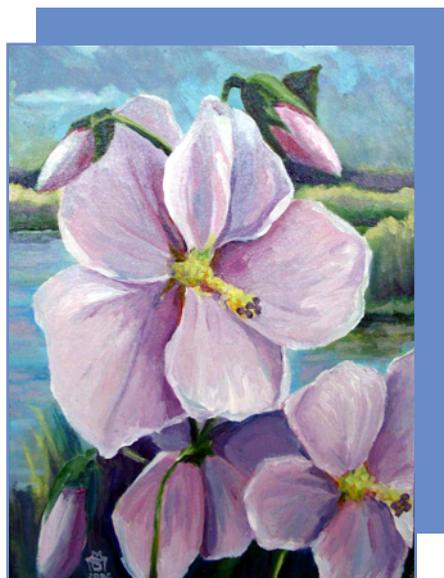
- **Unity/Harmony:** Does the painting feel complete?
- **Balance:** Is the painting symmetrical (the same on both sides, equal in color, shape, value) or asymmetrical (unequal sides)?
- **Movement:** How do the eyes move around the painting?
- **Proportion:** Are proportions realistic or fantasy?
- **Pattern:** Are shape/forms/color/lines repeated in the painting?
- **Rhythm:** Are colors, shapes, and lines used to create regular rhythm (same elements in regular sequence), irregular rhythm (random, uneven spacing), or progressive rhythm (repeated elements change size)?
- **Emphasis:** What element does the artist emphasize (colors, shapes, values)?
- **Contrast:** Are different colors, shapes, and/or textures placed next to each other for effect?

JOURNAL TOPICS

1. You are an art critic; write a review of one of the pieces you've looked at today.
2. Imagine you are an artist starting your own movement. What will your new style be? Why?
3. Combine two styles together. Name the style and draw an example of your work.
4. Compare the work of a local artist to one of our five artist styles. How is it the same? How is it different?

EXTENSIONS

1. Research exotic aquatic plants in the Barataria-Terrebonne system. One resource is www.invasives.btnep.org Paint an exotic plant.
2. Research a different style of painting than the ones presented in this lesson. Paint a native or invasive plant of the BTE in that style.



“Salt Marsh Mallow”
Oil on canvas. Printed with permission by
the artist, Marian Brister Martinez.

EGYPTIAN HIEROGLYPHIC

Time period: 3168 BC – 332 AD

Description: Egyptian wall paintings were created using the fresco technique, i.e., drawings first, then filling in with color on dry plaster. Color was not a top priority. The Egyptians believed in the afterlife and chose to draw what they would have in this life after death. Drawings were done in flat black outline, from any angle, and “filled in” with color. There were strict rules artists had to follow.

Famous Egyptian Art: (Artist unknown) “Fowling Scene from the Tomb of Nebamun,” Thebes, Egypt, 1400 BC; “Geese of Medum” tomb of Netermaat, 2530 BC

CLASSICAL REALISM

Time period: 1700s and 1800s

Description: Realists paint objects, people, and places as they look in real life. They usually pose people and objects before painting them, and they paint most of their paintings indoors. Realists make their paintings of clothing and people look realistic by blending their colors smoothly and using small brushes for detail. Realist artists try not to idealize their subjects, but instead paint them as they are in life.

Famous realists: Jan Vermeer, John Copley, Camille Corot, Gustava Courbet

IMPRESSIONISM AND POINTILLISM

Time period: 1860s and 1870s

Description: Impressionists were the first painters to take their easels and paints outside and paint from nature. They tried to capture light by using small dots or strokes of unmixed primary colors. At first, their paintings were rejected by art critics and the general public, but eventually they gained acceptance.

Famous impressionists/pointillists: Claude Monet, Pierre-Auguste Renoir, Edgar Degas, Camille Pissarro, Georges Seurat

SURREALISM

Time period: 1920s and 1930s

Description: Surrealism started between World Wars I and II. It was the artists’ way of responding to the insanity they saw around them during the wars. Surrealistic artists try to express their subconscious and dreams in artwork. Surrealist art often involves strange and bizarre imagery.

Famous surrealists: Salvador Dali, Rene Magritte, Jean Miro

ABSTRACT AND CUBISM

Time period: 1920s and 1930s

Description: Abstract art does not accurately represent real life. The artist exaggerates or simplifies the subject by altering color, shape, or form. Some abstract artists paint recognizable subjects, and some do not. For example, Cubism is a form of abstract art where the artist uses geometric shapes like cones, cubes, and rectangles to represent objects/people. Perspective comes from many different angles.

Famous abstract artists: Jackson Pollack, Piet Mondrian

Famous cubist artists: Pablo Picasso, Georges Braque, Fernand Leger



“Water Hyacinth” Original photograph by Sue Ellen Lyons. Used with permission.

MATERIALS

- pencil
- white paper, newsprint, or brown mailing paper
- scissors
- glue
- markers
- paint or colored pencils
- sharpie markers



“Hieroglyphics Hyacinth” Painting by Robyn Kennedy. Used with permission.

1. Look at Egyptian art and, specifically, the painting of “Fowling Scene from the Tomb of Nebamun,” Thebes, Egypt, c 1400 BC. www.netserves.com/moca/lectures/skuzegyp.htm
2. Notice:
 - the profile views of the figures.
 - that the leg of the main figure is turned to the same side as the head, and one foot is in front of the other.
 - the formal rigid postures.
 - the size of the figures.
 - the naturalistic drawings of the animals.
 - the hieroglyph’s message is drawn top to bottom with vertical lines.
3. Look at the photo of the water hyacinth. Notice the shapes of the petals, stem, and leaves.
4. Look at the painting of *Hieroglyphics Hyacinth*, painted in the style of Egyptian art. Compare it to other Egyptian paintings.
5. Using your resources, research the flowers of the estuary, and select one that you would like to paint, using the style of Egyptian art. Determine if the flower is native or introduced. If it is introduced, is it invasive? What is your flower’s habitat?
6. Research hieroglyphics. The following sites can get you started.
 - Egyptian Hieroglyphs at <http://greatscott.com/hiero/>
 - Write like an Egyptian at <http://www.upennmuseum.com/hieroglyphsreal.cgi>
7. Sketch the flower on white paper. Show detail by adding black lines, using a black felt-tip pen with a crisp sharp point.
8. Fill in with flat color using markers, colored pencils or paint.
9. Write your name on your painting or a message, using Egyptian Hieroglyphs.
10. Cut out your flower and mount it on background sheet.
11. On the back, include information about its habitat and indicate if it is native, introduced, invasive or non-invasive.

HANDOUT:

A REAL IRIS



“Louisiana Iris” Original photograph by Sue Ellen Lyons. Used with permission.

MATERIALS:

- pencil
- watercolor paper
- brushes and paints
- scissors
- paper towels
- background paper for mounting
- glue



“A Real Iris” Painting by Robyn Kennedy. Used with permission.

1. Look at art from Vermeer’s works. Specifically look at his painting “The Girl with a Pearl Earring” at: <http://girl-with-a-pearl-earring.20m.com>

2. Notice the:

- | | |
|---------------------------------|---------------------|
| • clarity of facial expression | • angle of the head |
| • shape and content of clothing | • colors |
| • sheen of the pearl | • use of light |
| • realistic depiction | |

3. Look at the photo of the Louisiana Iris. Notice the detail such as the veins in the petal, the variations of color, the shape, and texture.

4. Look at the painting of *A Real Iris*, painted in the style of Realism. Compare it to other realistic paintings.

5. Using your resources, research the flowers of the estuary, and select one that you would like to paint, using a Realistic style. Determine if the flower is native or introduced. If it is introduced, is it invasive? What is your flower’s habitat?

6. Sketch your flower on watercolor paper using pencil. Draw very lightly. Erase stray lines.

7. Paint using watercolors, allowing the colors to flow. Do not use outlines.

8. Paint one petal at a time using a small brush.

9. Paint light source on one side, for example, light on right/shadow on left.

10. Cut out your flower and mount it on background sheet.

11. On the back, include information about its habitat and indicate if it is native, introduced, invasive or non-invasive.

HANDOUT:

IMPRESSIONS OF A CRIMSON CARDINAL



"Cardinal Flower" Original photograph by Sue Ellen Lyons. Used with permission.

MATERIALS:

- pencil
- watercolor paper
- brushes and paints
- scissors
- paper towels
- background paper for mounting
- glue



"Impressions of a Crimson Cardinal" Painting by Robyn Kennedy. Used with permission.

1. Look at Claude Monet's paintings, in particular his 1899 "The WaterLily Pond."
<http://www.nationalgallery.org.uk/cgi-bin/WebObjects.dll/CollectionPublisher.woa/wa/work?workNumber=NG4240>
2. Notice the:
 - dash of color with overlapping paint
 - subtle effect of reflected light
 - how use of white is used for highlights
 - use of unmixed primary colors
 - impression is of the scene, no attention to detail
3. Look at the photo of the Crimson Cardinal flower. Notice the variations of color on the petal, the crispness and detail of the stem.
4. Look at the painting of *Impressions of a Crimson Cardinal*, painted in the Impressionistic style. Compare it to other impressionistic paintings.
5. Using your resources, research the flowers of the estuary, and select one that you would like to paint, using an Impressionistic style. Determine if the flower is native or introduced. If it is introduced, is it invasive? What is your flower's habitat?
6. Sketch your flower on watercolor paper or tag board.
7. Begin with a background, using paintbrush with dabs of color. Keep colors to a maximum of three. Keep the background simple. Your flower is most important; it is the focus.
8. Using your brush and three shades of a primary color (light, medium, and dark) begin making small dabs (strokes) of color. Remember to give an impression; the details are not so important.
9. Finish by painting the leaves in three shades of green.
10. Cut out your flower and mount it on background sheet.
11. On the back, include information about its habitat and indicate if it is native, introduced, invasive or non-invasive.

HANDOUT:



"White Water Lily" Original photograph by Sue Ellen Lyons. Used with permission.

LINEAR LILY

MATERIALS:

- dark paper
- paint pens
- pencil
- scissors
- glue



"Linear Lily" Painting by Robyn Kennedy. Used with permission.

1. Look at Joan Miro's works, for example Joan Miro's 1949 "Woman and Bird in the Moonlight."
<http://bertc.com/subthree/miro.htm>
2. Notice the:
 - use of fantasy
 - flat shapes, mostly one color
 - use of the color red to "bounce the eye around"
 - simple shapes in small outline
 - distortion of perspective and proportion
3. Look at the photo White Water Lily. Notice the overlapping petals, symmetry, variations of color, and three-dimensional proportions.
4. Look at the painting of *Linear Lily* which is painted in the Surrealistic style. Compare it to other Surrealistic paintings. Notice how it is broken up into lines and flattened shapes. There are no three-dimensional forms. You can still see that it is a flower, but it has been torn apart, re-arranged and flattened. It may be recognizable, but it is not realistic.
5. Using your resources, research the flowers of the estuary, and select one that you would like to paint, using a Surrealist style. Determine if the flower is native or introduced. If it is introduced, is it invasive? What is your flower's habitat?
6. Sketch your flower in pencil, making it flat on dark background. Use simple lines and no detail.
7. Use white paint pens to outline flat shapes.
8. Separate your flower's parts. Draw shapes in random areas of the board.
9. Using the flat colors of paint pens, fill in the outlined shapes.
10. Add details with red paint pens. Use this color to make the eyes move over the entire drawing.
11. Cut out your flower and mount it on background sheet.
12. On the back, include information about its habitat and indicate if it is native, introduced, invasive or non-invasive.

HANDOUT:

ABSTRACT SPIDER LILY



"Spider Lily" Original photograph by Sue Ellen Lyons. Used with permission.

MATERIALS:

- dark paper
- paint pens
- pencil
- scissors
- glue



"Abstract Spider Lily" Painting by Robyn Kennedy. Used with permission.

1. Look at Pablo Picasso's works from his abstract/cubistic periods. Focus on Pablo Picasso's 1937, "Weeping Woman."
http://www.artquotes.net/masters/picasso/pablo_weeping1937.htm

2. Notice the:

- way this art is broken into planes of color with heavy black outlines
- angularity and shifting perspective
- harsh colors with very little blending
- features that are distorted, exaggerated, eliminated, and duplicated

3. Look at the photo Spider Lily. Notice the long petals and points, the radial balance (the lines radiate from the center into equal parts), the gradual tones of color.
4. Look at the painting of *Abstract Spider Lily*, painted in the Abstract Cubistic style. Compare it to other Abstract paintings, in particular those connected to Cubism.
5. Using your resources, research the flowers of the estuary, and select one that you would like to paint, using an Abstract style. Determine if your plant is native or non-native to Louisiana, invasive or not and make notes on the habitat in which it is found.
6. Break your flower into planes by altering perspective; for example, alter the petals by twisting, reversing, taking apart, or rearranging. Use a pencil to sketch ideas.
7. Now begin making a collage. Using colored paper, sketch the altered flower parts.
8. Cut out the shapes; overlap them, and glue them on a black background.
9. Apply a final coat of polymer medium for sealant. (If you cannot find polymer medium, spray with clear varnish.)
10. Cut out square and mount it on final paper.
11. On the back, include information on the habitat in which your plant is found, and whether it is a Louisiana native or non-native, invasive or non-invasive.



“Water Hyacinth” Original photograph by Sue Ellen Lyons.
Used with permission.



“Hieroglyphics Hyacinth” Painting by Robyn Kennedy. Used with permission.



“Louisiana Iris” Original photograph by Sue Ellen Lyons.
Used with permission.



“A Real Iris” Painting by Robyn Kennedy. Used with permission.

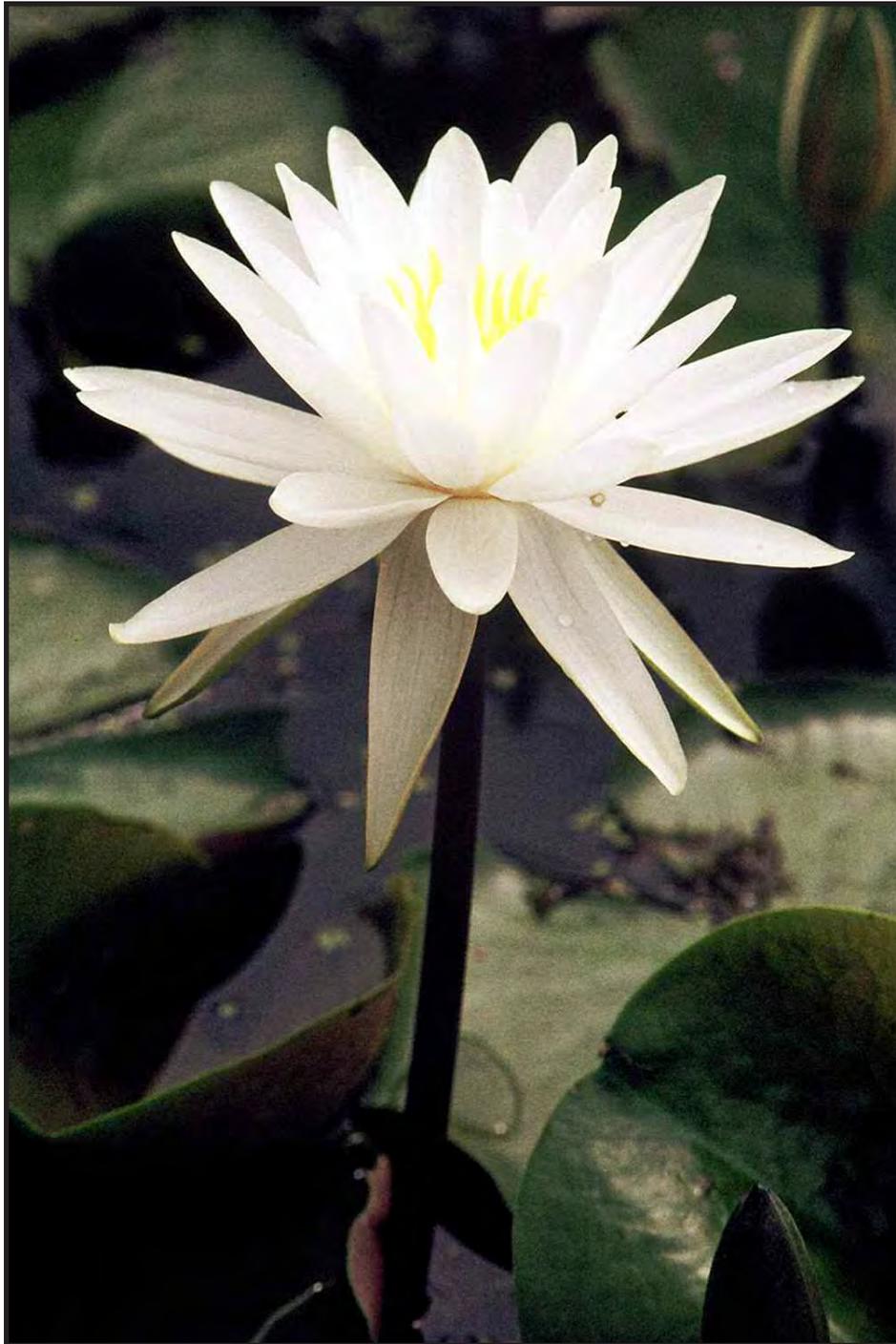


“Cardinal Flower” Original photograph by Sue Ellen Lyons.
Used with permission.

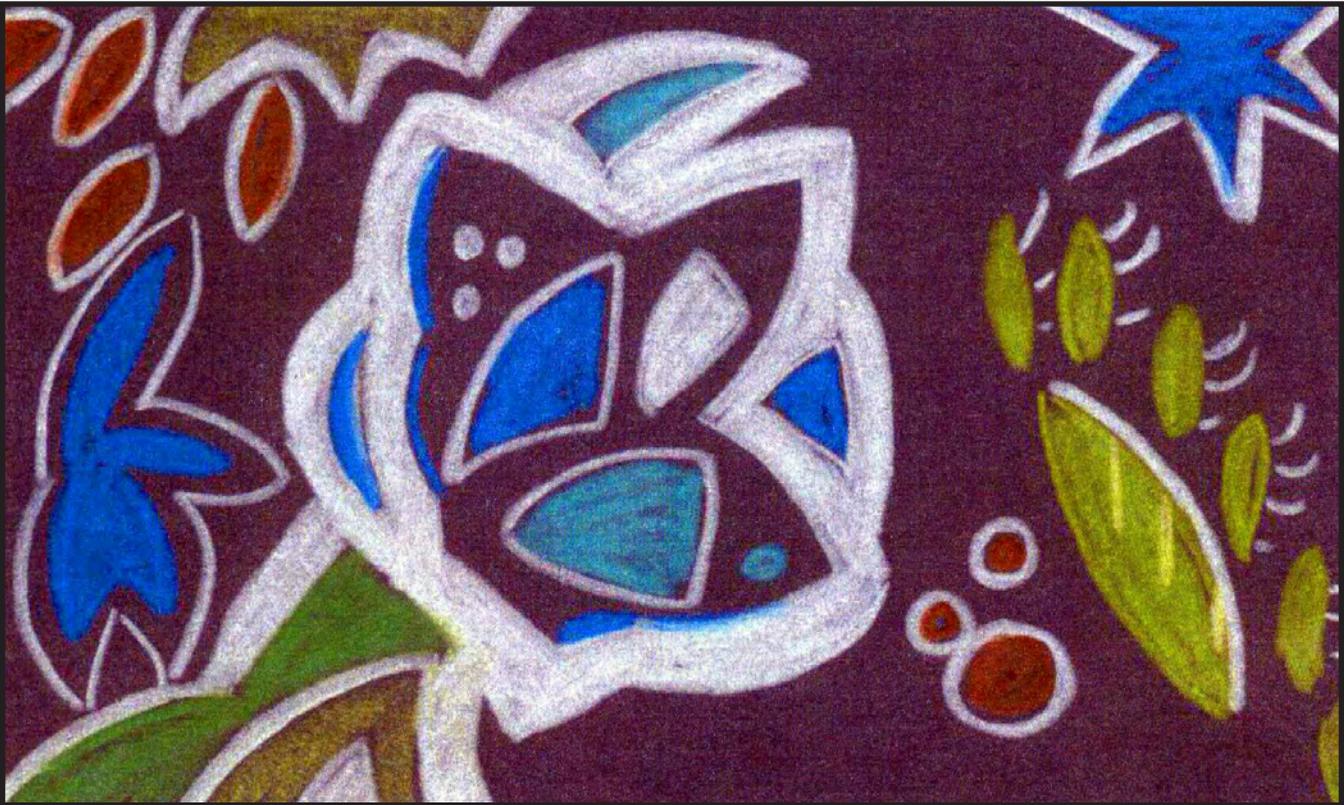




“Impressions of a Crimson Cardinal” Painting by Robyn Kennedy.
Used with permission.



“White Water Lily” Original photograph by Sue Ellen Lyons.
Used with permission.



“Linear Lily” Painting by Robyn Kennedy.
Used with permission.



“Spider Lily” Original photograph by Sue Ellen Lyons.
Used with permission.



“Abstract Spider Lily” Painting by Robyn Kennedy.
Used with permission.

Lesson Five:

We Walk in Beauty — ACTIVITY #1

NATURE FIELD JOURNALS



Original photograph by Sue Ellen Lyons. Used with permission.

Scientists spend hours using field journals to collect data and important information about their surroundings. This is very important documentation of events and observations as the scientist conducts research. A nature journal, though, includes the thoughts, feelings, sketches, and notes of a more casual observer. In her article “The Nature Journal as a Tool for Learning,” Karen Matsumoto states:

A nature or "field" journal can be much more than a record of scientific facts.... It can include an on-going record of observations from a specific location or over the seasons, and a reminder of where and when to look for particular wildflowers or birds. It can also be a way to save your memories and feelings about nature experiences to keep them fresh in your mind and

Setting The Stage



enable you to share them with others in the future. A nature journal that includes drawings and narrative, as well as a record of a student's thoughts and feelings, can help to tie together science and art, and provide opportunities for creativity and reflection.

Matsumoto, K. (2003). Retrieved December 28, 2004 from <http://www.newhorizons.org/strategies/environmental/matsumoto.htm>

The Barataria-Terrebonne Estuary is a wonderful environment for students to explore and record observations in a field journal. The abundance of plants and animals in the habitats of cypress swamp, fresh, brackish and salt marsh, and barrier islands can provide countless entries into their journals. Students can observe, sketch, paint, and write about plants such as spider lilies, blue irises, cattail, coontail, purple loosestrife, and pickerel weed. The plants of the estuary are some of the most unique and beautiful in the world. They have adapted to varying ranges of salt and fresh water and provide food and shelter for hundreds of animals. Some of the unique critters the students can observe in the estuary include: alligators, muskrat, otters, herons, ibis, kingfishers, gulls, pelicans, crawfish, catfish, crabs and many more. All of these animals inhabit an environment rich in food and shelter. Students will want to observe keenly the interactions and behavior of the animals and plants to get a sense of the wonder and uniqueness of the Barataria-Terrebonne Estuary.



Objectives

STUDENTS WILL

- **identify a minimum of fifteen plants that live in the Barataria-Terrebonne Estuary.**
- **research the life cycle and the special characteristics of a plant from the estuary.**
- **describe the skills necessary to keep a field journal.**
- **use observation, reflection, drawing, and writing during a field trip to create a field journal.**

MATERIALS

- Clipboard
- Plain paper
- Number 2 pencils
- Felt-tip markers
- Black composition notebooks or sketch books
- “Explore Coastal Louisiana with Boudreaux and Marie” (CD-ROM available through BTNEP: Refer to <http://educators.btnep.org/Resources>)
- Field Guides
- Examples of field journals from the Internet sites listed in “Getting Ready.”
- Copies of the handout *Louisiana Wetland Plants* (p.7)
- Copies of the handout *Research: A Louisiana Wetland Plant* (p.8)
- Copies of the handout *My Field Journal: Basic Information* (p.9)

GETTING READY

1. Take a field trip to the Ameen Gallery (NSU) or encourage students to visit on their own.
2. Review the CD-ROM entitled “Explore Coastal Louisiana with Boudreaux and Marie”.
3. Copy the handouts: *Louisiana Wetland Plants*, *Research: A Louisiana Wetland Plant*, and *My Field Journal: Basic Information*.
4. Download examples of field journals to share with the students.
 - Lewis and Clark and naturalist Thomas Nuttall used field journals during their exploration of the northwest. John Barthram, John Muir and Beatrix Potter combined art with text to record their observations. Refer to the following Web site: <http://www.newhorizons.org/strategies/environmental/matsumoto.htm> The site provides excellent information and strategies for using a field journal as a tool for observation, reflection, writing and drawing. It also provides examples of field journals.



- This American Museum of Natural History site gives simple guidelines for keeping a field journal and provides historic reproductions.
<http://www.amnh.org/nationalcenter/youngnaturalistawards/resources/fieldjournal.html>
- On this American Museum of Natural History site, researchers talk about their work and how to keep a field journal.
http://www.amnh.org/learn/biodiversity_counts/read_select/hs/fieldjnl.htm
- This site, *Helpful Hints for Field Sketching*, defines field sketching as observational rendering—trying to capture on paper in two dimensions some aspect of what you are observing. The site offers helpful hints on how to sketch proportions, perspective, volume, and shape.
http://www.amnh.org/learn/biodiversity_counts/read_select/ht/sketching.htm
- This site gives tips on how to field sketch.
http://www.wildchimpanzees.org/educators/pdf/field_sketch.pdf
- Visit Hannah Hinchman’s site to see examples of the illuminated journals she has been keeping for 27 years.
<http://www.morning-earth.org/ARTISTNATURALISTS/AN=Hinchman.html>
- Make reservations for a field trip to one of the habitats of the Barataria-Terrebonne Estuary. See self-guided tours. This guide, provided by the Barataria-Terrebonne National Estuary Program, offers information about the estuary and a list of tours by location: <http://www.btnep.org/default.asp?id=114>. For detailed information about the hiking trails in various areas of the Barataria Preserve in the Jean Lafitte National Historic Park visit the web site:
http://gorp.away.com/gorp/resources/us_nhp/la/hik_bata.htm

PROCESS

1. Provide students with copies of the handouts: *Louisiana Wetland Plants* and *Research: A Louisiana Wetland Plant*.
2. Facilitate the research of Louisiana wetland plants by providing students with books, guides, and access to computers.
3. Ask students to choose one plant to investigate. They will record their findings on the graphic organizer *Research: A Louisiana Wetland Plant* and sketch their plants using pens, pencils, or watercolors.



4. Discuss how scientists use field journals. Provide the students with examples of journal entries available on the Internet.
5. Discuss with students how to make a field sketch: proportion, perspective, volume, shape, color and details. If possible, enlist the assistance of an art education/talented art student.
6. Take students on a field trip to the estuary or to a verdant area on or near the school campus. Guide them in choosing one plant to observe.
7. Ensure that each student has a sketchbook or composition book and several pencils for the field trip. Paste the handout *My Field Journal: Basic Information* onto the back of the book.
8. Encourage the students to actively observe their plants, to respond to the questions:
 - What do I see?
 - What do I hear?
 - What do I feel?
 - What do I smell?
9. Instruct the students to use their handout *My Field Journal: Basic Information* to assist them in recording their immediate observations of the general environment as well as the most important features of the plants.
10. Ask students to make a sketch of the plant in its natural environment.
11. When students return from the field trip, they should:
 - consult references and compare their notes and illustration with the formal descriptions;
 - prepare a presentation;
 - share their observations and illustrations.

ASSESSMENT

Alternate Assessment: Use the acrostic poem in “Extensions” to assess knowledge gained from the journal exercise.

Use the handout *Rubric: Field Journal* (p.6) to assess student work.

EXTENSIONS

1. Have students take digital photos to record a specimen for later reference. They can use photos to include information pertinent to field journal entries documenting the part of the plant, when it was collected, who collected it, etc.
2. Have students observe, sketch and record information about the elements of the natural environment in their neighborhood.
3. Students can research the many ways in which local Native Americans and early European settlers used plants.
4. Encourage students to write an acrostic poem about a plant from the estuary. To write an acrostic poem:
 - Write the name of your plant vertically on the paper.
 - Use the first letter of each line as the first letter of your word or phrase
 - You may use as many words in each line as you wish.

Refer to the following example “Wild Iris” by Virginia Henry.

WILD IRIS
Wild wonderful flower
Inhabiting Louisiana’s wetlands
Living as you did centuries ago, reproduced through
Dense systems of rhizomes that lift you to the surface each
April.

In spite of intrusions of saltwater, you
Remain in our natural environment
Intending to touch our senses with your
Spring splendor.



5. Research methods used to preserve plant specimens using a plant press. Groups of students can work together to construct an “herbivory,” a library or a scrapbook of preserved plants. Each page should include a leaf or leaf cluster on a stem, as well as a flower.

HANDOUT:

RUBRIC: FIELD JOURNAL

NAME

DATE

Criteria	4	3	2	1	Points
Organization (x 3)	Observations are organized in a chronological and logical manner. They are easy to read.	Observations are, for the most part, organized chronologically and logically. They are fairly easy to read.	Observations are not very chronological or logical. They are difficult to read.	No organization is evident. Observations are unclear and confusing.	
Content (x 4)	Observations include the date, location, time, weather conditions, and detailed descriptions of flora.	Observations include most of the required elements and brief descriptions of flora.	Observations contain few of the required elements. Description of flora is vague.	Required elements are not included. Description of flora is inaccurate.	
Narrative (x 4)	The writing provides a clear, relevant, and accurate record of observations, thoughts, and feelings.	The writing provides an adequate record of observations, thoughts, and feelings.	The writing provides some observations, but no record of thoughts and feelings.	The writing provides little evidence of observations, thoughts, and feelings.	
Sketches (x 4)	Sketches provide many details that give evidence of careful observation.	Sketches provide adequate detail and some evidence of observation.	Sketches have few details and are not a useful record of observations.	Sketches do not provide evidence of careful observation.	

Total Possible Points = 50

TOTAL POINTS =



FRESH MARSH

Alligator Weed	Louisiana Iris	Spike Rush
Arrowhead	Marsh Mallow	Water Lily
Water Hyacinth	Blue-eyed Grass	Cattail
Parrotfeather	Bull Tongue	Butterweed
Water Milfoil	Pickrel Weed	Pondweed
Button Bush	Wild Geranium	Primrose
Water Primrose	Red Rattlebox	Coontail
Wild Onion	Royal Fern	Willow
Daisy Reabane	Wood Sorrel	Smartweed
Duckweed	Spatterdock	Elodea
Spider Lily	Lizard's Tail	Spiderwort

RIDGE HABITAT

Rattle Box
Hercules Club
Live Oak
Hackberry

SALT MARSH

Black Mangrove	Groundselbush
Salt Marsh Mallow	Creeping Glasswort
Needlegrass	Spartina patens
Deer Pea	Salt Grass
Three-cornered Grass	

BOTTOMLAND HARDWOODS

Box Elder	Blackberry	Water Oak
Red Mulberry	Holly/Yaupon	Sweet Gum
Poison Ivy	Hickory	Hackberry
Wax Myrtle	Black Willow	Elderberry
Hawthorn	Sweet Briar	American Elm

CYPRESS-TUPELO SWAMP

Bald Cypress	Water Tupelo
Mosquito Fern	Coontail
Swamp Red Maple	Palmetto
Black Willow	Pumpkin Ash
Green Ash	Spider Lily
Louisiana Iris	Duckweed
Day Flower	Button Bush
Swamp Black Gum	Water Milfoil
Widgeon Grass	Lizard's Tail



HANDOUT:

RESEARCH: A LOUISIANA WETLAND PLANT

Name of Plant	
Scientific Name of Plant	
Description: Habitat	
Description: Size	
Description: Colors	
Description: Distinguishing Features of Plant Parts, i.e., leaves, petals, stems, etc.	
Description: Shapes	
Description: Textures	
Description: Season	
Interesting Facts	

Make a sketch of your Louisiana Wetland Plant



MY FIELD JOURNAL: BASIC INFORMATION

DATE:

LOCATION:

TIME:

WEATHER CONDITIONS (e.g., CLOUDY, SUNNY, WINDY, RAINY, HUMID):

SOIL CONDITIONS (e.g., MOIST OR DRY):

COLOR OF THE VEGETATION:

TEXTURE OF THE VEGETATION (i.e., HOW IT FEELS TO THE TOUCH):

SIZE OF THE VEGETATION:

SOUNDS:

THOUGHTS AND FEELINGS I HAVE AS I WALK THROUGH THE HABITAT:

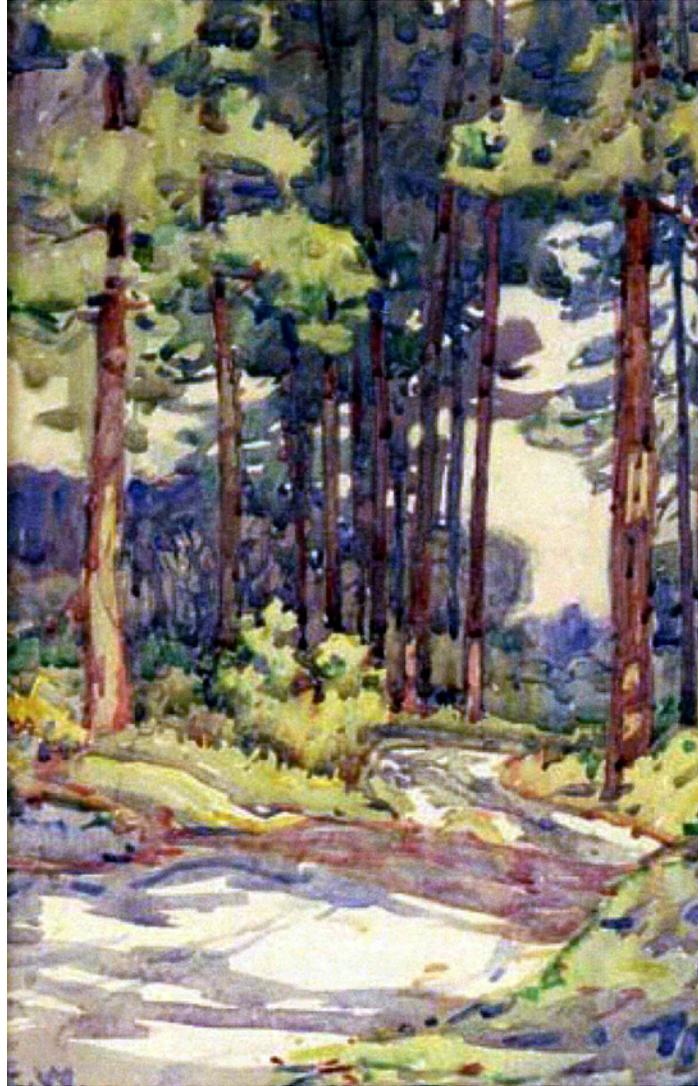
QUESTIONS I HAVE ABOUT MY PLANT:

INTERESTING FACTS ABOUT MY PLANT:

A SKETCH OF MY PLANT:

LEAF SHAPE:

ACTIVITY #2: NATURE'S WATERCOLORS



Ellsworth Woodward
Abita Springs, 1931
Watercolor on paper
111.351

The Ogden Museum of Southern Art, University of New Orleans
Gift of the Roger H. Ogden Collection

Art is born of the observation and investigation of nature.

~Cicero (106 BC - 43 BC)

Quotations by Subject (n.d.). Retrieved January 2, 2005 from
<http://www.quotationspage.com/subjects/art/>



MATERIALS

- Handouts: *The Elements of Art*, *The Principles of Design*, *The Meaning of Art* (pp. 14-15), *Watercolor Techniques* (p.16)
- Examples of watercolor paintings of plants from the Ameen gallery or the Ogden Museum of Southern Art
- Student quality watercolor paints (Use those in tubes since they last the longest.)
- Brushes (1 inch flat, Number 2 round, and Number 6 round)
- 2B pencils
- Sponges
- Paper towels
- 140 lb paper
- Cardboard and masking tape (for taping down your paper)
- Water containers
- White plastic or Styrofoam plate for paints
- Towel or paper to cover worktables

Objectives

STUDENTS WILL:

- **analyze a painting and discuss the elements of art, the principles of design, as well as its meaning.**
- **investigate the techniques of watercolor painting.**
- **create a watercolor painting of a plant in the estuary.**

GETTING READY

1. Copy handouts that give information about the elements of art, the principles of design and the discovery of the meaning of art.
2. Copy handout that describes techniques used in watercolor painting. Download from the Internet or collect prints of watercolor paintings to use in discussing the elements of art and the principles of design. Review images from the Ameen Gallery or The Ogden Museum of Southern Art. <http://www.ogdenmuseum.org/collections>

3. Cut sheets of watercolor paper into 12” x 12” squares for students to use to experiment with techniques for working with watercolor paints. Each student will need six squares.
4. Collect materials listed above for watercolor painting.
5. Place paint colors on the plates.
6. Practice various watercolor techniques or arrange for an art educator or talented art student to demonstrate the techniques.

PROCESS

1. Students should be familiar with the color wheel. (Some students may need a brief review.) A color wheel can be downloaded from www.sanford-artadventures.com. Click on “Study Art”.

- Primary colors: red, yellow, blue
- Secondary colors: orange, green, and violet
- Intermediate colors: red-orange; red-violet; yellow-orange; yellow-green; blue-violet; blue-green



2. Review/discuss the handouts *The Elements of Art*, *The Principles of Design*, and *The Meaning of Art*.
3. Use the handouts to analyze several watercolor paintings you have collected.
4. Divide the students into small groups to analyze a watercolor painting. Have them use the handout to discuss elements of art, the principles of design, and what meaning they discover.
5. Allow the groups to share their findings with the entire class.
6. Discuss the basic steps and materials used in creating a watercolor painting.
7. Provide each student with the handout *Watercolor Techniques*.
8. Arrange for the art educator or talented art student to demonstrate watercolor techniques.
9. Guide the students in practicing the techniques used in watercolor painting.
10. Give students the opportunity to choose the subject of their painting. It may be one of the wildflowers or plants they researched or sketched on the field trip, or it may be a landscape painting of one of the habitats of the estuary.
10. Display students’ watercolor paintings throughout the school environment.

ASSESSMENT

Use correct terminology (Refer to the handouts on the elements of art and principles of design) to analyze a watercolor painting. To create a rubric for “Analysis of a Work of Art” go to Rubistar at <http://rubistar.4teachers.org/index.php>.

EXTENSIONS

Plan a field trip to an art museum such as The Ameen Gallery or Ogden Museum of Southern Art. Provide parents with information about current exhibits and opportunities for sharing art with their children.



Ellsworth Woodward
Iris Field Near Newcomb Greenhouse, 1911
L 2004.23.1
The Ogden Museum of Southern Art, University of New Orleans
Gift of the Roger H. Ogden Collection



HANDOUT:

THE ELEMENTS OF ART

COLOR

Does the piece of art use primary or secondary colors?
Are the colors warm, cool, muted, bold, or pastel?
Does the artist use one color more than others?

SHAPE

Does the piece of art contain geometric, organic, or natural shapes?
Describe the shapes. Are they round, rectangular, triangular, irregular, or spiral?
Are there other words you can use to describe the shapes?

LINE

What kind of lines do you see in the piece of art?
Are they straight, vertical, horizontal, diagonal, squiggly, zigzag, thick, or thin?

VALUE

Does the piece of art have highlights or shading?
Do some areas look darker or lighter than others?

TEXTURE

What kind of texture do you see?
Is it visual texture created by the artist or is there actual texture in the piece of art?
Is the texture rough or smooth?

SPACE

Look at the way the artist has used space in the piece of art. What do you notice about the background, the middle ground, and the foreground?
Are there objects or people that look close to you or far away?
Do some parts of the artwork look 3-dimensional?
Does the space feel full or empty?

HANDOUT:

THE PRINCIPLES OF DESIGN

REPETITION

Does the artist use patterns or elements over and over throughout the piece of art?
Does the artist use lines, shapes, colors, or textures to create patterns?

BALANCE

Is the painting symmetrical or asymmetrical?
(When you look at both sides of the artwork, does each side look almost the same or does each side look different?)

CONTRAST

Does the artist use complementary colors or opposite colors?

CENTER OF INTEREST

Is there a focal point in the piece of art?
What element do you become aware of first?
How has the artist drawn your eyes to this particular part of the artwork?

MOVEMENT

How do your eyes move around the piece of art?

UNITY

How does the piece of art come together as a whole?

FINDING MEANING IN A PIECE OF ART

EXPRESSION

What is the overall feeling or mood when you observe this piece of art? Give examples.

SYMBOLS

What images in the work of art could stand for something else?
If there are symbols, how do they affect the meaning of the art?

MESSAGE

Does the artist depict the subject in a realistic manner?
Is the artist expressing a feeling or mood?
Is the artist making a social, moral, or spiritual comment about a particular subject?

After considering all of these elements of the piece of art, describe the feelings it evokes in you. Begin your description with the words, "I think this work of art is about . . ."

WET-ON-WET TECHNIQUE: CREATING A WASH

A wash is a very thin coat of paint. Because it is transparent, you can still see the paper underneath the wash. Washes are useful for backgrounds or flat light areas like the sky or a body of water. Washes are created with a technique called “wet on wet,” because the painter is painting with a wet brush on wet paper. Use a thick brush to paint clean water evenly across the paper. The paper should be wet, but it should not have any puddles on it. Choose a color and paint across the paper in a horizontal band. Continue with the same color or use another color to paint a band next to the first one; the bands should be barely overlapping. Dilute the pigment with slightly more water for each horizontal stroke. Notice how the colors bleed and blend. Make sure you just brush each area once or twice. When you are finished, let it dry completely.

DRY BRUSH TECHNIQUE

Use this technique for painting areas that require greater control and more saturated colors. It may be used to create the foreground of a landscape, the center of interest. The painter works with a slightly wet brush loaded with pigment on dry paper. Notice the textures, hard edges, and sharp details. Experiment with this technique by painting abstract lines and shapes. Change the amount of water and paint used and blend some colors.

EXPERIMENTING

Color Shades and Tones: Try adding black to a color; mixing color complements (e.g. red and green); adding lots of pigment; or mixing a color with any other color.

Different Brush Strokes: See what happens when you point or flatten the tip of the brush, add lots of water to the brush, or dry it out. Experiment with various types/sizes of brushes.

Texture: Paint with “watery” paint and then blot it lightly with a sponge or paper towel.

INTERNET

Check out the URL <http://www.johnlovet.com/techniq.htm> for descriptions and examples of various watercolor techniques.

Watercolor Tutorials provide a step-by-step guide to painting watercolors. There is also a tutorial on how to paint a watercolor of a Purple Iris. <http://www.watercolorpainting.com/>

RESOURCES

WEB SITES

This is the home site for the Barataria-Terrebonne National Estuary Program. It provides resources for teachers that are organized by topic, media type, and grade level.

<http://educators.btnep.org/Resources>

A treasure of images is provided on this site as well as lesson plans and other valuable information for teachers.

<http://www.ogdenmuseum.org/collections>

This site provides an excellent lesson plan for teaching watercolor techniques.

http://www.sanford-artedventures.com/teach/wtrclrtechniques_procedure.html

Watercolor Tutorials provide a step-by-step guide to painting watercolors.

<http://www.watercolor-online.com/Articles/Articles.phtml>

Watercolor & Watermedia Instruction: Tips & Demos

http://www.fountainstudio.com/watercolor_tips.html

This site provides information about southern wetland flora. It contains an excellent glossary of floral terms and an alphabetical list of species.

<http://www.npwrc.usgs.gov/sitemap.htm>

A description of estuaries as well as pictures and habitats can be found at:

<http://www.epa.gov/OWOW/estuaries/about1.htm>

This site describes the use of plants by Native Americans for food, ceremonial artifacts, and medicines.

<http://www.plant-materials.nrcs.usda.gov/kspmc/culturallysignificant.html>

BOOKS

Easton, J. (2003). *Watercolors for the fun of it: Flowers and leaves*. Cincinnati, Ohio: North Light Books.

Hinchman, H. (1997). *A trail through leaves*. New York: Norton & Company.

Willenbrink, M. & Willenbrink, M. (2003). *Watercolor for the absolute beginner*. Cincinnati, Ohio: North Light Books.



Lesson Six:

Native American Leaf Prints

—THE ART OF DYE - ING BEAUTIFULLY



Did you ever wonder about the origin of the colors of the fabrics we wear? For that, you can thank a plant! In fact, you can thank many plants for providing us with the raw materials needed to make fabric dyes. Our ancestors in the BTE made their own clothing and frequently used plant dyes for color. European settlers learned which plants to use and how to process them from the Native Americans who populated the estuary environs at the time. Which American Indian tribes inhabited the BTE? Where do their descendants live today? Wouldn't you like to experience some of the methods they used to dye fabric?

Native Americans devised many ways to add color to their clothing and to their artworks to make them more beautiful. Besides weaving and carving, they used beads, shells, garfish scales, and paint for their colorful patterns. The source of the paint they used came from earth materials, such as minerals, sediment, and plants. They used these to make many beautiful colors with which to dye cotton and other fibers.

Color was important to Native Americans. Most Native Americans named four points of the earth, the four directions of the compass—north, south, east, and west—and assigned a color to each one. Among the Cherokee, north was blue, south was white, east was red, and west was black. You might find it interesting to research the symbolism of various colors to local American Indian tribes, such as the Houmas or Choctaws.



The first to use native dye plants in the United States were the Native Americans. Their culture was totally dependent on what the land produced. This is reflected in the wealth of information Native Americans possessed about useful plants, from medicinal to ceremonial and dye plants. This is reflected in the types of houses they built and the names of places (often after the plants that grew there).

Ogg, K. J. (1998). Native dye plants of the United States.

Retrieved November 22, 2004 from <http://www.siu.edu/~ebl/leaflets/dyes.htm>



Examples of other color meanings include:

COLOR	MEANING FOR NATIVE AMERICANS
Black	night, underworld, male, cold, disease, death
Blue	sky, water, female, clouds, lightning, moon, thunder, sadness
Green	plant life, earth, summer, rain
Red	wounds, sunset, thunder, blood, earth, war, day, autumn
White	winter, death, snow
Yellow	sunshine, day, dawn

Source: Dunn, H. (1973). Native American designs and colors-natural dyes. Retrieved November 22, 2004 from <http://dmla.clan.lib.nv.us/docs/kids/in-colors.htm>

Objectives

STUDENTS WILL

- follow safety precautions when selecting leaves.
- describe how plants can be used as dyes.
- transfer a leaf's natural dye to a piece of fabric.
- practice the craft of leaf painting.

MATERIALS

Which plants did Native Americans use to make dye? They used different plants in different regions, depending on availability. How did they do it? They used not only leaves and flowers of the plant, but bark and root as well. Generally, if they used bark or twigs, they pounded them or ground them up to loosen the fibers before boiling them in water. If they used berries or flower petals, either whole or ground, they boiled them in water until a dark color was reached. The material was soaked in this dye "bath" for several hours.

For this activity we will employ a technique known as Cherokee Leaf Printing. Although people of the Cherokee Tribe were not native to the BTE, similar methods of dying fabric were shared by other American Indian groups in this region.

- Garden gloves
- Sealable plastic bag for samples
- Plain white 100% cotton T-shirts or pieces of fabric
- Flat headed hammer or a large smooth round river rock
- Masking tape
- A large flat board
- A large supply of newspapers
- Waxed paper
- A large number of leaves (various shapes and sizes)
- Salt
- Water
- A large container to soak shirts in salt and water solution
- A large container with clear water
- Handout: Directions: Cherokee Leaf Printing (p.6)
- Handout: Learning to Dye: Internet Resources (p.5)



GETTING READY

1. Review safety precautions with students before they gather leaves.
 - Always wear gloves when handling plants.
 - Do not allow your gloved hands to come into contact with any area of your body.
 - Wash your hands and forearms with warm, soapy water when you are finished gathering the leaves.
 - Do not eat berries, nuts, or any other part of a plant. (Berries are food for birds, but many people get very ill if they touch or ingest them.)
2. Instruct students to gather green leaves from their neighborhood or nearby park.
3. Collect the materials in plastic sealable bags.
4. Use reference books to identify each plant correctly. Label each bag with a permanent marker before moving on to next step.
5. Let the teacher check specimens before student reopens bag.
6. Explore the URLs listed in the “Resource” section of this lesson.
7. Make copies of the handout Directions: *Cherokee Leaf Painting*.
8. Review the process of leaf painting by painting a T-shirt yourself.

PROCESS

1. Remind students of safety precautions. In addition, teach them how to identify poison ivy and poison oak.
2. Discuss the purpose of chlorophyll in the life of green plants.

- Discuss the fact that many plants in the Barataria-Terrebonne estuary were used by Native Americans to produce dyes. Examples include:

COLOR OF DYES	PLANTS
Shades of Black	wild grapes, hickory bark, pecan bark, dogwood bark, iris (roots)
Shades of Blue	indigo, sunflower seeds, blueberries, elder
Shades of Brown	walnut or pecan shells, boiled acorns
Shades of Green	moss, algae, grass
Shades of Purple	blueberries, blackberries, rotten maple wood
Shades of Red	sumac berries, holly berries, dogwood bark, beets
Shades of Yellow	onion skins, goldenrod stems and flowers, sunflower petals, marigold petals

- Distribute the handout *Learning to Dye: Internet Resources* to the students, allowing them time to explore the sites on Native Americans and natural dyes.
- Explain to students that they will dye their fabric by pounding the leaves until the color transfers directly onto the cloth. They will set the dye by soaking the fabric in a saltwater solution.
- Distribute and review the handout *Directions: Cherokee Leaf Painting*.
- Have students work in pairs and assist each other as they leaf paint their T-shirts.
- Display the painted T-Shirts.



HANDOUT:

LEARNING TO DYE: INTERNET RESOURCES

Making Natural Dyes From Plants (Type “natural dyes” into the search engine for Pioneer Thinking)
www.pioneerthinking.com

Native American Designs and Colors-Natural Dyes
<http://dmla.clan.lib.nv.us/docs/kids/in-colors.htm>

Herbs to Dye For
<http://herbalmusings.com/Herbs%20to%20Dye%20For.htm>

Lesson Plan: Interdisciplinary on Native American Dyes
www.museum.state.il.us/muslink/pdfs/dye_plants.pdf

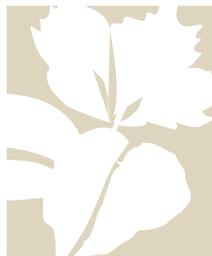
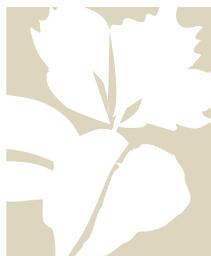
A Lesson to Dye For: An Integrated Science-History-Art Unit on Plant Dyes Part II
www1.umn.edu/ships/modules/dyes2.htm#History

Native Plants For Fibers, Dyes, and Other Uses
www.garden.org/articles/articles.php?q=show&id=943

Native Dye Plants of the United States
www.siu.edu/~ebl/leaflets/dyes.htm

Herb and Plant Dye
www.turtletrack.org/Issues03/Co05312003/CO_05312003_Crafts.htm

United Houma Nation
www.unitedhoumanation.org



HANDOUT:

DIRECTIONS: CHEROKEE LEAF PAINTING

(Adapted from American Forest Foundation. *Project Learning Tree: Environmental Education Pre K-8 Activity Guide*)

1. Begin by layering several thicknesses of newspaper on a flat board.
2. Spread the front of your T-shirt on top of the layers of newspaper.
3. Slide a piece of light cardboard or newspaper between the front and back of your T-shirt to prevent staining of the back fabric.
4. Place the leaves on the T-shirt in the pattern of your choice.
5. Place waxed paper over the leaves and secure the waxed paper with masking tape.
6. Using a flat headed hammer or stone, pound the chlorophyll out of the leaves until the color dyes the cloth.
7. Pound the entire leaf surface evenly.
8. Remove the masking tape and the leaves.
9. If the leaves do not print evenly, crumble up another leaf, dip it in water, and use it to “paint” the unstained areas on your T-shirt.
10. In order to retain the natural green colors of your prints, soak the completed T-shirt for approximately ten to fifteen minutes in a solution made by combining one-half cup of salt and one-half cup of baking soda in 2 gallons of water.
11. Rinse the T-shirt in clear water.
12. Air dry the T-shirt away from direct sunlight to prevent fading.



ASSESSMENT

Use the Internet site <http://rubistar.4teachers.org> to develop criteria or create a rubric.

EXTENSIONS

Use nature's palette to paint a scene in the estuary; document the process.

NATURE'S PALETTE

MAKING A BOOKLET

1. Using 8 1/2" x 11" (or larger, if desired) sheets of paper, fold 6-8 pieces of the paper in half and assemble into a booklet. You may use construction paper, if desired. Starting with your cover, number each page in the lower right-hand corner of each page.
2. Design a colorful cover for your booklet. (PAGE ONE). Be sure to include your name, your teacher's name, room number, and the title of your project. You can add additional art work as you work on this assignment.

TESTING

3. On a field trip with your class, or individually, you will need to go to an area that has plants native to the BTE.
4. Select one type of plant to be the subject of your booklet.
5. Cut a small part of the plant you intend to use. Show respect for nature and cut only as much of the plant as you will need. Do not take bark from a living tree. Look for some that has fallen on the ground. Be sure to obtain permission before getting plants from anyone's property.
6. Rub the part of the plant that you have chosen to use onto a piece of scratch paper. In this way, you can test it to determine what color it will make and how easily it spreads. Coarser paper such as construction paper works best.

SKETCHING

7. Now, on the inside of your booklet (PAGE TWO) sketch the whole plant. (You may want to sketch it first on scratch paper for practice.) Trace only a leaf if you have chosen a tree as the subject of your booklet. Use field guides to try to identify plants.

DOCUMENTING

8. On the page opposite your sketch (PAGE THREE), write complete sentences telling where the plant was found...in a yard, in the woods, a pond, along the edge of a bayou, etc.
9. In addition, write complete sentences telling which part of the plant you used and what color marks it made. If it did not make a color, you should write that also.
10. Continue to find more plants that are native to the BTE. You need to follow steps 6-9 for each plant you use. Your booklet must have at least eight plants that you tested for color...no more than two for green unless you include more than eight plants.

PAINTING

11. Now choose at least four different colors that your plants have made. You will use those plant parts to create a scenic picture of the estuary.
12. On an 8.5" x 11" or larger piece of art paper, sketch an outline of your artwork with a piece of charcoal briquette (the kind used in barbecue pits). This will get you started.
13. Add details to the picture by using the rubbing technique with the plant colors you chose. Your picture could include such things as trees and other plants, animals, water, a sunrise or sunset.
14. You may use soil to create some brown or black tones in your picture—in addition to the four plant colors.
15. On the page in your booklet where you show each plant, use complete sentences to describe how you used this plant in your painting.
16. List the names of each plant you are able to identify. Use a reference book such as a field guide to wild plants to help with identification.
17. Sign and date your artwork.
18. Display and share your booklet and your finished art work.



Lesson Seven:

The World's Greatest Sculptor

Nature is the world's greatest sculptor. Wind and water have created some of the most beautiful works of art. Rivers, in particular, create shapes on the land that rival any manmade, three-dimensional works. In fact, artists often mimic the patterns of nature when they create sculptures. Think of the famous artist Henry Moore and his beautiful sculptures of the female figure. The forms he uses are as sinuous as a river's meanderings. At the entrance to the Sidney and Walda Bestoff Sculpture Garden at the New Orleans Museum of Art (NOMA) in City Park there is a Henry Moore piece of art that provides a great example of the influence of nature on his work. There are many other examples of the influence of nature on the works of sculptors at this garden. English sculptor, Barbara Hepworth was inspired by nature when she created "River Form," a sculpture that represents water, open space and sky. NOMA's web site (www.noma.org) describes it "as reminiscent of a pebble that has been gently smoothed by the endless motion of flowing water." Another one of the sculptures is an 18-foot high granite fountain by Isamu Noguchi, titled *The Mississippi*.

If you think about it, the Mississippi River is one of the world's greatest artists. It created the entire southern portion of the State of Louisiana. When the river was young, it cut deep into the land creating bluffs in its northern section. As it grew

Setting The Stage



Original photograph by Marian Brister Martinez.
Printed with permission.

older and eroded the land, it flattened out and widened; so that at springtime it overflowed its banks spreading its rich sediment to create new land. With the widening, it meandered over the floodplain creating looping shapes along its route to the Gulf of Mexico. To look at the river and its floodplain from the air is to see beautiful shapes carved out of the land. You can also see these shapes on the USGS topographical maps.

Objectives

STUDENTS WILL

- **learn about the life of a river.**
- **learn about erosion and its affects on the landscape.**
- **design a river system that creates a sculpture.**

MATERIALS

- A large, thick sheet of visquine, or shower curtain liner or painter's cloth (plastic)
- Several bricks or blocks to prop up the visquine
- A large plastic tub or small plastic baby pool that can be cut on one side
- Sand—enough to cover a long strip in the middle of the visquine
- Water—enough to create a river and channel in the sand
- If possible, an outdoor area that is covered and that can be hosed off if need be
- A video camera

GETTING READY

1. Get copies of topographic maps of sections of the Mississippi River, preferably, the ones that run along the Barataria-Terrebonne Estuary. Refer to “Resources” for Internet sites with access to printable topographic maps, or call or email BTNEP for a satellite image of the estuary at: www.btnep.org
2. Look at a watershed map of the Mississippi River on the BTNEP website www.btnep.org—click on educators, then resources. Also, see the slide of an active delta.
3. Get a basic Earth Science textbook (a good one is *Focus on Earth Science* by Merrill Publishing) and review the section on rivers.
4. Get a book of famous sculptures and review them. NOMA has a great bookstore. NOMA also has photographs of many of the sculptures in the Sidney and Walda Bestoff Sculpture Garden at: <http://noma.org/sgarden/index.html>
5. You can also explore the “Just 4 Kids” Internet site “Famous Sculptures and Sculptors in History” at <http://www.gibnet.gi/~shms/>
6. Cut a small section into the plastic bin or baby pool to allow the water and sand to collect. Make sure it's wide enough but not too wide that there will be spills. (Alternate: Use stream tables.)



PROCESS

1. Review the life stages of a river (as taught in *Focus on Earth Science* by Merrill Publishing) with students and show them the topographic maps. Look at the maps with the eyes of a scientist as well as the eyes of an artist.
2. Discuss the art of sculpture and show students examples of works that were inspired by nature.
3. Separate the students into small groups and number each group. Each group will take a turn at the activity.
NOTE: If this cannot be done outdoors on a large scale, it can be done individually with small plastic bins or with stream tables.
4. Take the materials to the staging area and start with group one.
5. Have the students position the blocks and/or bricks randomly (all sizes) and lay the visquine on top of them. Where there are no bricks or blocks, let the visquine fall where it may.
6. Make sure the sides of the visquine are folded and bunched up so there is no leakage.
7. Put the end of the visquine into the lip of the plastic bin or baby pool.
8. Have the students pour the sand onto the visquine. Make sure they pour it thick enough to cover the bricks and blocks as well as other parts of the visquine.
9. Using a hose or several buckets of water, have students start at the highest point of elevation on the visquine (should be the end opposite the pool) and begin the deluge.
10. Have one of the other groups videotape the event.
11. Once the water is used up, have the students write a detailed explanation of what happened (Refer to “Questions for Journaling”).
12. In order to reuse the materials, scoop the sand into buckets or the plastic container and let dry over several days. Hang the visquine to dry.
13. When other groups do the exercise, have them think of ways to make different designs.

QUESTIONS FOR JOURNALING

1. Which group had the best design? Why?
2. What kind of shapes were created and at what points along the flow?
3. Did any of the shapes resemble a recognizable object? Does art have to represent actual objects?
4. What happened in the portions of the visquine that were not raised by the bricks?
5. Can you make any comparisons between the landscape on the visquine and the real land on earth?
6. Does art have to be permanent to be art? Was your design “art?” (See the work of Nature artist Andy Goldsworthy in video or book. Google Andy Goldsworthy to see photographs and video clips of his work, e.g., <http://www.sheepfolds.org/html/info/info00.htm>).

ASSESSMENT

- Assess students’ interest by their level of participation.
- Assess their understanding of the principles of river life stages by their ability to recreate a river. Did they place blocks in positions that would allow flow “downstream” to the baby pool? For a more formal assessment, create a “Science—Building a Structure” rubric with criteria such as scientific knowledge, information gathering, planning, construction, and journal writing on <http://rubistar.4teachers.org>.
- Using their journal entries assess what they learned about the art form and their ability to compare this to the real landscape.

EXTENSIONS

- Have the students use different colored dyes in the water to add color.
- Take a field trip with the class to the sculpture garden at City Park in New Orleans, LA.
- Have the students do individual versions of the lesson using small containers with real rocks, pieces of wood, etc.
- Have students dredge “canals” or channels through the sand after pouring the water to see where it diverts. Ask them how this relates to the channels dredged in the Louisiana marsh.

- Add salt to the pool at the bottom, dig channels in the sand, and measure salinity at various points. Talk about salt water intrusion in the estuary.

RESOURCES

American Rivers

This nonprofit organization works to protect and educate about America's Rivers, and offers lots of good information on the basics of rivers and examples from around the country.

www.amrivers.org

Topozone

From this Web site, you can easily access printable topographic maps by searching a place name.

<http://www.topozone.com>

US Army Corps of Engineers

This site offers extensive information on the Mississippi River.

www.usace.army.mil

US Geological Survey

The US Geological Survey's website allows you to obtain a variety of topographic and aerial images.

nmviewogc.cr.usgs.gov/viewer.htm

Louisiana State University Atlas

This Louisiana State University site can be used to download topographic maps and digital ortho quarter quads (DOQQs). Go to "Download Data" and choose from DOQQ or scanned topographic (DRG) images of your area of interest. DOQQs are very good quality aerial photographs. With the right software (MrSID, which may be downloaded from this site) you can zoom in on your area and get great detail and good resolution. You will also need to search for your area using the name of the USGS quadrangle. These names are found on the index of quad sheets from the USGS.

<http://www.atlas.lsu.edu>

The National Museum of Wildlife Art presents a teacher's guide *Mountains & More: Learning about Landforms Through Landscape Painting*

<http://www.wildlifeart.org/Education/Landforms/Landforms.cfm>

The article "**Earth View, Art View**" by Lydia Dambekalns (Originally printed in *The Science Teacher*, January 2005, p. 43-47) focuses on using the medium of batik to record observations of specific satellite images of the earth. This is a members only page.

http://www.nsta.org/main/news/stories/science_teacher.php?news_story_ID=50082

A Studio in the Woods

Take a field trip to this education center along the Mississippi River.

www.astudiointhewoods.org



Lesson Eight:

Doin' What Comes Naturally



Rhea Gary and C.C. Lockwood, artists
Printed with permission.

We need the tonic of wildness, to wade sometimes in marshes where the bittern and the meadow-hen lurk, and hear the booming of the snipe; to smell the whispering sedge where only some wilder and more solitary fowl builds her nest, and the mink crawls with its belly close to the ground.

~Henry David Thoreau

Morning Earth. (n.d.) Retrieved January 3, 2005 from
http://www.morning-earth.org/artistnaturalist/an_thoreau.html

Armed with little more than cameras and journals, a nature photographer and his teacher wife are living on the waters along Louisiana's eroding coastline, determined to capture its natural beauty before it washes away. These words introduce us to nature photographer C.C. Lockwood in the newspaper article "Missionary of the Marsh," (May 30, 2004, p. E1) written by Chris Bynum, staff writer for *The Times-Picayune*. The article quotes Lockwood, "The beauty, the sounds, observing wildlife—it's a no-brainer when you compare that to driving down the interstate to go to lunch somewhere."

C.C. Lockwood loves doing what comes naturally to him. He spends the majority of his time in Louisiana's wetlands, photographing the natural beauty that has become the subject of his books. Mr. Lockwood also writes the

—NATURALIST? ARTIST? OR BOTH!

HOW JOURNALING

CHANGES YOUR PERSPECTIVE



Setting The Stage

text of those books, describing his experiences and his photographic subjects in both journalistic and poetic tones. His most recent project was "Marsh Mission," a year spent in the Barataria-Terrebonne Estuary, documenting his adventure in pictures and in words posted to the Marsh Mission website. He was joined at times by Rhea Gary, local artist, who painted a series of wetland landscapes. What sets these artists apart is that they journal their thoughts and feelings about the incredible beauty they painted and photographed in the Barataria-Terrebonne Estuary.

It's no secret that the Barataria-Terrebonne Estuary is home to an abundance of extraordinary wildlife. The scenic landscapes, lush vegetation, and beautiful birds and animals of the estuary inspire our love of nature. Many naturalists are also artists because they must observe and record meticulous detail about the plants and animals they study. But we've also found that many artists, whether they paint, sketch, write poetry or prose, do photography, or work as a singer/songwriter, are also naturalists because they are entranced with the beauty of the natural world. They see and feel things that many others do not, and we are fortunate that they share those gifts to enrich our lives.



As you read about some of the well-known national and international artists here, you will see they make no distinction between artist and naturalist. **Each became the other over time.** Another characteristic that unites all of the artist-naturalists we feature in this activity is that each of them **journalled** almost every day, most often reflecting on their experiences in nature. What do you think inspires a visual artist to express himself/herself in poem or prose? Let us look at some examples and see what kinds of feelings the artists expressed.

[NOTE TO TEACHER: Read all or some of these examples of journal entries to your students. Discuss the writer's imagery with them.]

Henry David Thoreau spent a large part of each day of his adult life observing the plants and animals of Concord. *Walden* is some of the best nature writing ever, and that book has opened the wonders of nature to countless people.

Beatrix Potter was an avid student of nature. From her childhood on, she drew and painted all the animals she could find. Her observations of nature helped her to write *Peter Rabbit* and other children's books. She loved painting mushrooms as well. Her two strongest interests were always being in the natural world and painting what she saw there. Beatrix filled many sketchbooks and kept a journal all her life.

Georgia O'Keeffe became one of the great painters of our time. She taught us to see flowers in a new way, and she taught us to appreciate the desert landscape. Georgia O'Keeffe drew and painted well into her old age. There is an art gallery in her name at Northwestern State University, Natchitoches, LA.

C. L. Rawlins is a modern-day poet who expresses his love of nature through his art. In addition to poetry, Rawlins also writes prose books on natural history and the outdoors. In this passage, he expresses his feelings:

I love the real world: ravens, mushrooms, fishermen in pangas cutting through big surf, coyotes howling the full moon up, the music of survival. Living outdoors is what I love best, and I've been fortunate in finding work that keeps me on the water and in the mountains.

Hamline University. (n.d.). Retrieved January 3, 2005 from

Debra Frasier, a creator of children's books, writes about the beach in such a way that any coastal resident understands her love and fascination with it. *Growing up beside the ocean was a childhood romance of living with the daily rhythms of spectacular cloud shows, rolling waves, and endless walks on a stretch of beach that never seemed the same. I learned that wind is a language constantly written on the surface of water, and that the language of water answers eloquently in how a wave cracks or rolls. And the tides taught me the language hidden inside objects. Every day stories arrived with whatever was washed up on the sand.*

Morning Earth. (n.d.). Retrieved January 3, 2005 from

http://www.morning-earth.org/artistnaturalists/an_frasier.html

Kelly Finnerty describes the process and rationale for her art. *I like to draw whatever is right in front of me when I'm sitting near water or beneath trees. I don't really see until I begin to draw. Drawing helps me understand what I'm seeing. It seems to untie knots of confusion within my mind as I work.*

Morning Earth. (n.d.). Retrieved January 3, 2005 from

http://www.morning-earth.org/artistnaturealists/an_finnerty.html

Aurora Levins Morales, an artist-in-residence at Tulane University’s “A Studio in the Woods” wrote “Resurrection Fern”. For her, the time at the Studio was a turning point in a lifetime of writing....*The green, shaded, owl-crossed pond, and the long, wide, sunlit elevation of the levee, have become touchstone images for a kind of inner balance I found there. The river that haunted my imagination now flows across my desk, leaving rich deposits of poetry I know I will work for years.*

A Studio in the Woods: Past Artist Residencies. (2005). Retrieved April 2, 2006 from http://www.astudiointhewoods.org/residency_past_amorales.htm

Margot McCreay, a Puppeteer, writes this beautiful passage in her journal. Anyone who loves the outdoors has experienced what Margot describes so beautifully.

Being in Nature restores me--

I soak in warm sun in early Spring,

I listen to water move,

I walk through a brilliant sunlit meadow and crickets rasp their song and grasshoppers hurtle themselves out of my path. Wind energizes me.

I am part of Earth's circle.

Hamline University. (n.d.). Retrieved January 3, 2005

Marcia McEachron, a sculptor, expresses her love for nature in a similar fashion.

I love to sit in the woods and watch everything. I thought it would be nice to have a chair that had the forest built around it.

Morning Earth. (n.d.). Retrieved January 3, 2005 from

http://www.morning-earth.org/artistnaturalists/an_mceachron.html

Andy Goldsworthy is a brilliant British artist who collaborates with nature to make his creations. His goal is to understand nature by being part of it as intimately as he can. He goes to work every morning and works with whatever captures his attention: twigs, leaves, stones, snow and ice, reeds and thorns.

I enjoy the freedom of just using my hands and "found" tools--a sharp stone, the quill of a feather, thorns. I take the opportunities each day offers: if it is snowing, I work with snow, at leaf-fall it will be with leaves; a blown-over tree becomes a source of twigs and branches. I stop at a place or pick up a material because I feel that there is something to be discovered. Here is where I can learn.

Morning Earth. (n.d.). Retrieved January 3, 2005 from

http://www.morning-earth.org/artistnaturalists/an_goldsworthy.html

After Goldsworthy painstakingly creates a work of art from natural objects, he takes a picture of it to capture the moment. Very often his work will not last more than a few hours, as Mother Nature reclaims the items he used. At your local library or bookstore, check out one of the books of Goldsworthy’s photos or see his rivers and streams video. You’ll be amazed!

Hannah Hinchman, a writer, speaks of the joys of nature journaling:

I encourage people to take their blank books out under the sky, and record their encounters, in words and images....The process requires immersion, and the pages that we come away with are the result of being deeply present.

Morning Earth. (n.d.). Retrieved January 3, 2005 from

http://www.morning-earth.org/artistnaturalists/an_hinchman.html

Kay Grindland is not only a poet and a singer/songwriter, but also a naturalist. *Writing or singing is how I teach myself (or remember) how to be in love with the world. I learn something new with every poem I write—and then I get to share that with others when I share my poems or songs. I think when we make art, we take little pieces of the world (words or sounds or colors) and put them together in a new way into something new and beautiful. It reminds us that things do belong together, that even if sometimes the world feels broken--the pieces do fit back together, that we are all part of something bigger.*

Morning Earth. (n.d.). Retrieved January 3, 2005 from
http://www.morning-earth.org/artistnaturalists/an_grindland.html

Rachel Carson, (1907-1964) is the most influential environmentalist of this century. She was a marine biologist and writer. Her 1962 book *Silent Spring* sent a shockwave across America as her readers realized that our widespread use of pesticides was destroying many creatures, especially birds. Her book, *Silent Spring*, is a classic that really began the modern environmental movement. After *Silent Spring's* impact, and just before her death from breast cancer, Rachel Carson wrote to a friend, *The beauty of the living world I was trying to save has always been uppermost in my mind; that, and anger at the senseless, brutish things that were being done. . . . Now I can believe I have at least helped a little.*

Morning Earth. (n.d.). Retrieved January 3, 2005 from
http://www.morning-earth.org/artistnaturalists/an_carson.html

Nature journaling is a good way to keep track of your “wild place.” Do you have a favorite wild place? Record in your journal what you see and do each time you visit there.

Objectives

STUDENTS WILL

- **discuss the importance of careful, accurate drawings when describing something in nature.**
- **learn a variety of drawing and sketching techniques.**
- **actively observe and interpret the drawings of other students.**
- **study the work of naturalists who sketched to remember places and objects.**
- **write reflectively on their field experiences.**

MATERIALS

- oyster shells for each student
- pencils
- notebook
- crayons or colored pencils
- examples of field sketches

GETTING READY

Gather students around tables or preferably one big table. Describe this game to them.

1. Each student picks one oyster shell out of a bag; then spends 1-2 minutes observing the characteristics of the shell. In their journals, ask them to sketch every detail as accurately as possible on the shell. Show them the examples of scientific illustrations again. Walk around the table and give students suggestions for further describing their shell.
NOTE: While there are no distinct scientific differences in the exterior of individual oyster shells, there are markings and colorations that make each shell unique.
2. When all students are finished with their sketches, collect all the journals. Redistribute the journals to the students, but to different people. Make sure that each student has the journal of someone who was not sitting next to him/her.
3. Place the sketched shells on the table. Ask the students to try to identify the shell illustrated in the journal in front of them based on the visual description. Ask them what part of the drawing made them sure that it was the right shell. What parts were more challenging?
4. Afterwards, ask students to pick another shell and return the proper journals to each student. Ask them this time not to draw the shell, but to describe it using words. You might have to time this activity.
5. Perform the same redistribution with the journals, asking the students to identify each shell. Ask students what was easier to identify, the drawing or the written description... try to engage students in discussing this more.
6. Have students research Naturalists & Artists at the Morning Earth: Artists/Naturalists Past and Present web site: http://www.morning-earth.org/Artist_Naturalists.html

7. Have students research artists at the Ogden Museum of Southern Art web site (<http://www.ogdenmuseum.org/>) or at a local museum. Compare and contrast each famous artist/naturalist with one of the local artists from the BTE:

C.C. Lockwood and Henry David Thoreau
C.L. Rawlins and Martha Serpas
Debra Frasier and Wendy Wilson Billiot
Kelly Finnerty and Rhea Gary
Margot McCreay and Karen Konnerth
Kay Grindland and Tab Benoit or Tommy Michot

8. Visit The Marsh Mission web site at www.marshmission.com. The “Marsh Mission” project uses the art of nature photographer C. C. Lockwood and nature and wildlife artist Rhea Gary to raise awareness of coastal erosion.

PROCESS

1. Plan a trip to one estuarine habitat, e.g. saltwater marsh, freshwater marsh, or swamp. If a field trip is not feasible at the time, direct students to find a natural spot outdoors to explore. A great nature spot can be as close as their backyard or a local park. Have students visit this spot once a week or so, and write down the things they observe. Encourage them to answer questions, such as: “What is different about today?” “What sounds do you hear?” “What do you smell?” “Can you see any insects, birds or other animals? What are they doing?” With words and drawings, have students answer these questions in their journal.
2. Instruct students to use a crayon (with the paper wrapper peeled off), a piece of charcoal, or graphite pencil and a piece of journal paper to make leaf and bark rubbings of different trees. In pairs, they first place the paper against the tree or leaf. Holding it in place, they use long strokes to rub back and forth until a pattern emerges. Then have them go to their school or local library and find a book about trees. There are also several tree identification web sites such as:
What Tree is That?
<http://www.arboday.org/trees/treeid.cfm>
Basics of Tree ID
<http://www.fw.vt.edu/dendro/forsite/Idtree.htm>
Basic Tree Identification Techniques and Sources
<http://forestry.about.com/od/treeidentification/>

Challenge students to identify the trees from the rubbings they made. Label their drawings with the location and the name of the tree.



3. How many different kinds of plants did they find and draw? Ask them to pay attention to all the details. What do some plants have in common? How do they differ? Field sketching is a type of visual note taking. It is an invaluable skill for artists/naturalists observing the natural world. Field sketches are simple drawings done out in the field, and either used as a reference for more detailed drawings later, or drawn in a field journal to document sightings and identify specimens.
4. Now ask them to try sketching an insect or other small animal. Like they did for drawing the leaves of a tree, remind them to look for the general geometric shapes. Instruct them to start with the basic shapes and proportions; then add detail as they go.
5. Students should not be discouraged if their first drawings need improvement. Remind them that great artists practice a lot. Drawing is a discipline that can be learned. The more they do it, the better they will get, just like playing ball or learning to play the piano.
6. The most important thing is to relax and have fun! They might be surprised at how much artistic "talent" they never knew they had.

Safety first!

- Always make sure you or another adult is with the students or knows exactly where they are at all times.
- Remind students to keep a safe distance from wild animals. If they find a baby wild animal, they should leave it alone! Chances are the mother is nearby and will take care of it.
- Make sure students know what poison ivy, oak and sumac look like, and stay away from them!

QUESTIONS FOR JOURNALING

1. What parts of the field observations were most memorable to you?
2. For which parts of the field observations did you or could you have used your journal?
3. What would you have changed about the activity?
4. What did you like best about the activity?



5. What was important about being able to draw something accurately?
6. How do art and science complement each other? How are they the same? How are they different?
7. If you were like Marcia McEachron and wanted to sit outdoors and draw, what part of nature would you like built around your chair?
8. Reflect on how you connect to the estuary. For example, Agnes Grinstead Anderson, wife of Walter Anderson, in her book *Approaching the Magic Hour: Memories of Walter Anderson* quotes her husband as saying, "The heart is the thing that counts, the mingling of my heart with the heart of the wild bird; to become one with the thing I see."
Walter Anderson Exhibit. Everything I See is Strange and New (January 2005). Retrieved March 20, 2005 from <http://www.ogdenmuseum.org/exhibitions/exhibition-wandersonsmith.html>

ASSESSMENT

Both student and teacher will assess the work on the following points, using this scale:

A: excellent; B: very good; C: adequate; D: needs improvement; F: incomplete

1. **CREATIVITY** (drawing/sketches exhibit originality)
Student: _____ Teacher: _____
2. **DETAILS** (Drawing/sketches demonstrate good use of color, pattern, texture, form, etc)
Student: _____ Teacher: _____
3. **EFFORT AND TIME** (Student put caring and full attention to project; spent 95-100% of class time on task)
Student: _____ Teacher: _____
4. **CRAFTSMANSHIP** (neatness, cleanliness, and clarity)
Student: _____ Teacher: _____

EXTENSIONS

As you read about the artist/naturalists we featured, you probably recognized some of their names, but not others. Select one or two to research. Share information about their work with the class.

RESOURCES

WEB SITES

Morning Earth: Artists/Naturalists Past and Present
http://www.morning-earth.org/Artist_Naturalists.html

Ogden Museum of Southern Art
<http://www.ogdenmuseum.org/>

Baldwin, Lyn. Keeping Track—notes on keeping an illustrated journal
<http://www.umt.edu/mnps/keepingtrack.htm>

How to Do A Field Sketch
http://www.wildchimpanzees.org/educators/pdf/field_sketch.pdf

A page from a sketchbook of
Marian Brister Martinez.
Printed with permission.



Lesson Nine:

Nature's Art



Setting The Stage

Most people do not think about the fact that there is a connection between an artist's materials and nature. Most of the ingredients for an artist's materials were historically derived from natural materials. Ingredients used for painting or drawing materials come from plant, mineral, and even animal sources. Charcoal, for example, is burned wood. Pictures can be drawn on paper, a natural product also made from trees. Here is a quick overview of basic information to get you started exploring a "natural" connection between art and the Barataria-Terrebonne Estuary.



"Pelican on a Wire". Ink and twig sketch on gray paper. Marian Brister Martinez, artist. Printed with permission.

For the purposes of this lesson, we are going to only consider more traditional art forms such as painting and drawing. Drawing materials are basically divided into two categories: wet and dry materials. Wet materials include ink, dye, and paint. Dry materials include chalk, pastels, pencils and charcoal. The materials for each are made in different ways and produce distinctly different artistic products.

WET ART MATERIALS

The foundation of most wet art materials is **pigment**. Pigment is the coloring material in inks or dyes; when it is mixed with other substances it produces paint. (If something has color, it has a pigment or some combination of pigments in it.) Most of today's artists use synthetic pigments because they minimize environmental impact, tend to be more durable, and are consistent in quality and less expensive than natural pigments.

There are basically two types of wet art materials—**dye** and **paint**. Dye and paint differ in the way they are made and how they stick to substances. Dyes are pigments dissolved in water that soak into substances such as fabric or hair. Paint is a mixture of many ingredients that produces a substance applied to surfaces. Let's look at how our ancestors used these materials.

DYES

There are three sources for natural dyes: minerals (such as hematite), plants (such as indigo), and animals (such as insects). These substances are often used in their natural form and boiled in water. Most minerals used for dyes are compounds that occur in the soil and result from the oxidation process. Popular plants historically used for dyes include madder (source of red dye), woad (source of blue dye), and indigo (another source of blue dye). Early settlers relied so heavily on these plants to dye their fabrics that they often brought these plants with them from a former home.



Most people do not realize that many natural dyes are derived from animals. Cochineal, an insect living in cactus plants, was discovered by pre-Columbian Indians to produce a deep, vibrant red. In Europe, the purple that could only be afforded by royalty came from a gastropod mollusk found on the Mediterranean coast. The deep purple fluid was secreted when the shell was cracked and a vein was extracted. It is estimated that it took 8,500 shellfish to produce one gram of dye, making it more expensive than its weight in gold.

If animal parts were not used in the actual dye, sometimes they were used as the **mordant**. A mordant is a chemical that increases the chemical reactions between the dye and the fiber so that the dye is more readily absorbed. Animal urine, an early source of ammonia, was often used in dye baths as a mordant.

For a history of dye and dye-related inventions visit *A Dye History from 2600 BC to the 20th Century* by Susan C. Druding at <http://www.straw.com/sig/dyehist.html>

PAINTS

Paint, unlike dye, is a mixture of pigment with oil, water, and other substances such as gum Arabic (from acacia trees) and plasticizers (honey, sugar or corn syrup) to make a liquid or paste that can be applied to various surfaces. Pigments used in paints are dried and powdered. The pigment particles are then suspended in these substances to make them easier to apply and make the paint more durable. There are many kinds of paint ranging from watercolors to oil paints. The recipe for each kind of paint differs. For more specific information on how paints are made, go to the Web site: *How Watercolor Paints are Made* at <http://www.handprint.com/HP/WCL/pigmt1.html>

DRY ART MATERIALS

Dry art materials include charcoal, pencils, chalk, and pastels.

- Charcoal, an amorphous carbon, is the residue of incompletely burned wood or vegetable matter, heated by artists in a kiln without air.
- The graphite found in pencils, also a form of carbon, adheres better to paper and other drawing materials. It is also more durable and creates greater subtlety and detail in the finished product.
- Chalk is a naturally-occurring substance that consists of the shells and skeletons of salt-water organisms.

More information on these materials can be found in *Art Hardware: The Definitive Guide to Artists' Materials* by Steven Saitzyk (1987).

As you can see, all art materials have traditionally come from nature, but today the use of these natural materials has an impact on our environment. If artists were to rely solely on natural materials to produce their art, the demands on the environment would be overwhelming. That is why many of these materials are now produced synthetically.



MATERIALS

- You will need three sets of items:

SET ONE: natural materials such as leaves, berries, flowers, bark, wood, and dirt.

SET TWO: artist materials such as pencils, charcoal, pastels, ink, watercolors and/or oil paint.

SET THREE: prints of artwork that relate to the estuary. You will need one print of mixed media per group. Some artwork should be pen and ink, some charcoal and some paintings. The prints should be large enough for the whole class to see. (Use prints rather than PowerPoint images or transparency representations of the artwork because you will need the prints in other sections of this lesson.)

- Scrap paper for experimenting with color (3-4 sheets per student)
- One clipboard for each student—An inexpensive way to make clipboards is to cut pieces of corrugated cardboard into pieces that are slightly larger than the drawing paper. You can glue two or three pieces together to make a strong surface for writing. Papers can be held to the cardboard with clothespins or binder clips.
- One or two sheets of drawing paper per student
- Task sheets
- Access to reference books or the internet.
- Copies of the handout *Natural Art: Investigative Tasks* (pp.9-10).

Objectives

STUDENTS WILL

- **describe how art materials are derived from natural sources.**
- **explain how ideas and feelings can be communicated through artwork.**
- **analyze a piece of artwork to determine the natural materials and artist materials used to create the work.**
- **discuss the impact artwork has on people's perception of the estuary.**

GETTING READY

1. Become familiar with local artists and find examples of their work to show to the class. There are many artists who live in and create art associated with the wetlands like those of the Barataria-Terrebonne Estuary. The two highlighted artists are from Louisiana and their works, which are reasonably priced and readily available, deal with subject matter relevant to the estuary. Your students can contact art associations listed in the “Resources” section of this lesson to locate artists of the Barataria-Terrebonne Estuary.

LOCAL ARTISTS

HENRY NEUBIG

Information available at
<http://www.mudpainting.com/>



Three Egrets, a mud painting by Henry Neubig © 2003
<http://www.mudpainting.com>
All rights reserved. Used with permission from the artist.

Using pigments from the soils of Louisiana, Neubig creates paintings that have a surprising range of hues. To create these paintings, Neubig mixes dried and powdered soil with egg whites to create watercolor-like pictures of plants and animals of South Louisiana. His paintings consist of the expected earthy browns and blacks but also include pink, ochre, red, gray, mauve, and green. “Actually, Louisiana has more colors than Arizona, which is known as the painted desert,” Neubig exclaims, noting that Louisiana’s diverse terrain and the Mississippi River account for the warm shades of his palette. Linda Neubig, the artist’s wife, elaborates, “A geologist told us the colors are produced by the oxidation of iron in the dirt. The oxidation is in various stages, so you have different colors.”

Henry Neubig grew up in Plaquemine, Louisiana, and currently lives in Baton Rouge. His work can be seen on the web or at his studio in Baton Rouge. Just look for “Louisiana Mud Paintings” on the “Attractions” sign for the O’Neal Lane exit on Interstate 12. (Mr. Neubig is happy to answer e-mail questions or sell copies of his work online but is unavailable to come to schools and visit with individual classes.)



FLOYD SONNIER

information available at
<http://www.beucajun.com/>

Fun in the Sun, a pen-and-ink drawing by Floyd Sonnier © 1998

<http://www.beucajun.com/>

All rights reserved. Used with permission from the artist's family.

Cajun pen-and-ink artist Floyd Sonnier was born into a sharecropper family near Church Point, Louisiana. At age three, he began drawing with charcoal found in ashes under his mother's wash pot. In 1960, Sonnier received a degree in advertising art from the University of Southwestern Louisiana; he went on to work as a commercial artist. He is famous for his renderings of rural Cajun life in a distinctive style he calls "traditional realism." Sonnier died April 6, 2002, and his family has published a book of his work, *From Small Bits of Charcoal*, which is available for purchase.

Floyd Sonnier's Art Gallery and Studio is located at 1010 St. Mary Street in downtown Scott, (5 miles west of Lafayette and only four blocks from Interstate 10). Prints and posters can also be ordered online at the website listed above. The prints are expensive, but the book and calendars are reasonably priced and would be suitable for classroom use.



2. Create a safe environment.

Students enjoy working with innovative materials that reflect artistic expressions. There are some safety considerations you need to keep in mind when doing this lesson, however.

- First, be sure the plant materials you are using are not endangered or poisonous. Do not use animals for these activities.
- Second, caution students not to put their hands on or around their faces after handling the materials, and require the students to wash their hands thoroughly with warm, soapy water afterwards. If possible, have students use rubber gloves while working.
- Work in well-ventilated spaces. Be sure to cover all work areas so that the plant materials leave no residues in the classroom.
- Never let students taste anything. Even if you know it's edible (like blackberries), pesticides or other chemicals may be on the plants. Although not deadly, there may be harmful side effects.

3. Gather natural materials.

Here are some suggested materials that you can use for your natural art:

- Trees and shrubs typically found in the estuary include mayhaw, parsley haw, pecan, hickory, willow, wax myrtle, red maple and sassafras.
 - Other plants to which you may have access include Spanish moss, false garlic, grasses, bracken fern, and lichens.
 - The following flowering plants grow in the estuary and produce interesting colors: various species of rose mallows or swamp hibiscus, various species of morning glories, various species of sunflowers, various species of goldenrods, cattails, thistle, deer pea, water hyacinths, and dodder.
 - Your students can experiment with the bark from cypress, willow, pecan, hickory, or birch to see what color they produce.
- Vines that make good candidates for dye include muscadine, trumpet creeper, passion flower, pepper vine (also known as raccoon's grape) or yellow jessamine. Try the fruit or flower from each.



- Your students can also try the following berries to produce various colors in their creations: blackberries, dewberries, pokeberries, elderberry, muscadine, American beauty berry and holly berries. Berries from any species of holly are particularly interesting because the color changes after it is spread on paper. (This observation leads to investigation of the oxidation process.)
 - While none of these plants are endangered or poisonous, take all necessary precautions when working with them. Consult plant field identification guides such as those listed in “Resources” to help you and your students identify plants that would be most likely to grow in the estuary.
 - **Note: Do not use the flowers of oleander and Angel Trumpet. They are deadly. All parts of the oleander are poisonous if eaten.**
 - Most of the soil in the estuary is a mixture of clay, sand, and humus. Your students can also experiment with various kinds of soil to see which produces the most interesting color. The type of soil that produces the greatest variety of color is clay. Its fine particles and inclusion of a variety of ores and minerals make it the best candidate for pigments. Be on the lookout for interesting soils in your community and visit your garden center to find soils that can be used for these activities.
4. Collect materials listed in the “Materials” section.

You will need at least five different prints of artwork related to the estuary. Ideally, you should select prints using a variety of art medium such as charcoal, pencil, watercolor, ink, or oil paints. Some of the prints can be by the same artist, but each group needs a print. Additionally, you will need to make copies of handouts, get charcoal, pencils, drawing paper, and scrap paper. You can purchase clipboards for the students to use for drawing outside the classroom, or you can make your own.



PROCESS

1. Show the three sets of objects to the class: the natural materials, drawing materials and prints by local artists. (Refer to “Materials.”). Tell the students that at one time artists had to gather and make their own art materials before they could begin painting or drawing. Tell the students that they will investigate how natural materials can be used to create paintings or drawings and how some local artists use these materials to communicate their feelings about the estuary in their art work.
2. Allow students to experiment with using natural materials to “draw.” The simplest method is just to rub the material on the paper. This works well for “juicy” plant parts such as leaves, flowers, and berries. If you use any green leaves from trees, shrubs, or herbaceous plants, spring is the best time of year to use these leaves. Woody stems, twigs, and bark, however, need to be softened before using. Soak them first, and then rub them on the paper. Use scrap paper and encourage students to try different combinations of materials to learn how they blend or smear. Tell the students not to draw anything in particular, but just explore the medium. After about 10-15 minutes of such experimentation, have students share their discoveries. Discuss what colors are derived from which materials, what challenges exist to using the colors or drawing materials, and the effects on the finished product.
3. Allow students to take their art materials outside or on a field trip and find an inspiring spot to work as they draw scenes from nature.
4. When the students are finished, allow them to share their work. Ask them to describe the scene they selected, why it was selected, and what they learned about the environment as they were drawing or coloring it. Encourage students to think about what they would do differently if they were going to draw this scene again.
5. Ask the students to look at the collection of drawings and decide what someone who didn’t know anything about the Barataria-Terrebonne region might learn by looking at these pictures. Use the following questions to guide the discussion:
 - What would someone who didn’t know anything about the estuary learn by looking at the artists’ drawings and paintings?
 - What kinds of scenes were most often drawn? Why do you think those were chosen?
 - What information about the estuary is not shown in these drawings? Why not?
 - How do the choices of color and composition affect how you feel about the subjects in the drawings?

- If you live in the estuary, what objects or scenes might you choose to draw? Why?
 - What materials do you think would best demonstrate what you have learned about the estuary?
6. Tell the students they will apply what they learned about the artistic process to understanding artworks about the estuary as represented by local artists. Divide the class into cooperative groups of four or five students. Give each group an art print and a copy of the handout *Natural Art: Investigative Tasks*. Assign jobs to the group members or let them select their own jobs. Each group will investigate the artist, the artwork, and the artistic materials used to create the print. The teacher will act as facilitator during the research process. The teacher should begin by holding a class meeting to review research and discussion procedures with the students. Students should also have access to research materials such as books and the Internet.
7. After each group has presented its findings, discuss the following questions:
- What materials used for these works of art could have come from the estuary? How did earlier use of these materials impact the estuary? How does modern use impact the estuary?
 - What feeling do you think the artists had about the estuary based on their portrayal of it in their work?
 - Which artists concentrated on natural aspects and which concentrated on cultural aspects of the estuary? Which do you think is the better portrayal of the estuary? Why?
 - How do these artworks impact people's perception of the estuary?
 - How does the artistic medium affect their perception of the estuary?



“Two Egrets”. Ink and twig sketch on gray paper. Marian Brister Martinez, artist. Printed with permission.



NATURAL ART INVESTIGATIVE TASKS

GETTING READY

1. Choose roles:

Recorder: Write/type what the group decides should be recorded; keep all written work neatly stored and organized.

Facilitator: Encourage all members to contribute ideas; keep the group focused on the task.

Materials Manager: Gather materials requested by the group; keep track of materials.

Resource Locator: Find additional resource material and people to answer specific questions.

Reporter: Share findings with the whole group.

2. Make sure you have all of your materials. Your group has one art print to investigate. You will also need pencil and paper. You may need other materials as your group begins to work on the tasks. The Materials Manager will gather additional materials as you need them.

TASK ONE: INVESTIGATING THE ARTWORK

Take your time and really look at the picture your group is assigned to investigate. Spend a few minutes thinking about what you see; do not discuss your observations with the group until everyone has had an opportunity to study the picture.

As a group, answer the following questions.

1. What is the title of this work? Why do you think the artist chose this title? What message does this title convey? What is your reaction to this title?
2. Observations: Really look at your drawing or painting. Write as many details about the artwork as you can. Do not describe how you feel about the artwork or judge the things that you see in it. Just describe what you can directly see. Also describe what you think is missing from your picture. When you finish, someone else should be able to match your observations with the picture.
3. What sensations would you feel if you were at this place at the moment this scene is taking place? What would you hear? What would you smell? Would it be hot or cold? How do you know these things? What is happening in your picture?

4. What is your emotional reaction to the artwork? How does it make you feel when you look at it? What is it about this picture that makes you feel this way?
5. How is the event of the artwork similar to or different from your own experiences?
6. What is the focal point of the picture? How are colors used to guide your eyes through the scene? Why do you think the artist placed objects in the picture in the way he or she did? How does the placement of the objects affect what you think about the subject? Where are you in relation to the scene?

TASK TWO: INVESTIGATING THE ARTIST

As a group, research your artist.

- Where was the artist born?
- Did the artist have formal art training? If so, explain the type of training. If not, explain how the artist learned.
- What is the relationship between the artist's life and the subject of the artwork?
- Why do you think the artist chose this way of presenting the scene or object?
- What feelings do you think the artist has about this scene or object?
- If the artist felt differently about this scene or object, how might it be reflected in the artwork?

TASK THREE: INVESTIGATING THE ART MATERIAL

Research the materials the artist used for the print.

- What natural materials did the artist use?
- How might the same scene look if the artist had chosen to use a different art material?

TASK FOUR: PRESENTATION

Prepare a presentation sharing what you have learned about the artwork and the artist. You can create a PowerPoint presentation, a video documentary, a “How-To” workshop, or a panel discussion. Be creative with your presentation idea.

QUESTIONS FOR JOURNALING

1. Imagine the artwork you investigated is a frame in a video or movie. “Unfreeze” the frame and put the picture into action. Describe what happens next.
2. What would you see if you looked to the right or the left of the scene in your artwork?
3. What could someone from a desert learn about the estuary from looking at the artworks you have researched?
4. An often-used famous phrase states, “A picture is worth a thousand words.” Use your artwork to support or disagree with this phrase.

ASSESSMENT

Point Value	Observations/descriptions of artwork	Group Effort	Information on the Artist and Materials
4	Gives a complete and detailed description of all the subject matter.	Great teamwork; everyone contributed and encouraged others to contribute their ideas.	Answered all the questions about the artist accurately and thoughtfully
3	Gives a detailed description of most of the subject matter.	Good teamwork; most contributed and listened respectfully to what others had to say	Answered most of the questions about the artist accurately and thoughtfully
2	Gives a detailed description of some of the subject matter.	For the most part, the members of the team worked independently; very little discussion	Answered some of the questions about the artist accurately and thoughtfully
1	Needs work: descriptions are missing or lacking details.	One or two members did most of the work while others watched	Needs work: responses to questions need more research and thought

Maximum number of points: 12 x 3 = 36



EXTENSIONS

There are many avenues of investigation related to this topic.

- Students can study the chemistry of color, the effect of color on perception and behavior, how the brain processes color, how colors are produced, or the impact of color on history and economics.
- One interesting area that your students may wish to investigate is ethnobotany. Botanists, ecologists, and anthropologists are becoming more aware of how plants and animals from different regions are a catalyst for certain ethnic traditions and rituals. Have your students become ethnobotanists and investigate how different plants, animals, and minerals of the area affected the art of the different cultures of the Barataria-Terrebonne Estuary. For example, your students can preview a variety of artists' works to see which medium is used more often and trace the use of this medium to early ancestral use of native materials. Students can compare Cajun settlers' art with Native American art. Contact a representative from the United Houma Nation about their work documenting their own ethnobotany. You can locate information about ethnobotany at:
<http://www.ucl.ac.uk/archaeology/research/profiles/smason/smethnob.htm>
- There are many related artistic and craft activities that emerged from early settlers of the estuary. Students can extend their study of the arts into basketry, woodworking, broom making, candle making, quilting, moss dolls and other crafts that have become artistic expressions of everyday living. For example, Houma Indians make most of their crafts from natural materials that grow wild in the wetlands, especially palmetto and Spanish moss. Marie Billiot Dean, a member of the Houma Indian Tribe, uses dried and cured Spanish moss to create her dolls and weaves palmetto into hats and baskets. For more information on Marie Dean and other master folk artists visit the Louisiana Folklife Center URL
<http://www.nsula.edu/folklife/database/hall.html>
- There are many local artists who have become active in helping preserve the estuary. Your students can interview artists to see what they are doing to raise awareness of issues related to the estuary. The photographer C.C. Lockwood and landscape painter Rhea Gary, for example, spent a year in the marsh photographing and painting and have been working with schools to help students understand issues associated with wetland loss in Louisiana. Visit their Internet site:
www.marshmission.com



RESOURCES

BOOKS

Barcott, H., Lawrence, J., Bacot, B., & Magill, J.T. (2000). *Marie Adrien Persac: Louisiana artist*. Baton Rouge, LA: LSU Press.

Boyer, M., & Edwards, J. D. (eds.) (2001). *Plantations by the river: Watercolor paintings from St. Charles Parish, Louisiana by Father Joseph M. Paret, 1859*. Baton Rouge, LA: LSU Geoscience Publications.

Delehanty, R. (1996). *Art in the American South: Works from the Ogden collection*. Baton Rouge, LA: LSU Press.

Gruber, R. J., & Houston, D. (2004). *The Art of the South: 1890-2003*. London, England: Scala Publishers Ltd.

Pennington, E.C. (1991). *Downriver: Currents of style in Louisiana painting, 1800-1950*. Gretna, LA: Pelican Publishing,

Saitzyk, S.(1987). *Art hardware: The Definitive guide to artists' materials*. New York: Watson-Guption Publications, Incorporated.

Sonnier, F. (2002). *From small bits of charcoal: The life & works of a Cajun artist*. Lafayette, LA: Acadian House Publishing.

Wiesendanger, M., & Wiesendanger, M. (Eds.) (1971). *Nineteenth century Louisiana painters and paintings*. Gretna, LA: Pelican publishing.

PLANT IDENTIFICATION GUIDES

Crockett, L. J. (2004). *The field guide to weeds*. Longmont, CO: Main Street Press.

Eastman, J. (2003). *The book of field and roadside: Open-country weeds, trees, and wildflowers of eastern North America*. Mechanicsburg, PA: Stackpole Books.

Grimm, W.C. and Kartesz, J. (1993). *Illustrated book of wildflowers and shrubs: The comprehensive field guide to more than 1,300 plants of eastern North America*. Mechanicsburg, PA: Stackpole Books.

Plotnik, A. (2000). *Urban tree book: An uncommon field guide of city and town*. New York: Crown Publishing Group.



WEB SITES

List of Louisiana museums

<http://www.sos.louisiana.gov>

Ogden Museum of Southern Art: Education page

<http://www.ogdenmuseum.org/education/index.html>

Lists of Louisiana Artists

http://listingslouisiana.com/Arts_and_Crafts/Artists/complete.asp

<http://louisiana-artists.com/>

The Vanishing Wetlands: Two Views

www.marshmission.com

Dye History from 2600 BC to the 20th Century

<http://www.straw.com/sig/dyehist.html>

How Watercolor Paints are Made

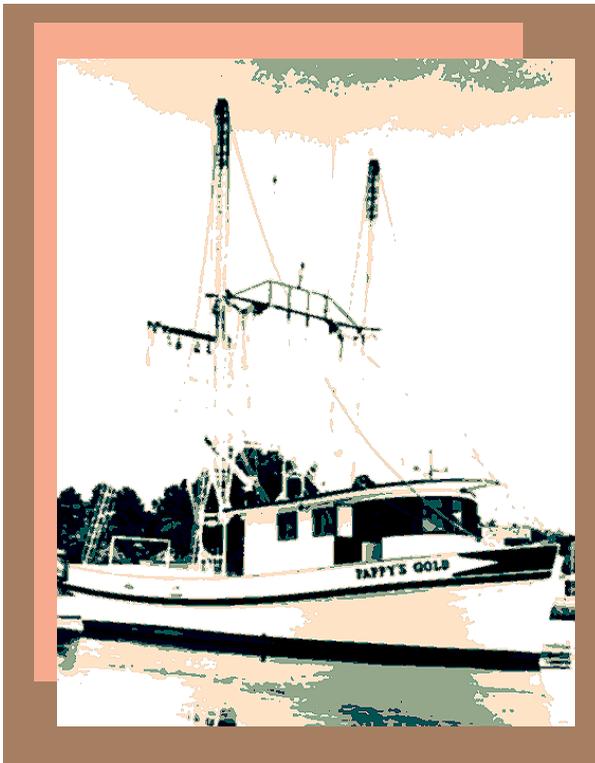
<http://www.handprint.com/HP/WCL/pigmt1.html>



Lesson Ten:

“Mamas, Your Babies Grow Up To Be Cowboys” or ... —CULTURE AND

CAREERS IN THE BARATARIA-TERREBONNE ESTUARY



Setting The Stage



For as long as we can remember, there have been people making a living off the natural environment in the Barataria-Terrebonne estuarine region.

Fishers, shrimpers, crabbers, trappers, hunters, oil-field workers, chefs and cooks, boat-builders, and other occupations are all familiar sights along the bayous and in local businesses. These traditional ways of making a living reflect our multi-national culture. Each immigrant group who settled in the Barataria-Terrebonne Estuary—French, Acadian, Filipinos, Islenos, Germans, Vietnamese, Hispanic, Yugoslavian, Croatians, Africans and others—has added to the rich “gumbo” of our south Louisiana lifestyle. But our history goes back farther than recent memory alone.

TEACHER, ask your students to . . .

Close your eyes and imagine you are a Choctaw or Houma Indian stalking a deer in the 1700s . . . or a woman making moss mattresses in the 1800s . . . or a trapper harvesting the abundant mink and muskrat in the early 1900s. What things can you draw to express this view of early life in the Barataria-Terrebonne Estuary? How would you like to express these things in a mural? Have you ever seen a mural in a public place? What affect can a mural have on the people who view it? What symbols can we use in a mural about life in the Barataria-Terrebonne Estuary? What are the things most important to you that should be portrayed?”

Objectives

STUDENTS WILL

- **design a class mural depicting scenes from life in the Barataria-Terrebonne Estuary.**
(They could also use their “I am A Child of the Estuary” poems.)
- **explore their cultural heritage through artistic expression and historical research.**
- **interview viewers about the effect the mural has on them. (Use questions such as: How do you feel? What is your favorite scent? What don’t you like?)**

MATERIALS

- *I Am A Child of the Estuary* poems—written by the students
- Pictures or images of murals, as seen on buildings in the Barataria-Terrebonne Estuary as well as in museums, such as the Bayou Terrebonne Waterlife Museum
- Pictures, posters, or postcards of scenes from the BTE
- Computer with Internet access, if needed
- Handout: *Planning our Mural* (p.7)
- Art supplies (for wall mural or paper mural): yarn/string, crayons, markers, paint, butcher paper, tacks/pins, construction paper, scissors, tape
- Student journals
- Human resources
- CD player and music selections (optional)

GETTING READY

1. Students will research examples of Louisiana life via library, computer lab, Internet sources, or films such as “Haunted Waters, Fragile Lands: Oh! What Tales to Tell” (BTNEP video).
2. Decide placement of the class mural. If using a wall is not possible, use plywood sheets or butcher paper.
3. The students will think-pair-share ideas with each other. They will work in small groups while planning and painting.
4. Divide the class into small groups, with each group responsible for gathering information on various historical occupations in the estuary.
5. Decide whether student groups will select their own subject or be assigned one to research.
6. Decide whether to assemble the mural as one unit or as separate panels.
7. Each group will be responsible for gathering information concerning one panel or one area of the mural. This may also include interviewing older residents of the local community to benefit from their input. One resource is
Dean, P., Daspit, T. & Munro, P. (1998). *Talking gumbo: A teacher’s guide to using oral history in the classroom*. T. Harry Williams Center for Oral History: Louisiana State University: Baton Rouge, LA.

PROCESS

1. Have students research images for mural ideas.
2. In groups of three or four, students review the pictures and other information gathered during their research.
3. Ask each student to select one element of interest from his or her research and write a reflective paper discussing facts discovered about the subject.
4. Tell the students that they will be assessed according to the quality of their research, the organization of information, clarity of writing, and dedication to the task. In addition they will be assessed according to group cooperation, journal entries and individual reports.

5. Students should decide what things are most important for them to portray. Ask them to consider how they can best use symbols or pictures to make their point about life in the estuary? Have them brainstorm a list: "Ideas for our Mural". Direct them to use the handout *Planning our Mural* to assist in their decision-making process.
6. Using their researched information and their list of ideas as inspiration, each group of students will prepare a rough sketch of its panel or section of the mural. Use pencil and view it as a work in progress.
7. The mural should create an emotional quality or feeling that matches the topic.
8. Put each group's drawings together to plan the class mural.
9. Transfer the sketches to the wall (or plywood or butcher paper). If needed, you and the students can use an overhead projector or the grid method to sketch onto the mural surface.
10. Practice time: Students will free-draw some of their ideas on paper with pencils. They should practice using paint and different size brushes to "paint" the drawings. That will help them decide which colors will be best to use for their section of the mural.
11. Once students are sufficiently competent working with paint and brushes, they will begin painting on the mural surface, using their sketches as a guide.

NOTE: If it is not possible to paint the mural on a wall, an acceptable alternative would be wood panels. Use the following materials:

- Primer: white or black (Prime the board before drawing the mural)
- 1/4" Plywood cut in two 4' x 6' sections, or desired size
- 1" x 2" Wood studs for framing on backside
- Latex house paint in several colors, or outdoor paint if needed
- Different size brushes
- Pencils
- Markers
- Paper

12. When each group is finished with their section of the mural, they may choose to help others complete their section or begin to paint the background.
13. Each group should solicit feedback from other groups and from the teacher. Have them finish painting details and outline sections with black.
14. To celebrate completion of their masterpiece, all participating artists should sign the mural.
15. Schedule a ceremonial unveiling of their completed mural for the school community.

QUESTIONS FOR JOURNALING

1. Compare and contrast the figures in the mural. If you use quotations, do the quotations share a unifying theme?
2. How are the panels or parts of the mural similar and different from one another in the Principles of Design? (Refer to the handout *Planning our Mural*.)
3. Can murals have an effect on the way people feel about a location and on the viewers? How does the mural make you feel when you look at it?
4. What were the pros and cons of working together as a group instead of alone?
5. What can you "say" through the art of a mural?
6. What symbols did you use to project your message?
7. Which do you think are stronger, words or pictures? Why?

ASSESSMENT

ASSESSMENT # 1 REFLECTIVE WRITING:

Students will take one element of interest from their research and write a reflective paper discussing facts discovered about their subject. Drafts and revisions should be done before the final paper is submitted. Artwork and/or pictures should be included. At least one paragraph of the paper should explain what the student painted and how it relates to the culture of the BTE.

ASSESSMENT #2 INFORMATIVE WRITING:

The student will compose an artist's statement of approximately one page in length that clearly explains what is represented in the mural. This statement should explain all parts of the mural and summarize the mural's intended message.

To create a rubric, refer to Kathy Schrock's Guide for Educators Web Page
<http://school.discovery.com/schrockguide/assess.html>

EXTENSIONS

Students can create a large-scale map of the BTE using clay and/or other malleable materials. Locations of local importance can be marked on the map. If necessary, these can be keyed to individuals or events on the mural.

RESOURCES

WEB SITES

Hugo Gellert's Seward Park Murals: Lessons on how to paint a mural
<http://newdeal.feri.org/gellert/lesson.htm>

Art and Social Studies lessons for middle school students based on the “Detroit Industry” mural by Diego Rivera
<http://www.dia.org/education/rivera/index.html>

Haring Kids Lesson Plans for Parents, Teachers, Institutions: “How to Make A Mural”
<http://www.haringkids.com/lessons/envs/live/htdocs/lesson119.htm>

“Haunted Waters, Fragile Lands: Oh! What Tales to Tell” video or video clips, available from BTNEP.
<http://educators.btnep.org/default.asp?id=61>

HANDOUT:

PLANNING OUR MURAL

THINK ABOUT:

- Will the mural contain symbols, cut-out pictures, maps, quotes, color, tracings, etc.?
- Will there be a central figure in the panel?
- Do we want to include a quotation?
- How do the pictures on both sides of the central figure relate to the figure or to the quotation?
- How will you organize the separate images into one mural?
- What design principles will unite each group's work into one cohesive unit?
- What is the connection between the images on the right side of the mural and the images on the left side?
- If you decide to work each part of the mural around a central figure, select an individual to feature in the mural, someone whose life and work embodies the ideas you want to portray. If desired, select a representative quote from that individual. Choose the quote on its strength as an idea, as well as on its ability to be represented visually.

CONSIDER:

THE PRINCIPLES OF DESIGN

REPETITION	Will we use patterns or elements over and over throughout the mural? Will we use lines, shapes, colors, or textures to create patterns?
BALANCE	Will the mural be symmetrical or asymmetrical? (Will both sides of the mural look almost the same or will each side look different?)
CONTRAST	Will we use complementary colors or opposite colors?
CENTER OF INTEREST	Will the mural have a focal point? (What element will you become aware of first? How will we draw your eyes to this particular part of the mural?)
MOVEMENT	How will the eyes move around the mural?
UNITY	How will the mural come together as a whole?



Lesson Eleven:

Cajun Music — Traduire (To Translate)



Setting The Stage



Wetlands have been the home of the Cajun people for several hundred years. The bounty of the wetlands including the seafood, forests, oil and gas, furbearers and rich soil has been the foundation for building and sustaining Cajun communities. Like many cultures, these resources have shaped the way of life so that the separation of the people and the land is impossible. The celebration of this relationship is expressed in many ways, especially through the arts. This relationship is recorded in paintings, stories, dance and, especially, song. Cajun music has become popular worldwide. It originated as a way to tell stories and express feelings that were passed on from generation to generation. For one of the best ways to remember facts and events is through song. The melody is catchy so you don't usually forget it once you start to sing or play a few bars. In this way, Cajun musicians passed down the importance of the wetlands to their culture.

The major difference between Cajun music and other music, like country or rock, is that it is mostly sung in Cajun French. For those who do not speak Cajun French, it is hard to understand the lyrics that express the meaning of the songs. Through translations, though, there are important lessons to be learned from Cajun songs about the culture and history, and about the importance of wetlands.

One musical family that embodies the Cajun culture and its love of the wetlands is the Michot family. Their band, Les Freres Michot (The Brothers Michot or The Michot Brothers) has recorded a CD entitled, "La Roue Qui Pend," which has several songs that express the family's love of the land, especially the marsh. As described in the liner notes of their CD, "La Roue Qui Pend" (The Hanging Wheel) is the name of the Michot family camp. In south Louisiana, the term "camp" refers to a secondary residence, usually located in a natural or undeveloped landscape, that is used as a base for outdoor recreation, for social functions, and as a refuge or retreat from urban life or the workplace. They describe the importance to the family of their access to wetlands: "The camp was about 10 miles from the Michot home, close enough so that when the kids got older they were able to ride horses or bicycles there for camping trips, hunting, frogging, hiking, and swimming. There was always plenty of music played at the camp. Many a night was passed with a fire in the hearth, a gumbo on the stove, and the music of the fiddle, accordion, and guitar until the wee hours of the morn."

This lesson is based on one of the songs from this CD, “La Valse de la Meche Perdue.” The brothers write, “The songs are centered around the theme of the environment and the close relationship the Michots, and Acadians in general, have to the land. As such, these songs represent the Michots’ own style of preserving traditional, acoustic Cajun music while accenting a strong vocal component.”

Tommy Michot, who plays accordion for the band, wrote the song “La Valse de la Meche Perdue.” Tommy is a wetland biologist by profession. He said, “I wrote this song to depict the link between the loss of wetlands and the loss of the Acadian French culture in coastal Louisiana.”

MATERIALS

- Copies of the handout *English Version of Song* with the lyrics in English to the song, “*La Valse de la Meche Perdue*” by the band *Les Freres Michot* (p. 6)
- Copies of the *Cajun French Version of Song* (p.7)
- The band’s CD, “*La Roue Qui Pend*” (To purchase this CD Google the title; there are many Web resources. If you want to purchase it from a Louisiana company go to www.flattownmusic.com. Flat Town Music is a subsidiary of the publication company, Swallow Publications, Inc. that produced the CD.)
- An English to Cajun French dictionary or an English to French dictionary.
- Copies of the handout *Translation Worksheet* (pp.8-9)

Objectives

STUDENTS WILL

- **translate Cajun French words into English.**
- **describe the unique relationship between Cajun musicians and wetlands.**
- **interpret the lyrics in their own words regarding the song’s message about wetlands.**

GETTING READY

1. Play the song to familiarize yourself with it. Read the *English Version of Song* to get a sense of the meaning of the lyrics. Play the song again while looking at the phrases in the *Cajun French Version of Song*. Try to match up the phrases with the English lyrics. You may have to play the song several more times to catch these.

2. Refer to an English to French Dictionary (See “References.”).
3. Make copies of the handout *English Version of Song*.
4. Make copies of the handout *Cajun French Version of Song*.
5. Make copies of the handout *Translation Work Sheet*.

PROCESS

1. Play the song “*La Valse de la Meche Perdue*” for the students.
2. Hand out *English Version of Song*, and discuss the lyrics.
3. Hand out *Cajun French Version of Song*, and discuss the Cajun French phrases.
4. Play the song again and have the students read the Cajun French phrase while listening to it sung. You may have to play the song several more times to catch these.
5. Hand out the *Translation Work Sheet*. Have the students match the English lyrics with the Cajun French phrases. They can do this in class in cooperative groups with copies of the dictionaries or the use of Cajun French Dictionaries online:
<http://www.cajunradio.org/language.html>
[http://appl003.lsu.edu/artsci/frenchweb.nsf/\\$Content/Cajun+French?OpenDocument](http://appl003.lsu.edu/artsci/frenchweb.nsf/$Content/Cajun+French?OpenDocument)
6. Have the students fill in the *Translation Work Sheet* matching the English lyrics to the Cajun French phrases. This does not have to be exactly word for word. It is just to get a general idea of the English and Cajun French meanings.
7. Once the students have completed this task, either in class or as a homework assignment, ask them to reflect on and express their feelings and thoughts regarding the message/meaning of the song.
8. Ask them to hand in their work sheets and their reflections.

QUESTIONS FOR JOURNALING

1. Based on the lyrics of the song, what is the meaning of wetlands to the Cajun musician? Does the song help describe the meaning of wetlands to most Cajuns?
2. Does the song mean anything to you about wetlands? About Cajuns? About Cajun music? About the Cajun French language?
3. Did the song affect you emotionally?
4. Did you like the song? Why, why not?

ASSESSMENT

WORK SHEETS:

Assess the students' understanding of the song by checking how closely they correlated the English lyrics with the Cajun French phrases.

A
exactly

B
10 errors or less

C
11-20 errors

D
more than 20 errors

REFLECTIONS:

Assess if the students comprehended the meaning of the song regarding the wetlands.

A
exactly

B
for the most part

C
somewhat

D
not at all

REFLECTIONS:

Assess how effectively the students conveyed their thoughts and feelings about the song, the message and the culture.

A
compelling

B
thoughtful

C
mechanical

D
barely, not at all

EXTENSIONS

- Have students find other songs to translate.
- Have students write some lyrics of their own related to wetlands and then translate them into Cajun French.
- Have students write lyrics to their own Cajun song using the French-Cajun words they have learned. Have another student translate as an alternative assessment.

RESOURCES

BOOKS

Bruce, C., & Gipson, J. (2002). *Cajun French-English English-Cajun French: Dictionary and Phrasebook*. New York, NY: Hippocrene Dictionary and Phrasebooks.

Webster, M, (2002). *Merriam-Webster's French-English Dictionary*. Springfield, MA: Merriam-Webster.

WEB SITES

Cajun French Dictionary online
<http://www.cajunradio.org/language.html>

Les Freres Michot
<http://groups.msn.com/lesfreresmichot/>



LOST MARSH WALTZ

Oh, my dear boy, you know it hurts me
When I look at the marsh and I see how much of it is lost.
When I was young it was miles and miles of grasses.
Now all the marsh is like a sea of salt water.

When the Acadians arrived in Louisiana,
It was because of the marsh that they were isolated.
Isolated from the influence of the [English-speaking] Americans.
Isolated to preserve our language and our culture.

After the Great Flood of 1927,
The Army (Corps of Engineers) began to build the levees.
And all the sweet (fresh) water that should flow into the marsh,
(Now) flows between the levees to the Gulf of Mexico.

Without the sediments and the nutrients from the River,
The marsh began to subside and to die.
How many years before our culture will follow the marsh?

By Les Freres Michot, Flat Town Music, BMI.
Copywrite, 2003 SwallowRecords, a Division of Swallow Productions, Inc.
P.O. Drawer 10, Ville Platte, Louisiana 70586
(Reprinted with permission from Swallow Publications, Inc.)



HANDOUT:

CAJUN FRENCH VERSION OF SONG

LA VALSE DE LE MECHE PERDUE

Oh, mon cher garçon, tu connais ca m'fait de la peine,
Quand je regarde la meche et je vois ques c'est perdu.
Quand j'étais petit c'était miles et miles des herbes.
A cette huere tous les meche c'est comme une mer d'eau salee.

Quand les Acadiens sont arrives dans la Louisiane,
C'était par rapport aux meche qu'on etait isole.
Isole de l'influence des Americians.
Isole pour preserver notre langue et notre culture.

Après la grande eau haute de dix-neuf cent vingt-sept,
L'armee a commencer a batir les levees.
Et toute l'eau douce qui devrait courir aux meches,
Elle court entre les levees jusqu'au Golfe du Mexique.

Sans les sediments et la nourriture du fleuve,
Les meches ont commencer a s'abaisser et a mourir.
Combien des annes avant (que) notre culture suivra les meches?

By Les Freres Michot, Flat Town Music, BMI.
Copywrite, 2003 SwallowRecords, a Division of Swallow Productions, Inc.
P.O. Drawer 10, Ville Platte, Lousiana 70586
(Reprinted with permission from Swallow Publications, Inc.)

Lesson Twelve:

Bals de Maison—HOUSE DANCES



Marian Brister Martinez, artist. watercolor sketch on paper.
Printed with permission.

Setting The Stage



When the Acadians (Cajuns) first arrived in Louisiana in the 1700s, many of them settled in the wetlands in the southern part of the state. These wetlands (swamps and marshes) isolated the Cajuns from other population centers. Because of this isolation, they couldn't just go into town to hear music and dance; they needed to entertain themselves.

One of the most popular styles of Cajun music back then, and still today, is called the *bals de maison* (house dances). These dances were held at people's houses because there was nowhere else to go at the time. Adults would put the children to bed (*fais do do* means “go to sleep”—*do do* being a form of *dormier*—to sleep) and clear the largest room of its furniture to make a dance floor. The *fais do do* is the more common term used for Cajun dances today. The instruments used initially were the fiddle and triangle. Historians believe that the Cajuns brought the two instruments from Canada because they were small and easy to carry on the long journey to Louisiana. Later the guitar, accordion, and upright bass were added for the acoustic sound.

Many of the dances were held seasonally when the resources of the wetlands were plentiful. For instance, parties were held because there was a good shrimp season or there was a good harvest from the rice farm.

Several styles of dancing are used with Cajun music: the Cajun two-step, the Cajun waltz, and the Cajun jitterbug. In the two-step the dance partners perform to fast music with a 4/4 beat. Couples move in a counter-clockwise direction around the floor—the lead dancer going forward, the follower backward. There are no turnouts, spins, or other fancy moves in the traditional Cajun two-step. The waltz has a distinctive 3/4 rhythm that accents the first beat and has three beats per measure—ONE, two, three, ONE, two, three. Waltz partners perform natural opposites, moving in a box-like pattern. The jitterbug is much faster. (Refer to the “Rhythm of the Tides” lesson for an explanation of rhythm.) Since there is no prescribed sequence of steps, the hand and arm movements are the essence of the jig.

Objectives

STUDENTS WILL

- **learn why the wetlands were (and still are) an isolating factor for the Cajun culture.**
- **learn how Cajuns used dance and music as a means of entertainment and socializing.**
- **learn that the harvest from the wetlands was used as a reason to celebrate through music and dance.**
- **experience the music and dance of the Cajuns.**

MATERIALS

- CD of Cajun dance music (Refer to “Resources.”)
- VHS or DVD of Cajun dance lessons (Refer to “Resources.”)

GETTING READY

1. Refer to the Internet sites listed under “Resources” to become familiar with Cajun dance styles.
2. Order CDs and VHS/DVDs of Cajun dance music (Refer to “Resources”).
3. Poll the faculty, staff, students, family members, community members to find volunteers to demonstrate/teach the three styles of Cajun dance.

PROCESS

1. Review the background material with students.
2. Research the role of music and dance in Cajun culture.
3. Play a few Cajun dance songs from the CDs. Make sure to play at least a two-step and a waltz (The CD will match songs to dance steps.).
4. Show the VHS/DVD of Cajun dance lessons.
5. Have the volunteer dance instructor(s) demonstrate the dances.

6. Make room in the classroom for the students to dance.
7. Ask students to pair up for dancing or try the steps on their own.
8. Put on the music and let them dance.
9. Have the students work in groups to create their own “Dance of the Wetlands.” The dance should be their interpretation through movement of a concern about the wetlands.
10. Have the students write a description of their dance to illustrate how they used movement to express concern about the wetlands.
11. Ask students to either map the steps for the class to dance or make an instructional videotape. For an example of how to describe a dance and map basic steps, refer to the following URL:
<http://www.dancetv.com/tutorial/waltz/waltz1.html>

QUESTIONS FOR JOURNALING

1. How did you feel when you first heard the music? Did it make you want to move?
2. How did it feel to dance? Did you feel like you were celebrating the wetlands?
3. Did you follow the steps of a particular type of Cajun dance exactly or did you improvise?



Computer art by Marian Brister Martinez.

ASSESSMENT

Activity	Criteria	YES = 3-5 points	NO = 0-2 points	Score
Dance lesson	Participation	Enthusiastic; tried a lot; really got into it	Moaned and groaned; didn't try or tried a little	
Dance of the Wetlands	Participation	Enthusiastic; tried a lot; really got into it	Moaned and groaned; didn't try or tried a little	
Dance of the Wetlands	Expression	Reflected feelings/emotions	Just going through the motions	
Dance of the Wetlands	Choreography	Movement matched the music	Movement not connected to music	
Dance Description	Accuracy	Description of the dance and the steps matched the actual performance	No match between the description of the dance and the steps and the actual performance	
Dance Description	Interpretive Message	Expressed concern about the wetlands	Vague acknowledgement of the wetlands	
Map the steps or make an instructional videotape	Replication	Accurately portrayed the dance and it could be replicated	Description or demonstration difficult to follow	

Total Possible Points = 35

EXTENSIONS

Have the students research Native American and African American dances and perform them for the class. Also, have them describe what the dances mean.

RESOURCES

CAJUN DANCING:

The following sites offer tutorials with photographs or animated dance steps:

http://www.tabasco.com/music_stage/dance_lessons/index.cfm

<http://www.dancetv.com/tutorial/waltz/waltz1.html>

<http://www.centralhome.com/ballroomcountry/cajun-zydeco.htm>



The following sites sell Cajun dance CDs:

<http://www.bestprices.com/cgibin/vlink/712136701125BT>

<http://www.louisianamusicfactory.com/default.asp>

http://www.tabasco.com/music_stage/buy_cds/index.cfm

Marian Brister Martinez, artist.
Pastel & charcoal on paper.
Printed with permission.

Lesson Thirteen:

Dialogue — DISAPPEARING WETLANDS



Setting The Stage

My work in the last few years has been a process of allowing myself to paint subjects that I really cared about—finding my own place that is special to me. My Grassy Lake pictures are more than a series of paintings for me. They represent the ongoing life of an ancient lake swamp in which I am privileged to participate.

~ David Bates

North Texas Institute for Educators on the Visual Arts (n.d.) retrieved December 21, 2004 from <http://www.art.unt.edu/ntieva/artcurr/alsp/bates.htm>

David Bates, born in Texas in 1952, loved and appreciated the unique beauty of the wetlands in Texas, Louisiana, and Arkansas. In particular he was enthralled by the wildlife, water, and light of Grassy Lake in southwestern Arkansas, and in 1982 he painted *Grassy Lake*, currently on display at the New Orleans Museum of Art.



David Bates, “Grassy Lake,”
oil on canvas, 1982, New Orleans Museum of Art:
Museum purchase P. Roussel Norman Purchase Fund and
Gift of Mr. And Mrs. Claude C. Albritton, III, 83.27

A dominant theme in Bates’s work is the relationship of humans to nature. Grassy Lake serves as a catalyst for inspiring students to research and create dialogues that will educate people about the Louisiana wetlands. Students will record their dialogues on audiotape and find appropriate local and national venues.

Objectives

STUDENTS WILL

- analyze David Bates' painting, *Grassy Lake*, generating and interpreting a list of what they observe in the painting.
- improvise a dialogue between two people in a canoe in a swamp.
- write a dialogue about the disappearing wetlands in Louisiana, using the writing process, i.e., prewriting, drafting, reviewing, and editing.
- research the wetlands of the BTE for the purpose of creating a script that will be shared with an audience.
- critique, edit and revise each others' work.
- learn techniques needed to create a tape of their dialogues.
- use the Internet to find an appropriate audience with whom to share their taped dialogues.
- make a fact page or brochure to provide additional wetlands information to their audience.
- record daily reflections in their journals about the process.

MATERIALS

- print of *Grassy Lake* (p.11)
- two caps (optional)
- copy of opening lines
- access to computers and Internet
- audiotapes
- paper/pens
- canoe paddles, real or cardboard (optional)
- journals
- resource books
- Handout: *Checklists* (pp.7-8)
- tape player

GETTING READY

- Acquire a print of *Grassy Lake*
- Make copies of opening lines (Refer to “Process,” Step #7)
- Gather materials
- Make copies of *Checklists*
- Download information on David Bates (Refer to “Resources.”)

PROCESS

1. Ask students to observe quietly the print, *Grassy Lake*, for approximately three to five minutes.
2. Partner students to record everything they observe in the print.
3. Briefly share observations with the whole class.
4. Discuss what inferences can be made from what was observed, using the following questions:
 - Where are they?
 - Who are they?
 - What is their relationship to each other?
 - Why are they there?
 - How are they feeling about being there?
5. Ask the following questions when discussing the artistic attributes of *Grassy Lake*:
 - What is the focal point, the portion of the painting that draws your attention? (the men’s faces)
 - In what direction do your eyes go when looking at the painting? (The slanted oars pull the viewer’s eyes diagonally, across the painting.)
 - How does Bates use shapes? (The objects are composed of geometric shapes—rectangles, circles, triangles, and ovals—to illustrate men’s legs and arms, the canoe, lily pads and flowers.)
 - Does this painting look realistic? (No)
 - How does it portray the details and the beauty of the swamp? (Answers will vary.)
 - From what point of view is it painted? Why? (The point of view is between bird’s eye view and a straight-on view; allowing us to see both men’s faces)

- How does Bates' style of painting portray a connection between the two men? (the fore shortening [a technique that gives the illusion of depth to a person/object so that it appears to push forward or go back into space] shows the closeness both physically and figuratively, between the two men)
 - How else does Bates' style of painting portray a connection between the two men?
6. Have students write words and phrases in their journals describing feelings they have about the painting.
 7. Role Play: Initiate dialogue in the canoe by printing the following "One Liners," cutting them out and giving one question/comment to each pair in the canoe.
 - What was that sound?
 - I don't know if this was such a good idea.
 - This reminds me of the last trip we had together.
 - How will we get help?
 - Are you sure that you know where we are?
 - Why did we come here?
 - Did we take a wrong turn?
 - I have never done anything like this before.
 - Did you see that?
 - It's getting late, shouldn't we turn back?
 - Was that lightning?
 - How will we turn around since the vegetation is so thick?
 - What was that?
 - Did you hear thunder?
 - There is nothing like this were I come from.
 - That is amazing; what is it?
 - This wouldn't have happened yesterday.
 - Will it always be like this?
 - Are you going to miss this?
 8. Give students five minutes to improvise a dialogue using their opening lines.
 9. Allow the partners to wear the caps and hold the oars as they share their dialogues with the whole group.
 10. Critique the performances, e.g., authenticity, voice, facial expression, movements, etc.
 11. Share background information about David Bates and Grassy Lake, Arkansas. (Refer to "Resources.")
 12. Have the students research the wetlands of Louisiana. A good place to start is the URL <http://www.marshmission.com>, a chronicle of the artistic journey of naturalist-photographer C. C. Lockwood and landscape artist Rhea Gary into Louisiana's wetlands.

13. Pass out copies of the handout *Checklists*. Review the criteria for “Dialogue Writing.”
14. Use the dialogue *If We Don’t Protect the Wetlands—Our Name is Mud* (pp.9-10) as a practice activity, illustrating how to write a script as well as how to make an audiotape.
15. Place students in cooperative groups of three.
16. Give them time to write a three-to-five minute dialogue about the disappearing wetlands of the Barataria-Terrebonne Estuary.
17. Practice performing the dialogues.
18. Review and edit the script, if necessary.
19. Review the criteria for “Making an Audiotape” on the handout *Checklists*.
20. Make an audiotape of the dialogues.
21. Critique and edit the audiotapes, if necessary.
22. Discuss possible local/state/national/international audiences to receive the tapes.
23. Use the Internet to find an audience to receive the tapes.(Check out ePALS in the “Resources.”)
24. Ask students to research and create an information flier about Louisiana’s disappearing wetlands that will accompany the tape.
25. Review the criteria for “Designing an Information Flyer” on the handout *Checklists*.
26. Critique and edit the information flyers, if necessary.
27. Send tapes and fliers to an authentic audience.

EXTENSIONS

1. Develop a relationship with a school in another state and share information about your habitats.
2. Send tapes to a local radio station.
3. Have a contest and select the best tapes and flyers. Send them to your politicians and policy makers. Send copies to the BTNEP.



ASSESSMENT

Use Rubistar to create rubrics for the presentation, tape, and flyer. The URL for Rubistar is <http://rubistar.4teachers.org/index.php>

RESOURCES

About the Artist: David Bates

<http://www.art.unt.edu/ntieva/artcurr/alsp/bates.htm>

Art Education, Collaboration and the Internet

This is a how-to Web site on integrating the Internet and new technologies into the art curriculum.

<http://www.artjunction.org/articles/collab2.html>

ePALS

ePALS is the world's leading provider of school-safe email and collaborative technology for the educational market. EPALS connect over 4.6 million students and educators in 191 countries for classroom-to-classroom projects and cross-cultural learning in the world's largest online classroom community.

<http://www.epals.com/>

Vanishing Wetlands: Two Views

<http://www.marshmission.com>



WRITING DIALOGUE

Your script should include:

- a sense of place – in the wetlands, in a canoe;
- a narrator;
- an introduction using vivid descriptive words that capture the essence of the wetlands;
- dialogue between two people—one is the guide who has lived in the area all his life, and the other is a traveler on his first trip to the wetlands;
- crisp dialogue that bring the characters to life;
- clear description of a problem, concern, issue, or feeling;
- dialogue that “rings true;”
- dialogue that creates an emotional impact—there is a connection between information and feeling;
- dialogue that educates the audience about the wetlands’ environment;
- evidence of knowledge about the wetlands, its plants, and animals;
- sufficient dialogue for a performance that lasts between three and five minutes;
- citation of resources.

MAKING AN AUDIOTAPE

Your completed tape should:

- be easily understood;
- contain subtle swamp sounds;
- last between three and five minutes;
- have an emotional impact on the audience.

When you are recording your dialogue:

- vary the pitch of your voice to convey emotion;
- vary the rate of speech—slower to convey suspense, faster to evoke action;
- articulate clearly, using adequate volume;
- shift characters smoothly; it should be easy for the listener to identify who is speaking.

DESIGNING AN INFORMATION FLYER

Your information flyer should:

- inform the audience of the importance of the wetlands;
- inform the audience of the future of the wetlands if nothing is done, and how this will impact Louisiana and the United States;
- consist of short, concise bullets;
- include an eye-catching graphic that is related to the message.

Review and make sure that:

- all facts are accurate;
- capitalization, punctuation, grammar, and spelling are correct;
- vocabulary is appropriate for the audience; words are defined, if necessary;
- information is organized;
- formatting is attractive and attention getting, i.e., type and size of font, bold text, use of color;
- layout and design look professional, e.g. neat and attractive.



Marian Brister Martinez, artist. Printed with permission.





HANDOUT:

IF WE DON'T PROTECT THE WETLANDS— OUR NAME IS “MUD”

Created by Amy Preston and Eleanor O'Quinn
Elementary Students at Louise McGee School

Bobby is an old Cajun who lives on the banks of Lac des Allemands. Elton is an up-and-coming cosmetics consultant from New York City trying to determine if his company can use mud from Lac des Allemands for their new Mud Mask.

Bobby: I grew up here, you know. Spent my childhood on these banks and waters.

Elton: Did you now? Tell me more about this lovely mud.

Bobby: Look at those cypress trees! Have you ever seen anything more beautiful?

Elton: Well, actually (under his breath)yeah, sure.....

Bobby: Do you realize that a few years ago that this very spot would still be on dry land? This part of the lake has eroded away.

Elton: So....there's plenty of mud here. About the mud.....

Bobby: The mud is at the bottom of the lake.

Elton: No, really....

Bobby: We lose an average of a football-field size chunk of wetlands every thirty minutes. Every thirty minutes, Glen! Think about that!

Elton: My name is Elton.

Bobby: Saltwater intrusion is destroying these trees. They are disintegrating... along with my childhood.

Elton: We want to market this mud as a facial treatment. Can you tell me a little bit more about it?

Bobby: (sharply) Hold your paddle right, will you?

Elton: Don't talk to me like that! Who do you think you are?

Bobby: I'm trying to get you to listen to my story. These swamps are a habitat for muskrats. I had a pet muskrat. His name was Spot.





HANDOUT:

IF WE DON'T PROTECT THE WETLANDS— OUR NAME IS “MUD”, CONTD.

- Elton: I really don't care about muskrats. Do you know of any way to retrieve the mud from the bottom of the lake?
- Bobby: Spot died a few years ago, but his kin still live in these wetlands. These disappearing marshes and swamps are their home, Glen, and mine, too. They are dying!
- Elton: That's a shame. But perhaps the mud could brighten up their lives...and complexions.
- Bobby: ENOUGH WITH THE MUD, MAN! That is not the priority here. These swamps are like my youth! They are disappearing!
- Elton: Old dude, you're disappearing.
- Bobby: You've got that right, because our culture will disappear along with these wetlands. My grandfather owned this land. Doesn't that mean anything to you? Don't you care about anything other than yourself?
- Elton: Quite frankly, no. But the mud means a lot.
- Bobby: Did you see that Great Blue Heron just fly by?
- Elton: It was the same color as our most popular eyeshadow, Grecian Slate.
- Bobby: Don't you see? These wetlands are filled with potential. They are filled with inspiration for your makeup products. And they are dying because people don't care enough to fix the problems they're facing.
- Elton: The colors of this swamp do remind me of the colorful shades of makeup back home in New York. Have you ever been to New York? It's quite different from here.
- Bobby: This is my home, the only place I want to live. I'm trying to save my beautiful wetlands, while you are miles away putting makeup on beautiful faces.
- Elton: (Thoughtfully) I know it must sound like I don't care, but I didn't know how valuable these wetlands are. But I see the error of my ways! The swamp is beautiful, and it needs to be saved.
- Bobby: I can't believe you actually said that! But it is true. The swamp is a dying beauty, and it deserves our undying attention.

(Inspirational music)





David Bates, "Grassy Lake," oil on canvas, 1982, New Orleans Museum of Art:
Museum purchase P. Roussel Norman Purchase Fund and Gift of Mr. And Mrs. Claude C. Albritton, III, 83.27



Lesson Fourteen:

From the Sugar Cane Fields To the Easel—

THE MYSTERY OF GEORGE RODRIGUE'S BLUE DOG

My teachers influenced me the most. I suppose if I had to pick an artist, it would be Salvador Dali. I studied art, but you have to throw all that away and the art has to be truly yours. That is why I returned to Louisiana and painted what I knew.

~George Rodrigue

(W. F. Foy. Personal Interview. April 27, 2004)



Setting The Stage

Many artists have been inspired or influenced by the natural scenic beauty of wetlands of the Barataria-Terrebonne Estuary, and this is readily seen in their endeavors. Two such artists are Rhea Gary and C.C. Lockwood, who collaborated on "Marsh Mission," a yearlong project to bring national attention to Louisiana's disappearing wetlands.

(<http://www.marshmission.com>) The May, 2005 issue of *American Artist* features an eight-page article on Rhea Gary's work. C.C.

Lockwood is a nature photographer who has documented estuarine ecosystems and wildlife in a series of photographic works. His books have been invaluable in helping people discover the natural beauty of the estuary, as well as educating them about its issues. C.C. Lockwood is spotlighted in a newspaper article "Missionary of the Marsh," (May 30, 2004, p. E1) written by Chris Bynum, staff writer for *The Times-Picayune*. In the article, Lockwood describes the project's mission statement, "This is land that harbors value; land that supports the Cajun culture, history, and music associated with it..."

This lesson features a Cajun artist whose body of work has also been influenced by the beauty of our wetlands. The painter, George Rodrigue, born in New Iberia, Louisiana, finds his inspiration in Louisiana bayous and swamps and in Cajun culture. (For a brief biography, visit <http://www.georgerodrigue.com/index2.htm>.) He catapulted an image of his little blue dog representing *Loup-Garou*, a werewolf of Cajun legend, into a national pop phenomenon (Read his interview, pp.17-23). Students will explore the elements and principles of art as they apply their knowledge to the creation of a Rodrigue-inspired estuary pop image using Photo Shop Deluxe software, digital cameras, and Microsoft Word.



Loup Garou

George Rodrigue

Image reprinted with permission from
George Rodrigue

Objectives

STUDENTS WILL

- **define pop, abstract, and expressionistic art as it relates to Cajun artist George Rodrigue.**
- **define the elements and principles of art.**
- **view and analyze artistic elements and principles of the work of celebrated artists Jackson Pollock, Andy Warhol, Edvard Munch, and George Rodrigue.**
- **research the life of the artists George Rodrigue, Pablo Picasso, Andy Warhol, Jackson Pollock, and Edvard Munch to develop an understanding of abstract, pop, and abstract expressionist art.**
- **study pop, abstract, and abstract expressionist art genres and come to understand the type of art that inspires George Rodrigue.**
- **study in-depth the art of Cajun artist George Rodrigue and create a pop image using Photo Shop to recreate a Rodrigue-inspired pop image.**
- **depict elements (animal and landscape) of the BTE in their pop-inspired art.**
- **research and discuss the influence of the estuary on the artistic development styles of New Iberia artist George Rodrigue.**
- **develop their critical thinking skills as well as appreciation of art through the use of teacher-generated art critique questions.**

MATERIALS

HANDOUTS:

- *An Interview with George Rodrigue: Not Just a Cajun Guy Who Paints Dogs the Color Blue* (pp. 17-23)
 - *George Rodrigue's Artistic Styles* (p.9)
 - *How to Talk about the Elements & Principles of Art* (pp.12-13)
 - *History of Pop Art* (pp.10-11)
 - *Estuary Pop Art Procedures* (pp.14-15)
 - *Estuary Pop Art Rubric* (p.16)
- Copy of the following books by George Rodrigue: *Blue Dog Man*, *Why Is The Blue Dog Blue*, *Blue Dog*, and *Blue Dog Love*
- Copy of documentary about George Rodrigue (It provides video documentary as well as access to Rodrigue's galleries.) at <http://www.io.com/~gibbonsb/rodrigue.html>
- Copy of Doug MacCash's article (2004, May 23). "Top Dog." *The Times Picayune*, pp. E3-E6.
- Computers with Internet access as well as software programs—Photo Shop Deluxe and Microsoft Word
- Digital camera with extra batteries and discs (depending on type of camera)
- Photo-quality paper
- 8 x 11 inch black matting (from local frame shop or hobby store)
- CDs of assorted Cajun music
- Drawing and watercolor paper
- Markers
- Paints
- Colored pencils
- Paint brushes

GETTING READY

1. Collect materials.
2. Practice creating pop images. You may want to arrange for an art teacher or talented art student(s) to facilitate the art activity.

PROCESS

WHOLE GROUP/SMALL GROUPS

1. Ask the students the essential question, “What is art?” and list responses on chart paper.
2. Provide students with several images that represent pop, expressionistic, and abstract art. (Use projector and laptop computer or downloaded images, art books or postcards.) Ask the students if they recognize any of the images? Can they identify the artist and genre?
3. Define pop, abstract, and expressionist art. Refer to handout: *George Rodrigue’s Artistic Styles*.
4. Show the images again and ask students to identify the genre. If needed, provide the names of the artists: Pablo Picasso, Jackson Pollock, Andy Warhol, Edvard Munch, and George Rodrigue.
5. Discuss elements and principles of art. Refer to handout: *How to Talk about the Elements & Principles of Art*.
6. Look carefully at the image of Edvard Munch’s *The Scream*. For an image as well as in-depth information about the painting, refer to the URL <http://www.ibiblio.org/wm/paint/auth/munch/>
7. In small groups have students use their handout to analyze and describe the elements and principles Edvard Munch used in his painting.
8. Ask the question, “What do you think was the artist’s purpose for creating this image?” Discuss Expressionism.
9. Assign Journal questions: “Why is the person in Edvard Munch’s painting screaming?” “How does Munch’s artistic style reflect the era (time period)?”
10. Break class into four groups. Assign one group Jackson Pollock’s *The Composition*, another group Picasso’s *Abstract Portrait 1*, a third group Andy Warhol’s *Soup Can*, and the fourth group George Rodrigue’s, *Loup Garou*. Each group will discuss the artistic style (i.e. abstract,

expressionism, pop, etc.), analyze the artistic elements and principles, and answer the question, “What is the artist’s message?”

11. Images can be downloaded from the following sites:
 - Paintings and related links for Jackson Pollock: <http://www.beatmuseum.org/pollock/jacksonpollock.html>
 - Official Picasso Web site: <http://www.picasso.fr/anglais/>
 - Biography of pop artist Andy Warhol: <http://www.warholfoundation.org/biograph.htm>
 - Rodrigue site providing video clip of artist at work, information about children and art as well as images of past and current work: <http://www.georgerodrigue.com/index2.htm>
12. Ask each group to share analyses with the whole class.
13. Read aloud passages from a George Rodrigue book such as *Blue Dog Man*. Show students Rodrigue’s artwork, emphasize his Cajun ancestry, and pay close attention to artistic elements and principles.
14. Pass out copies of the handout *An Interview with George Rodrigue: Not Just a Cajun Guy Who Paints Dogs the Color Blue*. Have students read and write notes in margins. Allow time for student discussion and questions. Or ask for three student volunteers to read the interview parts for the interviewer, George, and Wendy aloud.
15. Distribute handout *History of Pop Art*. Explore Internet sites such as the Index of Pop artists http://wwar.com/masters/movements/pop_art.html as well as the search engine focusing on art genres, such as Pop and Abstract Expressionism. http://www.artchive.com/artchive/pop_art.html. Look at art books.
16. Have students bring from home one “pop-”ular item (e.g., McDonald’s French fry container) or image of an item. Ask them to draw sketches transforming the object into Pop Art.
17. Ask students to research animals that live in the Barataria-Terrebonne Estuary. Ask them to draw sketches transforming the selected estuary animal into Pop Art. They can use a Microsoft drawing tool to draw their selected estuary animal or scan their sketches and save to a computer file.
18. Students will take a field trip to a habitat in the estuary to photograph the landscape of the estuary using a digital camera or locate an estuary photograph online.
19. All groups will use Photo Shop Deluxe to paste drawn animals (previously saved into a folder) into their digital estuary landscapes to create a Rodrigue-inspired image. Refer to handout *Estuary Pop Art Procedures*.



EXTENSIONS

- Using the drawn estuary animal image you created earlier, create a 3D image using household or found objects.
- Write a legend about your animal (inspired by the Cajun legend of the *Loup Garou*, told to George Rodrigue as a little boy).
- Use printmaking techniques (think Andy Warhol) and a popular image from contemporary society to create a series of post cards or note cards to raise money for a grade-level “Pop” festival celebrating the popular image (Why not write a letter to George Rodrigue and invite him to the festivities?).
- Plan a class culinary celebration honoring George Rodrigue’s Cajun heritage. Students will research and cook a Cajun dish to share with classmates and add recipes to a class cookbook.

RESOURCES

BOOKS

MacCash, D. (2004, May 23). Top Dog. *The Times Picayune*, pp. E3-E6.

McAinch, D., Rodrigue, G., & Rodrigue, W. (2001). *Blue dog love*. New York, NY: Harry N. Abrams Inc.

Baumbusch, B., & Rodrigue, G. (1999). *Many faces of the face*. New York, NY: Harry N. Abrams Inc.

Freundlich, L. S., & Rodrigue, G. (2002). *Blue dog*. New York, NY: Harry N. Abrams Inc.

Goldstone, B., & Rodrigue, G. (2002). *Why is blue dog blue?*. New York, NY: Harry N. Abrams Inc.

Danto, G., & Lewis, M. (2003) *Art of George Rodrigue: A Cajun artist*. New York, NY: Harry N. Abrams Inc.

McAinch, D., & Rodrigue, G. (2002). *A blue dog Christmas*. New York, NY: Harry N. Abrams Inc.

WEB SITES

This is an excellent search engine focusing on art genres, such as Pop and Abstract Expressionism, links to books and other sites.

http://www.artchive.com/artchive/pop_art.html

Wonderful site, provides video documentary as well as access to Rodrigue's galleries

<http://www.io.com/~gibbonsb/rodrigue.html>

Rodrigue site providing video clip of artist at work, information about children and art as well as images of past and current work

<http://www.georgerodrigue.com/index2.htm>

An online exhibit as well as related background information about the artist

<http://www.sec.state.la.us/ARCHIVES/rodrigue/rodrigue-index.htm>

An encyclopedia of Cajun culture

<http://www.cajunculture.com/People/rodrigue.htm>

Excellent site featuring Acadian artist, including George Rodrigue

<http://www.acadian-cajun.com/acadart.htm>

USA Today article focusing on George Rodrigue

<http://www.usatoday.com/gallery/bluedog/frame.htm>

The image of the dog in art, painting, photography, literature, theater, history, television & on the Web

<http://personal.uncc.edu/jvanoate/k9/artdogs.htm>

Index of Pop artists

http://wwar.com/masters/movements/pop_art.html

Biography of pop artist Andy Warhol

<http://www.warholfoundation.org/biograph.htm>

Online art encyclopedia

<http://www.artcyclopedia.com/history/expressionism.html>

Abstract expressionist

<http://www.chrissnider.com/component/option.com-wrapper/Itemid,59>

The Art Institute of Chicago

http://www.artic.edu/artaccess/AA_Modern/pages/MOD_glossary1.shtml

Edvard Munch Biography and Paintings

<http://www.ibiblio.org/wm/paint/auth/munch/>



Munch Museum

<http://www.gallen-kallela.fi/artnoir/Mmuseo.html>

Official Picasso website

<http://www.picasso.fr/anglais/>

Cool Picasso site for kids

<http://www.surfnetkids.com/picasso.htm>

Picasso Biography

<http://www.picasso.com/>

Jackson Pollock Biography

<http://www.ibiblio.org/wm/paint/auth/pollock/>

Guggenheim Museum featuring paintings of Jackson Pollock

http://www.guggenheimcollection.org/site/artist_bio_129.html

Paintings and related links for Jackson Pollock

<http://www.beatmuseum.org/pollock/jacksonpollock.html>

Elements of art and related information

http://www.sanford-artadventures.com/study/g_art_elements.html

FIELD TRIP SUGGESTION

Jean Lafitte National Park - The Park seeks to illustrate the influence of environment and history on the development of a unique regional culture. The Barataria Preserve (in Marrero) interprets the natural and cultural history of the uplands, swamps, and marshlands of the region. Located on the West Bank of the Mississippi River in Marrero, Louisiana. Barataria Preserve Visitor Center, open daily 9:00 a.m. to 5:00 p.m. Closed December 25 and Mardi Gras.

Visit www.nps.gov/jela



<http://www.btnep.org>

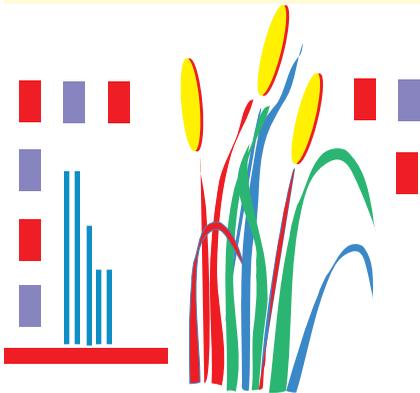
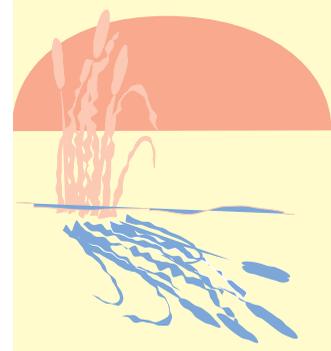
HANDOUT:

GEORGE RODRIGUE'S ARTISTIC STYLES

EXPRESSIONISM

Expressionism is a style of art in which the intention is not to reproduce a subject accurately, but instead to portray it in such a way as to express the inner state of the artist. The movement is associated with Germany in particular and was influenced by such emotionally-charged styles as Symbolism, Fauvism and Cubism.

There are several different and somewhat overlapping groups of Expressionist artists, including *Die Brücke*, *Der Blaue Reiter*, *Die Neue Sachlichkeit* and the Bauhaus School. Leading Expressionists included Wassily Kandinsky, George Grosz, Franz Marc and Amadeo Modigliani.



POP ART

Pop Art is a style of art that explores the everyday imagery that is part of contemporary consumer culture. Common sources of pop art include advertisements, consumer product packaging, celebrities and comic strips.

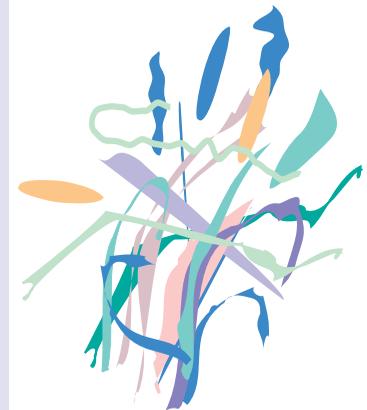
Leading Pop artists include Robert Rauschenberg, Andy Warhol, and Roy Lichtenstein.

ABSTRACT EXPRESSIONISM

Abstract expressionism, in which there is no subject at all, but instead pure form, developed into an extremely influential style in the mid-20th century. Abstract Expressionism is a form of art in which the artist expresses himself purely through the use of form and color. It is a form of non-representational, or non-objective art, which means that there are no concrete objects represented.

Now considered to be the first American artistic movement of worldwide importance, the term was originally used to describe the work of artists Arshile Gorky, Willem de Kooning and Jackson Pollock.

The movement can be broadly divided into two groups: *Action Painting*, typified by artists such as Pollock, de Kooning, Franz Kline and Philip Guston, put the focus on the physical action involved in painting; *Color Field Painting*, practiced by Mark Rothko and Kenneth Noland, among others, was primarily concerned with exploring the effect of pure color on a canvas.



Pop Art was a movement that departed from the clichés of boldness so often portrayed in modern art. The Pop artists disconnected themselves from the idea that art must contain meaning in the abstract.

The artists most recognized and closely associated with Pop art include:

- **Andy Warhol** (1928-1987) *Mickey Mouse, Marilyn Monroe, Soup Can, Mick Jagger,* and *Cow* are among his more famous paintings. One of his famous quotes is, "In the future everybody will have 15 minutes of fame."
- **Roy Lichtenstein** (1923-1997) *Sunrise, Spray,* and *Girl With Hair Ribbon* are among his most famous paintings.
- **Claes Oldenburg** (1929-1989) *Scissors and Monument* is one of his more famous works.
- **Richard Hamilton** (1922-1982) One of his most famous works was *Man, Machine, and Motion*.

These artists found success in both Europe and the United States. As it existed then, and as it exists now, Pop Art was a regeneration and renewal from the nearly two-decade reign of *Abstract Art*.

HISTORY

The Pop Art movement first began in England (British Pop). Pop artists' roots began with an interest in *Cubism and Dadaism*. They admired the singular artworks of Pablo Picasso's *Plate with Wafers* and Stuart Davis' *Lucky Strike*. They also appreciated the work of Marcel Duchamp whose ready-mades, as he called them, added a new sense of completion for the Pop artists.

Pop Art had an unusual kind of history for a modern art movement; it existed in the United States, England, California, and even in Canada. For the first few years of its existence, and especially in New York, Pop Art went relatively unnoticed.

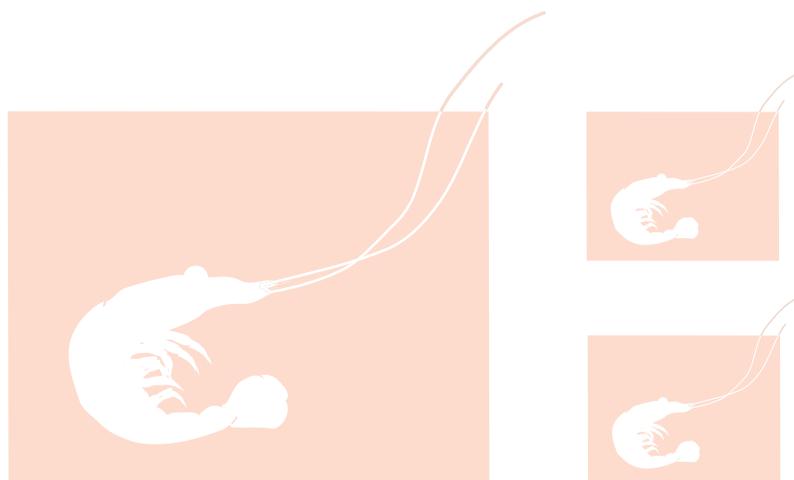
1950s

- Recognition of Pop Art began in the early 1950s and slowly developed over the next few years.
- Pop Art developed mostly because artists began to re-direct their attention to the possibilities of change.

- One of the first substantial artworks to come from these early years was Richard Hamilton's *Just What Is*—a work combining the efforts of art and today's culture. Other changes would soon follow, and many artists began completing similar renditions of how they saw Pop Art.
- For the most part, the reason Pop Art was so successful for its artists in the early years was because the world had grown tired of the repetitive forms of Abstract art.

1960s

- The artists began to associate more often with one another in the 1960s.
- In 1961, the Pop artists showed their work at the Young Contemporaries Exhibition. The list of artists included David Hockney, Peter Phillip and Derek Boshier. On the New York side of Pop Art, such artists as Andy Warhol, Roy Lichtenstein and Tom Wesselman began exploring their own aesthetic program.
- By 1965, when Pop artists showed their work at the Milwaukee art center, Pop Art had become well defined and regarded.





HANDOUT:

HOW TO TALK ABOUT THE ELEMENTS & PRINCIPLES OF ART

ELEMENTS OF ART	DESCRIPTION	ANALYSIS
COLOR	<p>The color of an object depends on how it absorbs and/or reflects light. If an object absorbs all of the light wavelengths, it will appear black. If it reflects all of them, it will appear white. If an object absorbs all wavelengths except red, for example, it will look red.</p>	
VALUE	<p>Value is the lightness or darkness of a color. You can get different values of a color by mixing its shades and tints.</p>	
SPACE	<p>Space is an empty place or surface in or around a work of art. Space can be two-dimensional, three-dimensional, negative and/or positive.</p>	
LINE	<p>There are many different kinds of lines (i.e. zig zag, straight, parallel, etc.). When connected together they make shapes, such as triangles, squares, etc.</p>	
SHAPE	<p>Shapes are flat. Some shapes are geometric, such as squares, circles, triangles, rectangles, and ovals. Other shapes are organic or irregular.</p>	
FORM	<p>Forms are three-dimensional; they have height, width and thickness. Shapes are flat; forms are not.</p>	
TEXTURE	<p>Texture is the way something feels when you touch it. Artists also create the illusion of texture.</p>	

HANDOUT:

HOW TO TALK ABOUT THE ELEMENTS & PRINCIPLES OF ART, CONTD.

PRINCIPLES OF ART	DESCRIPTION	ANALYSIS
BALANCE	Balance describes how artists create visual weight (symmetrical, asymmetrical, and radial balance). Artists think about how to make their works balanced by using elements such as line, shape and color.	
CONTRAST	Contrast creates excitement and interest in artworks. Two things that are very different have a lot of contrast . White and black have the greatest contrast. Complementary colors also have high contrast.	
PROPORTION	Proportion describes the size, location or amount of one thing compared to another.	
PATTERN	Artists create pattern by repeating a line, shape or color over and over again.	
RHYTHM	Visual rhythm makes you think of the rhythms you hear in music or dance. Artists create visual rhythm by repeating art elements and creating patterns.	
EMPHASIS	Artists use emphasis to make certain parts of their artwork stand out and grab your attention. The center of interest or focal point is the place the artist draws your eye to first.	
UNITY	Unity is the feeling that everything in the work of art works together and looks like it fits.	
VARIETY	Variety occurs when an artist creates something that looks different from the rest of the artwork. An artist may use variety to make you look at a certain part or make the artwork more interesting.	



ESTUARY POP ART PROCEDURES

What do you do when you want to create a pop image, and George Rodrigue has already claimed the Blue Dog? Create your own Rodrigue-inspired pop art ... here's how.

PROCEDURES

1. Select an animal that lives in the estuary.
2. Open a new Word document using Microsoft Word.
3. Click the drawing tool bar; select different functions/art elements (i.e. shapes and lines) of drawing tools and create an estuary animal image.
4. After you draw your animal image, select the paint can.
5. Click on each individual shape and select a color from the paint pallet (If you would like your image to be one color simply click on your image and select one color).
6. Highlight each individual shape of your image by holding down the shift key and clicking on each shape, then select a color from the paint pallet to color your shapes.
7. Use the format object tool to select "group" to make one complete image that can be manipulated around the page as well as your selected digital Louisiana landscape photo.
8. Click and drag your animal image to ensure all shapes are unified and can be viewed as a whole image.
9. Place your cursor on the image and click "save as."
10. Make a folder with your first and last name (this folder can be used throughout the year to store other documents).
11. Save your drawing/image as Pop Art Animal.
12. Minimize your animal image document for later use.
13. Open Photo Shop.
14. Click: "file" and then open.
15. Select one of your previously saved digital Louisiana landscape photos to use as a background for your Rodrigue-inspired Pop picture.
16. Layers dialogue box should appear on screen (If not, choose window from toolbar and select "layers.>").
17. Double click background image in layers pallet.



HANDOUT:

ESTUARY POP ART PROCEDURES, CONTD.

18. New layers dialogue box should appear; click OK and your background should now read Layers 0 (zero).
19. Return to your minimized word document (animal image) and restore the image.
20. Click once on image from word document to select.
21. Go to Edit and select “copy.”
22. Return to Photo Shop (your landscape photo should appear).
23. Select “paste” from Edit on your toolbar.
24. Your animal image should now appear in your landscape photo.
25. Move your image to the area of the picture that suites you by clicking on “drawn image” and using the mouse to place into a specific photo location.
26. If you would like to resize your image, once you paste it into your digital landscape, return to the saved word document and resize your image from this location, repeating steps 21-23 as needed.
27. If you would like to delete a layer (in this case the original pasted image), click on “layer” and you will notice it highlighted.
28. Return to the top toolbar and go to layer and select “delete” and then “layer.”
29. Save your final image into your folder as Final Pop Art Animal Image.
30. Print a copy (obtain teacher’s permission) of your Rodrigue-inspired Pop image.
31. You or your teacher can laminate your final print.
32. Mat and frame your artwork and hang in school gallery or hallway bulletin board.



Loup Garou

George Rodrigue

Image reprinted with permission from
George Rodrigue

ALWAYS BE SURE TO SAVE YOUR WORK EVERY 5 minutes TO ENSURE THAT IT IS NOT LOST!!!

HANDOUT:



George Rodrigue
Image reprinted with permission
from
George Rodrigue

ESTUARY POP ART RUBRIC GEORGE RODRIGUE - INSPIRED POP ART

POINTS	ELEMENTS OF ART	PRINCIPLES OF ART	CAPTURING STYLE / ARTIST
4	Very skillful in applying elements of art, e.g., color, shapes, lines, space, forms	Very skillful in applying principles of art, e.g., balance, proportion, emphasis, unity	Computer painting is very consistent with George Rodrigue's pop art style
3	Skillful in applying elements of art, e.g., color, shapes, lines, space, forms	Skillful in applying principles of art, e.g., balance, proportion, emphasis, unity	Computer painting is consistent with George Rodrigue's pop art style
2	Somewhat skillful in applying elements of art, e.g., color, shapes, lines, space, forms	Somewhat skillful in applying principles of art, e.g., balance, proportion, emphasis, unity	Computer painting is somewhat consistent with George Rodrigue's pop art style
1	Needs work in applying elements of art, e.g., color, shapes, lines, space, forms	Needs work in applying principles of art, e.g., balance, proportion, emphasis, unity	Needs work: Computer painting is not consistent with George Rodrigue's pop art style

TOTAL POSSIBLE POINTS: 12 X 5 = 60 POINTS





HANDOUT:

AN INTERVIEW WITH GEORGE RODRIGUE: NOT JUST A CAJUN GUY WHO PAINTS DOGS THE COLOR BLUE

(W. F. Foy. Personal Interview. April 27, 2004)

George and Wendy Rodrigue were extremely gracious and forthcoming in the following interview. I, Wendy Foy, had the pleasure to not only learn about George's experience growing up in New Iberia, Louisiana, but also learned of his rise to fame with his image of a "Blue Dog." As a teacher, I feel the Rodrigues gave me a personal course in art education. I was inspired by George's art and Wendy's need to have George represented authentically—as an accomplished artist—and not just a Cajun guy who paints dogs the color blue. The following interview highlights George's remarkable career and personal accomplishments.

Q1: I have read you were born in New Iberia, Louisiana. How has your upbringing in South Louisiana influenced you as a creative spirit?

I think one is born with a creative spirit. Being from southern Louisiana (New Iberia), it wasn't until I traveled outside of the state that I truly knew how different I was. My Cajun culture disappeared; and when you get away from your culture for a while you reflect on how you were brought up and realize your cultural identity is slipping away. I didn't want this to happen, I had to preserve my heritage ... so I returned home to Louisiana.

Q2: So, you were an outsider?

Yes, it's not until you leave that you have time to reflect on where it is that you are from. It took me some years before I was able to embrace my Cajun culture, appreciate and want to return and preserve my culture ... I owed it to my roots, my people, to represent my birth place through my art.

Q3: What is your definition of art?

Art is a personal expression. It reflects society; it always has. Art expresses or mirrors society. Whatever is going on at the time is usually what influences artist. It can't be avoided.

Q4: How would you define your artistic style (genre)? Is it Pop Art?

My earlier style was primitive, more folk art. I captured a Cajun style and wanted to preserve the images I grew up with. I was a little naïve; my early style was primitive, naïve. As I grew as an artist my style has changed; it has become more Pop Art. My style changes, you get bored, you try something else for a while. You have to be open-minded and flexible.

Q5: Who or what has inspired/influenced/empowered you?

My family, friends in New Iberia, as well as formal education, my art education in Los Angeles



has allowed me to really understand what “art” is, and through education comes empowerment.

Q6: How much of your own life is reflected in your work?

Everything. My art wouldn't be what it is without my individual experiences, my life in south Louisiana. I started painting when I was in about the fourth grade and continued my art education at USL.

Q7: Do you create with the intent to send a message? If so, how important is it that your audience understands your message?

I am a serious artist, some people think otherwise. But no, I don't always create with the intent to send a message. Sometimes there's an intentional message, sometimes my art is conscience and other times I paint what comes to mind without ever having a premeditated thought. It's the benefit of being successful. I can do what I want for as long as I want. As long as I enjoy what I do, if people still want to purchase my art, then I will have the opportunity to continue to create.

Q8: Have you ever compromised your style as an artist?

Intentionally, no, because Cajun artists are rare due to the limited exposure, and years ago there weren't many well-known Cajun artists, so being one of the first successful Cajun artists has given me the freedom to create what I want without much compromise unless I agree.

Q9: Why after attending school in California did you return to south Louisiana? What is it about southern Louisiana that is so mystifying?

Family life, friendships ... the scenery and culture. Knowing, and finally realizing who you are, where you're from. That was what was missing from my life in Los Angeles. The comfort of the small, Cajun community—there is no other place like southern Louisiana. It is beautiful and serene.

Q10: I have noticed the southern Louisiana landscape in your paintings, especially the Oak tree. How has the estuary influenced your art?

I started with landscapes, driving back from California—I noticed how remarkable the landscape changed. First, I painted wheat. Then, I painted the magical sky behind the beautiful oak trees. I wanted to capture how unique Louisiana was. Early Louisiana painters studied in Europe and their styles were very European in design, and I wanted to capture what was different about the Louisiana landscape. The tree represents people's “roots,” their families.

Q11: Most people recognize you from your famous terrier, Tiffany, the “Blue Dog” paintings. What genre is your “Blue Dog?” Is it Pop Art?

It developed into Pop Art. Kind of took on the same image as Andy Warhol's Campbell's Soup Can or Uncle Sam (We want you!). The Blue Dog image is as recognizable as some of America's most well known images, like Warhol's.

Q12: Let me clarify your reference to the Blue Dog as “it” instead of “she” before I continue with my questions. You corrected me when referring to the Blue Dog as a “she,” and this is something the average person (like myself) would assume—that the Blue Dog is your beloved pet dog. However, in actuality “it” is a mere model, a nonliving being. Is this correct?

Tiffany was a girl; the blue dog is not. It's a shape, an entity, able to take on male, female, or most often neutral qualities. It's not Tiffany, my beloved pet. The Blue Dog – it's quite difficult for people to accept or understand that I paint an image and not a pet dog.

(Wendy, George’s wife, clarified a few misconceptions I had about the history of the Blue dog as well as George’s artistic intent. Wendy had the following to say:

I guess it's not a big deal, but I'll bring it up for what it's worth. The emphasis on Tiffany in questions such as the one above is just such a strange one. The reason George chose Tiffany as the model for the loup-garou has nothing to do with the fact that she was his pet dog. He had taken lots of photographs of her and many other dogs over the years, just like he takes pictures of many things. George has always painted from photographs—not as a photo-realist, but rather to get ideas about shape. And that's exactly what happened with the loup-garou. He flipped through his photographs looking for a suitable image. Obviously, even though he was painting the loup-garou, he was not looking to capture Tiffany as a werewolf. It's a coincidence, in a way, that her photo is the model. He liked her shape and stance in the photo, and from that he decided to use it as the loup-garou; it had nothing to do with immortalizing her. Tiffany had been dead for 4 years already, in fact. It's no different than when he paints me as Jolie Blonde, for example. He sticks me in all kinds of poses and costumes and takes photographs. Whatever he ends up using depends on the composition and look he's going for in the painting).

Q13: Now that we have had some significant clarification, isn’t it mind baffling, the popularity of the Blue Dog? How did this cute terrier mix become so popular?

In the 1980s, I had a show in California. The people attending my shows in Los Angeles coined the name, “Blue Dog,” and it has just kind of stuck.

Q14: So, there was no intentional attention given to the Blue Dog?

No, no more than anything else I had done at the time. The Blue Dog comments on life today.

Q15: What do you mean, it comments on life today?

It is what popular culture wants; it represents the lost Cajun influence in my life after I moved to California.

Q16: Your “Blue Dog” is recognized internationally. How did Tiffany become your muse?

Tiffany had died a long time before I ever painted her. She was used loosely as a model. The public has placed the emphasis on Tiffany, not me.

Q17: Okay, I am starting to understand, it is more of an image, a model than a “dog” per se?



Yes, the dog element was dropped and it has become more a graphic interpretation, a shape.

Q18: I am certainly not an art expert, but as I learn more about the elements and principles of art, I have noticed you play a great deal with pattern and shape?

Yes, the Blue Dog is all about shape and how it relates to the background. I paint it and each shape relates to another. I do paint with a purpose in mind. It's not just a blue dog; it's much more.

Q19: After some research I learned that you had been painting for some time before the “Blue Dog.” Did you consider yourself successful prior to the Tiffany craze?

Yes, I painted for 20 years before the “Blue Dog” and have been painting for 20 years since that first “Blue Dog.” If you can support your family – you’re successful!

Q20: Most artists are also storytellers. I read on your website that the *Loup Garou* was a story your mother told you as a boy. Exactly what is this, *Loup Garou*?

As a boy I was told the story of the Loup Garou—a French werewolf/dog that lived in the sugarcane fields. My mother would tell me, “If you’re bad or if you don’t do as you are told, the Loup Garou will get you.” I used my dog Tiffany as a model for the Loup Garou.

Q21: Is this why Tiffany (Blue Dog) has yellow eyes in your painting, to kind of illuminate a hypnotic stare? Perhaps, a haunting image from your childhood?

In my first Blue Dog painting, it has red eyes, not the bright yellow eyes you see in the majority of the Blue Dog paintings. After the dog no longer represented my pet dog, only a spirit, its eyes became stark yellow and the shape was round, saucer-like. The eyes were red because this was a scary, haunting image—the loup-garou.

(Wendy Rodrigue elaborated: George changed the eyes to yellow to make the image friendlier once it started to take on a life of its own and lose much of the loup-garou scariness {and leave the bayou scenes}. It wasn't until the eyes became yellow that George even started to paint the image at times as Tiffany. And in fact he did paint the dog as Tiffany for a short period—maybe 2 years or so, around 1991-1992, before the image moved on again and became something else, leaving the ideas of the loup-garou and of his pet dog, Tiffany, as mere roots of a series.)

Q22: I know all the dog questions are redundant at this point in your career, but I have to ask, when did you first paint Tiffany?

I first painted Tiffany as the Loup Garou in my 1984 book, Bayou. It was not yet the “Blue Dog;” it was the Loup Garou—just an image, not a dog.

Q23: Were you prepared for the fame the Blue Dog has brought you?



No, I don't believe anyone is ever prepared. The phenomena that most thought was such a simple "dog." The general population immediately took hold of the Blue Dog. It was like Andy Warhol's Campbell's Soup Can painting. Something as simple as a dog—phenomenal.

Q24: How would you describe the techniques used in creating your famous Blue Dog paintings?

It NEVER changes shape; it is painted at eye-level; the image could be a person, but it's a dog. Painting the Blue Dog is challenging. When I paint the Blue Dog some of the images are a series of repetitions; it is done by hand, and each image has to be exact.

Q25: How many Blue Dogs do you paint annually?

About 35 to 40.

Q26: Some people might assume you might not enjoy painting the Blue Dog; does this ever get monotonous?

I enjoy painting the Blue Dog. The thing is, at this point in my career I don't "have" to paint anything. I enjoy my work and my painting. The Blue Dog does not determine my success.

Q27: What's the strangest thing that you have experienced as the artist of the Blue Dog?

Well, I was on a book tour and there were some animal rights people at one of my signings. They were naturally there to support the artist who loves dogs. This was a bit odd, not that I didn't appreciate seeing people who are supporters of animal rights, but usually people show up to support the artist. It's difficult to explain to the average person that my work isn't all about the dog.

Q28: However, this love of the dog as man's best friend is a misconception, is it not?

People think my art is "all about the dog." The love I shared with my dog has nothing to do with my art. I am not a "dog" artist. My art is based on my love of art. I am a good artist because I love art, not dogs. Granted I do love dogs (as to not offend anyone or seem ungrateful).

Q29: Before I move on and away from your beloved Blue Dog. I have to ask, how do you feel about the mad rush of "animal" art that have popped-up around town?

Over the last 7-8 years the French Quarter is full of animal paintings. I feel that completely reproducing something simply because someone else has gained success merely enables aspiring artists, and, as a result, they will never fully develop as artists if they spend all their time painting animals because they think someone became famous for painting a dog. I am grateful for the opportunities and the success the Blue Dog has afforded me, but I was already well known prior to the dog.



Q30: What has been the highlight of your career as an artist?

My book, Cajuns, published in 1975, was selected as one of the official gifts for the Jimmy Carter White House; this was before people knew what “Cajuns” were.

Q31: Speaking of Cajuns, the world has certainly managed to latch on to the term and now the world has gone Cajun Crazy. You walk into restaurants as far away as California and there’s going to be a Cajun dish on the menu. I was in Florida and there was Cajun, blackened chicken. Hollywood for a while made anyone who lived in Louisiana a Cajun. I am not so sure the vast majority of the population knows what a “Cajun” really is.

You’re right. The credit should be given to Paul Prudhomme. He brought Cajuns into the lives of everyone. Every menu in the country has at one time or another had something Cajun. Cajuns have come to define what south Louisiana is. Read the article written in USA Today sometime in the 1980s about Cajuns; this article defines Cajun culture quite well.

Q32: Are you a Cajun artist?

I am a Cajun artist, but when I first referred to myself as such my mother was quite embarrassed. My culture has shaped my career; I am proud of my heritage.

Q33: Why was your mother embarrassed by the Cajun reference?

Wendy Rodrigue provided me with a bit of George’s cultural history. She said:

Cajuns were poor; they lived off the land. They were hunters and trappers. George's mother was very proud that her father came to Louisiana straight from France. Ironically, her mother's ancestry came from Canada—the original Cajuns, so actually she was more Cajun than French! But to this day, she doesn't admit it (she's 99) and is quite proud of her maiden name, Courrage. In her day, the word Cajun was an insult.

Q34. How do you feel when others are critical of your work?

Personally, I wish they would speak to me before writing. I can clear up a lot rather than let someone make assumptions without getting the facts or my input.

Q35: Is an artist successful if he never sells his art?

As an artist, you have to put yourself out there. Unless you are a graphic artist or illustrator (Rodrigue also did this) and you have your work in magazines or some other form of media. If you paint or are a photographer, you must take risks. If you don’t attempt to sell your work, I don’t think you can be successful in the eyes of society. Personally, sure, as artists we create and feel a sense of success. There’s the artist and the piece he is creating. Once it is complete, the piece takes on a life of its own—it leaves my hands and it is out of my control as far as fate is concerned. Like the Blue Dog. If people buy my work, do I feel success? Yes, I can support my



family, and that makes me successful. The fact that I created something that someone else found inspirational or aesthetically pleasing—that makes me feel successful.

Q36: 50 years from now, which of your accomplishments would you like to be remembered for?

This changes. The “Blue Dog” made Cajun paintings more significant in the art world, thus supporting more southern Louisiana artists. I think this is an okay legacy, don’t you?

Q37: I know you have done some work with children, and on your website teachers are encouraged to send in the work their students have created based on the Blue Dog to be displayed on an online gallery. You obviously support the arts in education. What advice would you give to administrators or writers of curriculum about the value of art in the classroom?

I support art in education. I have been to Washington D.C. on the Mall, have spoken at colleges, and on occasion have taught graduate students. My art affects young people, as young as kindergarten on up. Kids connect with what I do because it is simple. The older they are, the more they begin to understand the meaning of art. Teachers should teach art history and allow children to develop a background, some vocabulary to discuss and appreciate the arts. One needs art history as well as application. Understanding the artist, early artists were scientists, like Michaelangelo; these artists advanced society to a higher level.

Q38: Is art essential if one is to have a well-rounded education?

Yes, teaching art in a historical context is vital to one reaching his or her full potential. The question that should be asked is, “What is art?” Children should be allowed to explore this with guidance and practice. Art can be traced back to the Egyptians and is a reflection of all societies.

Q39: Are you working on anything right now and if so, can you share it with those reading this interview? Maybe a Jazz Festival poster?

No more Jazz festival posters, I have painted three, and it is time to let someone else have a turn. I am working on a 3-D metal sculpture of the Blue Dog. It is 4 ft. x 12 ft. It will be three dogs back-to-back painted on each panel. They are made of bronze, metal, and chrome. Each of a series of 10 takes approximately 6 months to complete. The 3-D sculptures will each stand alone and be of various colors (blue, red, etc.). This is what I am working on in Lafayette right now.

Q40: Last question, what, in your opinion, is the “spirit” of the estuary, you call home?

The spirit of the estuary is a combination of its colorful people, living and working in the wetlands. Living off of the land, the land their ancestors lived on years ago, the spirit is one of beauty and grace, rich in culture. Everyone takes something precious from the estuary; you sometimes have to distance yourself in order to translate the spirit of the estuary.



Preserving the Spirit of the Estuary

How can I use art to protect the estuary?



"River Batture, Ft. St. Phillip" oil on canvas by Marian Brister Martinez
printed with permission by the artist © 2003. All rights reserved.

Lesson 1. Music Makers	p.1-9
Lesson 2. Commercials for the Coast	p.1-6
Lesson 3. Who Knows? The Shadow Puppets Do!.....	p.1-7
Lesson 4. Honk If You Love the Wetlands	p.1-17
Lesson 5. Pass the Word:Designing an Environmental Action Brochure for the BTE	p.1-5
Lesson 6. Estuary Extra: Producing Your Own Environmental Newspaper	p.1-12
Lesson 7. Musical Meaning	p.1-7
Lesson 8. And Then A Hero Comes Along.....	p.1-8

Lesson One:

Music Makers



Louisiana is a world unto itself, and music is a big part of what makes it unique.

PBS The Mississippi River of Song—
Louisiana, Where Music is King (n.d.)
Retrieved April 23, 2005 from
<http://www.pbs.org/riverofsong/music/>

Another musician with strong connections to the wetlands is Tommy Michot who is a member of his family's band, *Les Freres Michot* (The Brothers Michot or the Michot Brothers). He is also a wetland biologist and cares deeply for the wetlands of south Louisiana. Several of his songs describe the loss of the wetlands and its impact on the Cajun way of life. Read his interview (pp. 6-8).

For a list of Cajun and Zydeco musicians refer to the web site of Louisiana State University Eunice:
www.lsue.edu/acadgate/music/musicmain.htm

Setting The Stage



Music is a great way to express feelings about something you love and care about. Many Cajun and Zydeco musicians who live in south Louisiana's wetlands have strong feelings for their home. (Read a brief history of Cajun, Creole, and Zydeco Music at:
<http://www.lsue.edu/acadgate/music/history.htm>)
Some of them play songs that describe the loss of these wetlands. For example, musician Tab Benoit of Houma, in the Barataria-Terrebonne basin, began the nonprofit organization *Voice of the Wetlands* (www.voiceofthewetlands.com) to educate people about wetland loss. He uses his music and the music of his musician-friends to make listeners aware of wetlands issues.

Objectives

STUDENTS WILL

- **locate a Cajun or Zydeco musician who might be willing to be interviewed.**
- **create an interview questionnaire.**
- **interview local musicians to get their perspectives on Louisiana Wetlands.**
- **research Cajun and Zydeco music.**

MATERIALS

- Internet access
- Newspapers (especially entertainment section)
- Handout: *Interview Rubric* (p.4)
- Handout: *Tips for Interviewing* (p.5)
- Interview with Tommy Michot (pp.6-8)
- Tape recorder and extra tapes
- Video camera (if available)

GETTING READY

1. Review and make copies for the class of Interview with Tommy Michot.
2. Review and make copies of the Handout *Tips for Interviewing*.

PROCESS

1. Give students the choice of working in groups or individually on this project.
2. Ask students to use the Internet, newspapers, music clubs, festivals, friends and family to research names of Cajun and/or Zydeco musicians. Review results of students searches including the procedure they used to track down the names.
3. Have students set up interviews with the musicians. If the musician cannot meet with the student, have him or her ask for an e-mail interview, or, as a last resort, a phone interview.
4. Brainstorm interview questions. Instruct students to create an interview questionnaire to conduct the interview and turn it in for review before the interview.

Sample Questions:

- a. Why did you choose to play Cajun/Zydeco music?
 - b. What instruments do you play, and why do you like them?
 - c. How does your music reflect your feelings about the wetlands?
 - d. What makes Cajun/Zydeco music special?
 - e. How does Cajun/Zydeco music describe the culture of south Louisiana?
 - f. Where are you from?
 - g. What would you say is the “spirit” of the estuary?
 - h. How does the loss of Louisiana wetlands affect the songs you write?
5. Read and discuss the interview with Tommy Michot.
 6. Review and discuss the handout *Tips for Interviewing*.
 7. Review and discuss each criterion in the *Interview Rubric*.
 8. Have students conduct the interview using a tape recorder, video camera, or by taking very good notes. E-mail is also acceptable.
 9. Direct the students to transcribe the interview, using a Question & Answer (Q & A) format.
 10. Have students present a summary of the interview to the class, emphasizing what they learned about the estuary and, in particular, the wetlands through their interviews and the music.
 11. If possible, have some of the interviewed musicians visit the class and talk of their feelings about wetlands and perform a song(s).
NOTE: Many musicians make their living playing music and may not be able to accommodate the class without being paid. Some may offer their time in exchange for promotion. Others may be willing to donate their time.

QUESTIONS FOR JOURNALING

- Did you like interviewing someone? Explain.
- Did the musician easily answer your questions, or did you have to encourage him/her?
- During the interview, did you learn about other aspects of the musician’s life such as family, upbringing, or education?
- What does the musician’s music convey to you about south Louisiana culture?



ASSESSMENT

INTERVIEW RUBRIC

RESEARCH: Used a variety of resources to locate/research a musician from the BTE				
1 needs work	2 somewhat	3 adequate	4 agent material	
SETTING UP INTERVIEW: Was able to schedule/confirm date, time, and place for interview				
1 needs work	2 somewhat	3 adequate	4 totally efficient	
INTERVIEW QUESTIONS: Prepared thoughtful, open-ended, and in-depth questions				
1 needs work	2 somewhat	3 adequate	4 talk show host	
INTERVIEW QUESTIONS: Prepared creative and original questions				
1 needs work	2 somewhat	3 adequate	4 talk show host	
INTERVIEW QUESTIONS: Prepared relevant questions that probed links of music to the estuary, in particular the wetlands				
1 needs work	2 somewhat	3 adequate	4 60 Minutes host	
INTERVIEW QUESTIONS: Asked clarification, follow-up, and probing questions during the interview				
1 needs work	2 somewhat	3 adequate	4 60 Minutes host	
INTRODUCTION: Report/audio/video tape contains full name and identifying information about the musician, the date, time, and place of the interview, and the name of the interviewer				
1 needs work	2 somewhat	3 adequate	4 Biography TV Show	
REPORT: Transcript is edited and well organized				
1 needs work	2 somewhat	3 adequate	4 Biography TV Show	
SUMMARY: Report includes summary of overall themes, feelings, and thoughts of the musician				
1 needs work	2 somewhat	3 adequate	4 talk show host	
TOTAL POSSIBLE POINTS: 36 Points				

- After you set up a date, time, and place to meet the musician, reconfirm the day before.
- Write your questions in advance and refer to them during the interview so you don't forget anything.
- If the musician has a CD, get a copy and listen to it before the interview. (You may want to ask questions about particular songs.)
- Make sure your recording equipment works. Bring extra tapes and batteries.
- If you take notes, still maintain your focus on the musician, establishing eye contact, nodding periodically.
- During the interview, some of the musician's answers may make you think of additional questions. Write them down as you think of them, and come back to them, or, so as not to lose continuity, immediately ask them.
- Don't be afraid to follow up on a musician's answer, and ask for an explanation if you don't understand something.
- Allow the musician to elaborate on each question but always be aware of the time. You may have to gently end an answer period to move to the next question. (However, don't hurry or interrupt the flow of the interview). If possible, you want to make sure you get to all of your questions.
- After the musician has answered all of your questions ask if he/she has anything additional to say.
- Thank the musician and offer to provide a copy of your report when it is completed.

A.B. Rheams, Personal Interview April 21, 2005

Q 1: Why did you choose to play Cajun Music?

I started playing different types of music when I was a kid and later evolved to Cajun music as I got older. I had danced and listened to it growing up. We felt it was the adult music but as I got older, I realized this was my culture so I became interested in it. My brother got interested in the music too; so we started playing it together.

Q 2: Why did you choose the accordion?

When I started playing music as a young child I played the piano and sang. Then I started playing the harmonica when I was in 6th grade because it was cheap, and you could carry it around with you. My brother played guitar, and we sang and harmonized. Later I met a Cajun guy who had an accordion, and I asked to look at it. I told him I played the harmonica, and he said, "If you can play the harmonica you can play the accordion." The instruments are made very similarly. You push air across the reeds using your mouth with the harmonica and the bellows with the accordion. I mostly taught myself by listening to recorded music. I play by ear. My brother switched from the guitar to the fiddle, and we started playing Cajun music together.



Q 3: Did you always speak Cajun French?

I grew up speaking English, but my grandparents spoke French. My parents' generation was taught English. There was a big push to convert everyone to English. There was a stigma about being Cajun. People felt they were uneducated. My parents did not speak French. We learned French in school and practiced on our own. Now my brother and I are fluent.

Q4: Are you passing the French along to your children?

One out of three of my children speak French. We tried with all of them. It was hard.

Q5: Besides being a musician you are a wetlands biologist. How does your music reflect your feelings for the wetlands?

I've worked in wetlands for most of my career. So much of Louisiana is wetlands. The wetlands allowed the Cajuns to stay isolated for a long time and preserve their culture. Even other cultures that settled here became part of the Cajun culture. The wetlands were very important to

 **HANDOUT:****EXCERPTS FROM TOMMY MICHOT'S INTERVIEW,
CONTD.**

the Cajuns. They provided for all their needs—food, shelter, and materials. Fishing in particular was an important part of their livelihood. My daddy loved the outdoors and brought us up fishing and camping. We were out in the wetlands a lot; so I grew up to love them. I guess that fuels my passion for the wetlands and is a reason I have worked in this field. The more I looked at the Cajun region, the more I saw the link between the Cajuns and wetlands. Once they discovered oil in the Louisiana's wetlands and offshore that opened up the Cajun region to others.

Q6: How does your music reflect your love of the wetlands?

There is a strong tie between Cajun music and nature. There are songs that reflect that love. We name a lot of songs after places in the wetlands.

Q7: You wrote a song about the wetlands. How did you come to write the song?

There was an author who came down to interview me for a book on wetlands, and my band happened to be playing that night; so I invited him to come hear us. We played a song called “La Valse de la Meche,” which means the Marsh Waltz. It was sung in French; so he asked me what it meant. Was it about the loss of the marsh? I told him, “No it was about a guy whose girl left him, and he was going to live out in the marsh in his misery.” But then I thought that there should be a song about wetlands loss. That's a new thing in Cajun music because we are now becoming aware of how much wetlands we are losing. I think it's important for artists and musicians to create pieces that reflect what is going on in their time. Even though we love the traditional music, it's important to have songs that reflect what is happening today. That's why I wrote the song “La Valse de la Meche Perdue”—The Lost Marsh Waltz. It's good to use the image of the wetlands in song to get the message across that we are losing our wetlands.

Q8: What makes Cajun music special?

It's something about the beat. Even if there are sad songs there is an upbeat sound—the tempo and the rhythm—like the Cajun people. Cajun humor is very upbeat—even in the face of sadness.

Q9: How do you relate the loss of wetlands and the loss of the Cajun culture?

When we started losing wetlands, we started losing the French language. It's a strange coincidence. The influence of oil and gas companies coming into the region changed Cajun culture and induced the loss of wetlands. The canals that were dug to get the oil equipment out to the wetlands and the Gulf of Mexico changed the hydrology and allowed saltwater to come in and kill the marsh. When we leveed the Mississippi River after the 1927 flood, we stopped



the natural flooding that provided sediment to build wetlands. That started the loss. It's very symbolic—the loss of wetlands and the Cajun culture.

Q10: What is your perception of the future for Cajun culture and the wetlands? Do you see them linked in the future?

I'm optimistic. They are both survivors. The culture is coming back with the help of tourism. There is no longer the stigma of being Cajun. Everybody wants to be Cajun now. The wetlands are very adaptable. Nature has a way of reaching equilibrium. There are a lot of good restoration programs proposed. We need to get sediments and fresh water to the wetlands and restore the barrier islands. I have faith that the wetlands and the Cajun culture will have a bright future.



Les Freres Michot

EXTENSIONS

- Create a video documentary of the musician.
- Write a biography of your musician.
- Write a description of the musician's music to be used as liner notes on a CD.

RESOURCES

BOOKS

Savoy, Ann A. 1984. *Cajun music: A reflection of a people, Volume One*, Bluebird Press: Eunis, LA

WEB SITES

Folklife in Louisiana

This site provides boundless information about the cultural history of the state.
www.louisianafolklife.org

Louisiana Folk Roots

Another good site for information about the cultural history of the state.
www.lafolkroots.org

LSU Eunice: Contemporary Cajun, Creole and Zydeco Musicians

This university site has very valuable information about Cajun, Zydeco and Creole music and musicians both past and present.
www.lsue.edu/acadgate/music/musicmain.htm

Louisiana Voices: Folklife in Education Project

Sponsored by the Louisiana Department of Culture, Recreation and Tourism, this site provides excellent lessons about the cultural history of the state for teachers.
http://www.louisianavoices.org/edu_home.html

MENC: The National Association for Music Education—Online Teacher's Guides and Lessons

<http://www.menc.org/guides/guideindex.html>

Voice of the Wetlands

An organization started by Houma musician Tab Benoit to alert the public of Louisiana's coastal wetland loss.
www.voiceofthewetlands.com



Lesson Two:

Commercials for the Coast

hydrologic modification
sediment loss
habitat loss
changes in living resources
eutrophication
pathogen contamination
toxic substances

Setting The Stage



One of the best ways to get people to remember something is to set it to music. Advertisers have used the commercial “jingle” for decades to sell products. Listen to any commercial radio station or watch television and you will hear a short, catchy tune that will stick in your mind. This lesson will have students create their own commercial “jingles” to help people become aware of the wetland loss occurring in the Barataria-Terrebonne Estuary. While commercials must be purchased to air on television or radio,

many media outlets provide free air-time through public service announcements (PSAs). They usually set aside an amount of air-time to help a good cause.

Example of jingles: Locally, some of us remember the jingle, “Rosenberg’s, Rosenberg’s...1825, Tulane” that advertised furniture. How about these examples from the 20th Century’s Top 10 Commercial Jingles (The Advertising Age. (n.d.). Retrieved February 3, 2005 from <http://archer2000.tripod.com/sbs/awardscj.html>)

You Deserve a Break Today (McDonald’s) *Be All That You Can Be* (U.S. Army)
Mmm Mmm Good! (Campbell’s Soup) *I Wish I Were an Oscar Mayer Wiener* (Oscar Mayer)
It’s the Real Thing (Coca-Cola) *Double Your Pleasure, Double Your Fun* (Wrigley’s Gum)

Melody: Melody is the part of a song that you can hum. The formal definition of melody is: a succession of notes, varying in pitch, which have an organized and recognizable shape. Or, more simply, musical sounds in agreeable succession or arrangement. Or, melody is the succession of single tones in the song, the principal part of the song that produces a distinct musical phrase.

Example of a Jingle:

Sing to the tune of “You Are My Sunshine”...
“We love our wetlands, our lovely wetlands
but they are dying and must be saved
please get involved with their restoration
so we can love our wetlands again”



Objectives

STUDENTS WILL

- **investigate the importance of wetlands.**
- **use wetlands vocabulary to write their commercial “jingle.”**
- **discuss basic principles of melody.**
- **create a melody and lyrics that teaches about wetlands.**

MATERIALS

- Music CDs, tapes (optional), audio/video clips of jingles
- BTNEP 7 *Priority Problems* Poster Set

GETTING READY

1. Review the background material in this lesson with students.
2. Collect examples of jingles for class.

PROCESS

1. Review “Setting the Stage” in this lesson with students.
2. Play examples of jingles to class. Play them several times and have the students sing or hum along. Turn off the examples and have the students sing or hum from memory. This will help them understand how *catchy* jingles can be.
3. Ask students to listen to the radio and watch television commercials to pick a catchy melody to use for their jingle. They may also use part of a song they like.

4. If possible, have the students bring examples of their chosen tunes to class. They may bring in a CD or tape something off the radio or television.
5. Have students study BTNEP 7 *Priority Problems* posters.
6. Ask students to pick a particular wetland theme to create the lyrics for the jingle. They may use loss of fisheries, loss of habitat for animals, hurricane awareness, eutrophication (excess nutrients), pathogens (virus & bacteria), toxic substance discharge, diversity of organisms and water quality.
7. Review wetland vocabulary that students could use in a commercial jingle, e.g., coast, sea grass, swamp, marsh, saltwater, shrimp, crabs, oysters, red fish, trout, alligator, muskrat, nutria, egrets, eagles, pelicans, subsidence, Mississippi River, levees, delta, estuary, habitat, Cajun, oil, canals, diversions, bayou, Gulf of Mexico, barrier islands, pipeline slurry, planting marsh grass (*spartina*).
8. Review the *Jingle Rubric* (p.4) with the class.
9. Have the students match their lyrics with the music. Tell them to practice at home.
10. Allow students to perform their jingles in class. Some may wish to tape record and play them for the class.
11. Make a class tape of the jingles.
12. Have a contest! Select the top three jingles and create a public service announcement (PSA) for radio or television for each of them.

QUESTIONS FOR JOURNALING

- Why do you think jingles are so catchy?
- Why did you pick the jingle you used?
- Why did you pick the theme for your jingle?
- Do you think jingles are an effective way to make people aware of wetland loss?

ASSESSMENT

JINGLE RUBRIC

ASSESS THE JINGLE ACCORDING TO THE FOLLOWING CRITERIA:

VOCABULARY: Does the wetlands vocabulary indicate knowledge of subject?

1
Novice

2
Apprentice

3
Master

4
A Total Wordsmith

LYRICS: Do the lyrics reflect the chosen theme (i.e., Do the words to the song express the specific theme?).

1
Novice

2
Apprentice

3
Master

4
Broadway Bound

MELODY: Do the lyrics blend with the melody (i.e., Do the words and syllables fall at the right beat; does the tone emphasize the emotion of the words?).

1
Novice

2
Apprentice

3
Master

4
Broadway Bound

PERFORMANCE: Does the performer exude enthusiasm?

1
Novice

2
Apprentice

3
Master

4
You Are Hired!

TOTAL POSSIBLE POINTS = 16 POINTS X 5 = **80 POINTS**

EXTENSIONS

- Have students teach the class their jingles and conduct a sing-along.
- Have students put their jingles together with a video or photographs.
- Have students submit jingles to local radio station and ask for “play” time.

RESOURCES

BOOKS

Banbury, M.M., Rheams, A.B., Lyons, S.E., Maygarden, D.F., Flanagan, S., & Greene, M.C. (2002). *Lessons on the lake: An educator’s guide to the Lake Pontchartrain Basin, Second Edition*. Metairie, LA: Lake Pontchartrain Basin Foundation.

Maygarden, D.F., Frierson, G.M., & Rheams, A.B. (2004). *A Guide to the wetlands of the Lake Pontchartrain Basin*. Metairie, LA: The Lake Pontchartrain Basin Foundation. New Orleans, LA and The Coastal Research Laboratory in the Geology Department of the University of New Orleans.

WEB SITES

America’s Wetland Campaign

This site provides information to the public about Louisiana’s coastal wetland loss.

<http://www.americaswetland.com/>

CWPPRA (Coastal Wetland Planning, Protection, and Restoration Act Outreach)

www.lacoast.gov (To listen to Public Service Announcements visit www.lacoast.gov/media/videos)

Barataria Terrebonne National Estuary Program

Part of the US Environmental Protection Agency, this program manages, promotes, restores and educates about the Barataria-Terrebonne Estuary.

<http://www.btnep.org/>

Lake Pontchartrain Basin Foundation

A private, non-profit organization, its mission is to restore and protect the Pontchartrain Basin. Its programs include water quality monitoring, habitat protection, education/outreach and public access.

<http://www.saveourlake.org/>



Louisiana Department of Natural Resources

This site has useful information for teachers about Louisiana’s natural resources and wetlands in particular.

<http://www.dnr.louisiana.gov>

Louisiana Department of Wildlife and Fisheries

This site has good information about the variety of animal and plant species living in Louisiana wetlands.

<http://www.wlf.louisiana.gov>

Rice University School of Music

This site has good background information for teachers who want to learn more about music theory.

http://www.ruf.rice.edu/~musi/preparatory/music_theory.html

Rock & Roll Hall of Fame and Music contains lesson plans such as “American Dream” that stimulate critical and creative thinking and promote interdisciplinary learning. (Preview lessons, keeping in mind standards of the school and community.)

<http://www.rockhall.com/programs/plans.asp>

USGS National Wetlands Research Center

Located in Lafayette, Louisiana, this agency conducts research about the wetlands of the state.

<http://www.nwrc.usgs.gov/>

Web Dictionaries for music definitions:

<http://www.webster-dictionary.org/definition/melody>

<http://dict.die.net/melody/>

<http://www.hyperdictionary.com/dictionary/melody>



Lesson Three:

Who Knows? — THE SHADOW PUPPETS DO!

“Voice of the Wetlands,” a nonprofit organization, spotlights the critical need for the government to fight coastal erosion. The organization’s founder, Tab Benoit, a guitarist and songwriter from Houma, Louisiana, is deeply concerned about the disappearance of the wetlands and the far-reaching implications of the devastation. In an interview with Keith Spera (*The Times-Picayune* Lagniappe section, October 8, 2004, p. 29), Benoit urges, “This is a natural disaster, but a slower one...If we can do something to prevent it, then why aren’t we? Losing people at the end of the bayou is unacceptable. A whole culture, a whole piece of history is being wiped out. . . . We’re in survival mode now. We’re finally feeling a sense of urgency.”

It is this sense of urgency that spurred the BTNEP Management Conference and associate partners into taking pro-active measures to address the environmental problems that directly affect the vitality of the regional economy, culture, and way of life in the estuary. The report *Healthy Estuary, Healthy Economy, Healthy Communities...Environmental Indicators in the Barataria-Terrebonne Estuary System: 2002* lists ten **Focus Questions (FQ)** that helped guide their research and discussions and resulted in management actions.

Setting The Stage



- FQ 1:** Are we losing land in the BTES, and if so, where?
- FQ 2:** Are fish and wildlife habitats being protected and restored?
- FQ 3:** Are fish and wildlife populations stable?
- FQ 4:** How are threatened and endangered species faring?
- FQ 5:** Are non-native species a problem?
- FQ 6:** Are concentrations of toxic substances increasing or decreasing?
- FQ 7:** Are seafoods safe to eat?
- FQ 8:** How are natural resource-based business patterns changing?
- FQ 9:** How are environmental changes affecting our quality of life?
- FQ 10:** How strong is public support for a healthy estuary?



Objectives

STUDENTS WILL

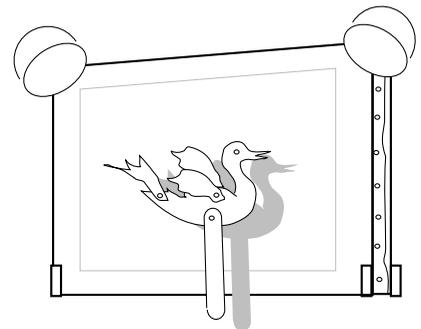
- research and discuss the “Focus Questions” and “indicators” linked to priority problems in the Barataria-Terrebonne Estuary System.
- conduct in-depth research pertaining to one of the focus questions.
- write a story for a shadow puppet play that brings one of the focus questions to life, using background setting, characters, dialogue, plot, conflict, etc.
- create and perform the shadow puppet play for an authentic audience.

MATERIALS

- colored cellophane
- tissue paper
- scissors
- tape
- brads
- rods (can use bendable plastic drinking straws or bamboo BBQ sticks)
- tag board
- construction paper
- colored markers
- staples
- Handout: Story Boarding (p.6)

GETTING READY

1. Create a PowerPoint, an overhead transparency, or a handout of the BTNEP Focus Questions.
2. Construct the Shadow Puppet set. The screen is a 3' by 4' rectangular frame covered with a white shower curtain liner. Brace the corners, and stretch the liner tightly and fasten all around the edges. Feet made from two-by-four blocks hold the screen upright. Place the clamp lights (available in discount and hardware stores) along the sides of the frame to illuminate the rear of the screen. Colored cellophane over the lights adds special effects.
3. Gather materials.
4. Make copies of the handout *Story Boarding*.



SHADOW PUPPETS

Shadow puppetry uses silhouettes and light; it involves paper figures pressed against a backlit opaque screen. As the puppeteer moves a figure behind a screen, the light from behind projects a shadow on the translucent screen for all to see. Once the screen is set up and decorated, puppeteers hold their puppets firmly against the rear of the screen as they perform their play. The figures can move all around, entering and leaving scenes or changing positions with other characters. Music, sound effects, voices, and rhythms add theatrical touches that enhance any production.

FUN AND LEARNING IN THREE ACTS

1. ACT ONE: The Creative Process

The beginning of any activity is the *idea*. Shadow Puppets lend themselves to a variety of stories. Because the screen is fixed and lit from behind, many different settings and scenarios are possible. Stories can take place underwater, in the salt marshes, on a cypress tree or just around the neighborhood. The hero/heroine, villain, and other characters can be people, plants, or animals. Stories are more interesting when there is conflict and resolution.

Use your imagination!

Most of the scenery is on the back of the screen where it is illuminated by clamp lights. This is done with tissue paper so the color will show. If all that is needed is the dark shape of an object, you can use construction paper. Scenery can also be heavier colored paper and taped to the front of the screen. Such objects as trees, pirogues and buildings can be used this way to define the setting and add a 3-D effect. However, one drawback to scenery placed on the front of the screen is the difficulty in seeing it from behind the screen during the performance.

Additionally, colored cellophane over the lights can produce interesting effects. Blue, green and/or purple create the impression of being underwater; yellow or orange present a sunny day, and red and orange can depict sunset. Placement of the colored lights also heightens the illusion of time and place.

Once you have researched your focus question and developed an idea for a story, you need to plan what will be necessary for making it come to life. One good way to do this is with a story board.* You can sketch in the characters and scenery as you plan how your story will develop. This will give you a good idea of what you need to make.

* Use copies of the handout *Story Boarding* (p.6)

2. ACT TWO: Write, Write, Write

Play writing can be a great cooperative activity and an excellent way to work on writing and editing skills. Once the story board is complete, you use it to write the background story and any narration and dialogue necessary for the story. Here is your chance to reinforce and practice using quotation marks, person, tense and other mechanics of written English. Be sure to include appropriate wetland terminology to explain the topic scientifically as well as interestingly.

3. ACT THREE: Characters, Props, and Scenery

Now you're ready to make your puppets. You will need:

- | | |
|--|--------------------|
| tag board | staples |
| colored markers | tissue paper |
| tape | construction paper |
| scissors | brads |
| rods (can use bendable plastic drinking straws or bamboo BBQ sticks) | |

Explore the Internet sites listed in the "Resource" Section for ideas on how to make your puppets. All figures and objects need to be large and simple. A frequent problem is making things very small and "tight." In order for the detail and color to show, characters need large body parts. These should be drawn on the tag board (or you can use old manila folders), then cut out. Cutting limbs separately provides mobility. They can be reattached with brads and manipulated in different ways. Remember to leave an extra "tab" of tag board where parts are joined.

Color the pieces with bright markers. Crayon and colored pencils do not show up as well. Outlining with black also gives definition to the shape.

Finally, take a rod such as a craft stick, ruler or a wooden dowel and attach the short end to part of your puppet with tape. The control rod can come from below the puppet or horizontally from behind the figure. The long part of the rod sticks out to provide a handle for manipulating the puppets. More than one straw is necessary for jointed figures.

4. FINALE: Production

Now, you have a script, puppets, a screen and actors. All you need is an audience. Present your play to your class; then take it on the road! Kindergarten students get so excited they will become part of the performance. Lower grade classes also enjoy these presentations. Older students have fun watching storytellers as well, especially when they have such wonderful props as puppets. Or, visit a retirement community and share the show. All students and audience members will increase their awareness and knowledge about the priority problems in the Barataria-Terrebonne Estuary System.

Add a little music, some rhythms or sound effects, and have a wonderful time.



THAT'S A WRAP!

If production is exceptionally well done, consider taping it; so, next year your class can see a good working model. Watch the improvement through the years!

5. **FYI: Hints and Lessons Learned** (*sometimes the hard way!*)

- Small diameter PVC pipe from the hardware store can be used in place of a wooden frame. Use corner connectors for the frame and T- connectors along the bottom to make feet. (Advantage- these screens are very light weight and can be taken apart to store. The pipe is also easily cut with a hacksaw.)
- The lights can get very hot. Performers need to be very careful not to touch the lights.
- Tape shows through the screen. Small rolled pieces are more aesthetically pleasing than rectangles stuck around the edges.
- The shower curtain liner is easily stretched. Store your screen where nothing will poke a hole in or distort the fabric.
- Puppets do not usually appear and disappear from the center of the screen. Introduce characters from the sides or bottom and slide into the scene. Sometimes students have to juggle positions or intertwine arms to perform. The solution to these problems is planning and practice.



HANDOUT:

STORY BOARDING

HERO/ HEROINE	VILLAIN	OTHER CHARACTERS	SETTING	CONFLICT	RESOLUTION

CREATIVE THINKING

Under each topic heading, keep track of ideas that come up during your brainstorming session. Include all ideas, descriptions, details and considerations. Welcome all ideas at first, no matter how whacky or wild; hitchhike and elaborate on each other's points.

CRITICAL THINKING

After you have thoroughly discussed and recorded all ideas, begin to critique according to set criteria such as cost, practicality, feasibility, creativity, etc. Come to a consensus and begin the writing process.



ASSESSMENT

Create a rubric for the puppet show, using a template from the *Create Your Rubric* Internet site
<http://rubistar.4teachers.org>

RESOURCES

WEB SITES

Healthy Estuary, Healthy Economy, Healthy Communities...: Environmental Indicators in the Barataria-Terrebonne Estuary System: 2002. Available from [www. btnep.org](http://www.btnep.org)

History of puppetry development
www.sagecraft.com/puppetry/definitions/historical/index

New Orleans puppeteer Karen Konnerth
www.calliopepuppets.net

Earliest Records of Shadow Play in Europe
<http://www.sagecraft.com/puppetry/definitions/historical/investigations.html>

Indonesian shadow puppet history and pictures
<http://discover-indo.tierranet.com/wayang.htm>

Chinese shadow puppets
www.ex.ac.uk/bill.douglas/Schools/shadows/shadows6.htm

Puppetry traditions from around the world with websites from fifteen countries
www.sagecraft.com/puppetry/traditions/index.html

Shadow puppet pictures from Egypt, China, Thailand and Indonesia
http://www.ledermuseum.de/inhalt_e/vo_3_e.html

Pictures and descriptions of shadow puppets from various countries
www.murnis.com/onlineshop/shadowpuppets/

Directions on how to write a short script for a specific scene for the puppets.
www.inspired2write.com/wordweav/exers/puppet.html



Lesson Four:

Honk — IF YOU LOVE THE WETLANDS

So ... what are wetlands? Although there are many definitions of wetlands, they are generally defined using three criteria:

Setting The Stage



hydrology - the presence of water

hydric soil conditions

hydrophytic plant types

Wetlands are areas that are inundated or saturated by surface or ground water over a period of time sufficient to support vegetation adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands are dynamic ecosystems that offer an array of important economic, cultural, recreational and ecological benefits to Louisiana's citizens.

Unfortunately, while Louisiana accounts for 25% of the coastal wetlands and 40% of the salt marshes in the continental U.S., the state's coastal marshes are disappearing at an alarming rate of about "a football field every 40 minutes." The Barataria-Terrebonne Estuary has the most severe wetland loss of the whole state. Indeed, it is disappearing at a faster rate than any other place in the world.

There are complex factors contributing to the loss of wetlands—some are natural geologic processes; others are human-induced causes. While some of the loss is due to natural processes like erosion, a significant amount of wetland loss is due to human impacts such as confinement of the Mississippi River between levees, oil exploration and dredging of navigation canals.

Wetlands: Functions and Values



WILDLIFE AND PLANT HABITAT

Wetlands support an enormous variety of plant and animal life, and provide essential habitat for mammals, birds, fish, reptiles and amphibians. ‘Habitat’ refers to areas that provide breeding, feeding and nesting grounds for animals and plants. Wetlands are important for migratory waterfowl, and they also are home to many endangered plants and animals. From a biological viewpoint, wetlands are production machines, out-producing most other ecosystems several times over.

COMMERCIAL FISHING

Commercial fishing is a significant part of the Barataria-Terrebonne Estuary’s economy. The estuary provides valuable habitats for developing marine life such as blue crabs, oysters, shrimp, and over 60 fish species. In the U.S. alone, more than 70% of the commercial fishing market consists of species that use coastal wetland areas at some point during their lifecycle.

WATER QUALITY

Water quality describes the chemical, physical, and biological characteristics of water. Water quality also describes whether water is drinkable, useable, harmful or toxic. Some waterways in the estuary do not meet water quality standards for primary recreational use (i.e. swimming and fishing). Wetlands help protect water quality by acting as a filter removing pollutants, metals and excess nutrients that might otherwise damage the aquatic ecosystem.

HURRICANE/FLOOD PROTECTION

Wetlands have the natural ability to act like sponges and help to prevent flooding from heavy rains or storm surges associated with winter storms, tropical storms and hurricanes by absorbing excess water. Healthy coastal wetlands reduce the height of storm surge during hurricane events.

GROUNDWATER RECHARGE

While wetlands play an important role in ensuring clean water, they also are critical in maintaining the quantity and volume of our water resources. Since they can hold large amounts of water, some wetlands help to recharge groundwater in the soil.



AESTHETICS AND RECREATION

Wetlands support a variety of recreational activities, ranging from hunting and fishing to ecotourism. Recreational fishing, for example, is one of the fastest growing industries in Louisiana, much of which takes place in the Barataria-Terrebonne Estuary.

CULTURAL VALUES

Wetlands are a major part of southeastern Louisiana's culture, and they have helped shape the region's history and lifestyles. Since the original settlers relied on the swamps and bayous for food, shelter, income, and other necessities, wetlands influenced the lifestyle and livelihood of the estuary's early communities.

Wetland Loss: Causes and Probable Impacts

The Barataria and Terrebonne basins contain 33 % of the coastal area of Louisiana and experience the greatest land loss for the entire state. At the current rate, it is predicted that residents of coastal communities throughout Louisiana will be forced to move within the next 15 years as land under their home is replaced by water.



HABITAT LOSS: PROBABLE IMPACTS, CAUSES, AND SOLUTIONS

PROBABLE IMPACTS	PROBABLE CAUSES	PROBABLE SOLUTIONS
Decreases in sport and commercial fish and shellfish populations	Hydrologic modification and wetland subsidence; saltwater intrusion	Return to more natural hydrologic flow
Changes in furbearing and waterfowl populations with sport and commercial value	Spoil banks and diking/leveeing of wetlands; isolation, submergence and mortality of wetlands; wetland erosion and internal fragmentation	Return to more natural hydrologic flow
Reduced recreation and commercial value of wetlands and estuaries	Shoreline erosion by commercial and recreational boat wakes	Protect the shoreline
Decreased acreage available to treat pollution inputs; increased levels of eutrophication, pathogen contamination and toxic substances	Filling of wetlands for agriculture and other development	Engage in cooperative conservation activities with farmers
Decreased capacity to buffer storm energy	Hydrologic modification and wetland subsidence; saltwater intrusion	Restore wetlands with various techniques
Decreased habitat for birds and other species such as the black bear	Human overpopulation, urbanization of wetlands	Save wetlands habitats through participation and preservation
Elevated rates of subsidence, flooding and wetland loss	Hydrologic modification such as levees and man-made canals, saltwater intrusion, hurricanes, nutria herbivory	Call or write legislative representatives about restoration. Use fencing and other devices to stop nutria feedings, continue funding for nutria tails



Objectives

STUDENTS WILL

- **list and describe the functions and values of wetlands.**
- **discuss the importance of wetlands.**
- **design and share a communication strategy to make others aware of the importance of wetlands.**

GETTING READY

1. Either download pertinent information on wetlands from Internet Sites or assure Internet access for students.
2. Contact BTNEP for pertinent posters, videos, CDs.
3. Review “Background” information.
4. Duplicate the Handouts:
Wetlands: Function and Values (p.6)
Wetlands Loss: Causes and Impacts (p.7).

PROCESS

1. Administer the pre-test, *Wetlands: Function and Values*, individually or in small groups to determine prior knowledge. Ask students to complete the chart, describing the specific functions and values. You may choose to put these charts up in your classroom and have students put “stickers” in the appropriate spots. That way, students would have access to material throughout the lesson.
2. Form research groups of two or three students. The groups will now complete the chart *Wetlands: Function and Values*, using printed materials, Internet sites, videos, and CDs.
3. Each research group will share its findings with the class.
4. Ask individuals or groups to compare their pre-tests with their researched charts, verifying and correcting responses.
5. Administer a second pre-test, *Wetlands Loss: Causes and Impacts*, individually or in small groups to access prior knowledge. Ask students to complete the graphic organizer, listing the



causes and describing the impacts of habitat loss. Directions: *In the center rectangle, identify the event that has occurred. In the rectangles to the left of center, list the causes of the event. In the rectangles to the right of center, describe the impacts/consequences of the event.*

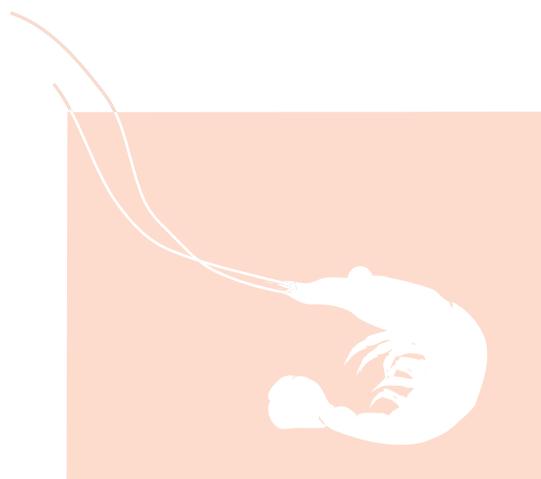
6. Form research groups. The groups will now complete the same graphic organizer worksheet, using printed materials, Internet sites, videos, and CDs.
7. Each research group will share its findings with the class.
8. Ask individuals or groups to compare their pre-tests with their researched graphic organizers, verifying and correcting responses.

ASSESSMENT

The handouts *Wetlands: Function and Values* and *Wetlands Loss: Causes and Impacts* may be administered as a post-test.

EXTENSIONS

Judge the creation of a communication strategy. Determine 1st, 2nd, & 3rd place winners.





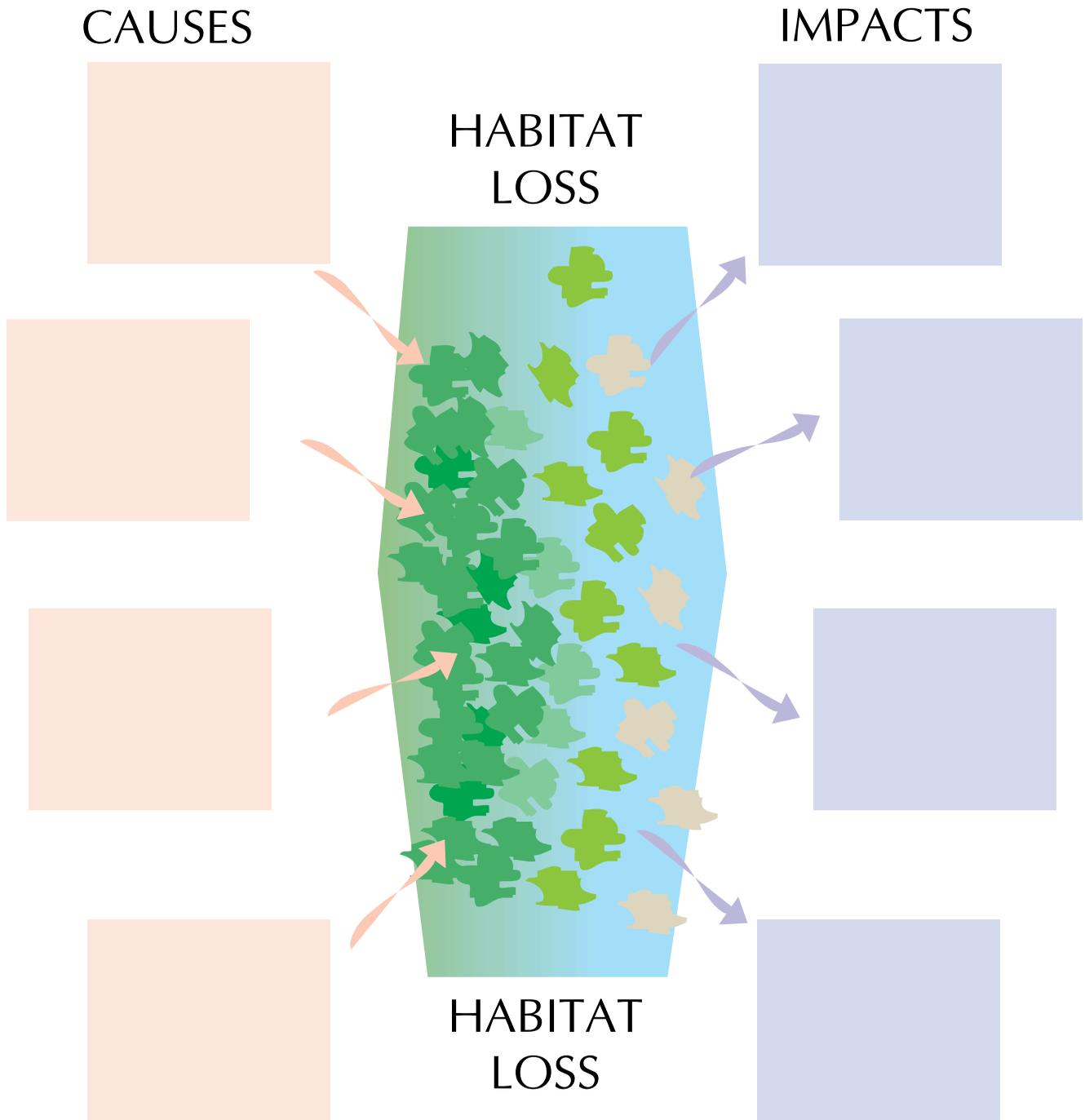
HANDOUT:

WETLANDS: FUNCTIONS AND VALUES

FUNCTION	DESCRIPTION OF FUNCTION	VALUE
Wildlife and Plant Habitat		
Commercial Fishing		
Water Quality		
Hurricane/Flood Protection		
Groundwater Recharge		
Aesthetics and Recreation		
Cultural Values		

HANDOUT:

WETLANDS LOSS: CAUSES AND IMPACTS



RESOURCES

WEB SITES

America's Wetland Campaign
www.americaswetland.com

Lake Pontchartrain Basin Foundation
www.saveourlake.org

BTNEP Materials: All materials are free of charge. Some items have digital versions that you can download directly from BTNEP Estuary Education Resources.

<http://www.btnep.org/home.asp>

Other items may be obtained by contacting:

Barataria-Terrebonne National Estuary Program Office

Nicholls State University Campus

P.O. Box 2663

Thibodaux, LA 70310

1-800-259-0869

BTNEP Priority Problem Poster One: *Hydrologic Modification*

BTNEP Priority Problem Poster Two: *Sediment Availability*

BTNEP Priority Problem Poster Three: *Habitat Loss and Modification*

BTNEP Priority Problem Poster Four: *Changes in Living Resources*

Satellite image of the Barataria-Terrebonne Estuary

Video: *Rescuing the Treasure*

BOOKS

Moore, D.M., & Rivers, R.D. (1996). *The Estuary Compact: A public-private promise to work together to save the Barataria-Terrebonne Basins*, CCMP-Part 2. Thibodaux, La: Barataria-Terrebonne National Estuary Program



PRESERVING OUR WETLANDS: HOW TO DESIGN A BUMPER STICKER



Setting The Stage

Look closely in front of you as you sit in a traffic jam. What do you see? You probably see a lot of messages on the bumpers of vehicles. Bumper stickers are everywhere! Whether the messages intend to inform, persuade, entertain, or complain, people read them.

This “how to” lesson on designing bumper stickers will give your students a purpose for using the information they have learned about the wetlands. It will challenge them to use their creative, divergent, and productive thinking skills as they research, brainstorm, analyze and create. But, most importantly, it will serve as a catalyst for students to remind themselves and others of the need to preserve our wetlands.

MATERIALS

- paper and pencil
 - crayons
 - permanent markers
 - contact paper (white)
 - scissors
 - reproducible worksheets, Handouts (pp.12-17)
- *Optional:
 - stencils
 - solid colored contact paper

GETTING READY

1. Review all the reproducible worksheets for this lesson.
(The worksheets are designed to guide you through the lesson.)
Handout: *You're the Artist!* (p.12)
Handout: *Bumper Research* (p.13)
Handout: *Bumper Brainstorm* (p.14)
Handout: *Bumper Decision Making* (p.15)
Handout: *Bumper Message* (p.16)
Handout: *Time to Design* (p. 17)



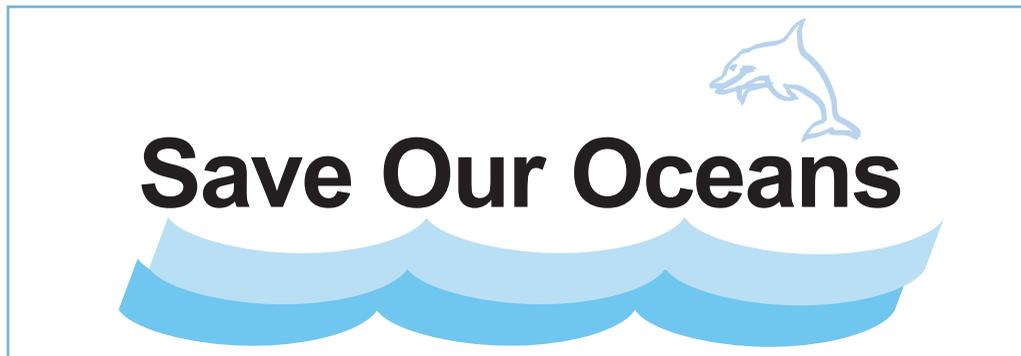
2. Duplicate the reproducible worksheets.
3. Have all materials/supplies readily available.
4. Display a collection of commercial art books in your classroom.
5. Collect samples/photographs of bumper stickers.

PROCESS

1. Bring in samples or photographs of bumper stickers to share with your students. Discuss the intent of each bumper sticker. Discuss the use of color, type of font, size of message and use of images. Allow students to critique the stickers and rank order them from the ones they like the most to the ones they like the least.
2. Ask students to share messages they have read on bumper stickers. (Billboard messages are like giant bumper stickers. You can discuss them, too.)
3. Conduct a class or school-wide survey to find out how many people have bumper stickers on their cars.
4. Ask students to research the topic of “commercial art,” using printed materials as well as the Internet. Invite a commercial artist to speak to your students about his/her job.
5. Determine if someone needs to teach special skills such as calligraphy.
6. Review each worksheet with your students. Lead them through the activities. Some worksheets can be assigned for homework. (It should take approximately one week to complete this lesson.)
7. Have a design contest. Ask a school business partner to help you to print the winning bumper sticker(s).
8. Distribute to all students and members of the community.

EXTENSIONS

1. Take a walk with your family down your street to see the bumper stickers on cars. Read them and discuss their intent.
2. Visit the local library and check out books about commercial art.
3. Have the whole family design bumper stickers about the wetlands for their bicycles, cars, trucks or other mobile vehicles.
4. Subscribe to The Izaak Walton League of America's newsletter *Wetland Sights and Sounds* by e-mailing: join-friends@list.iwla.org





HANDOUT:

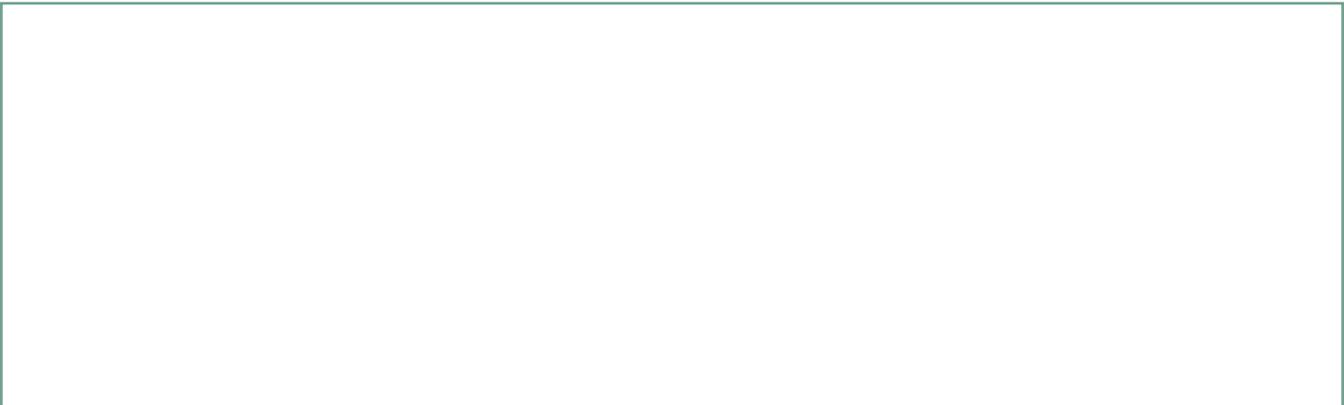
YOU'RE THE ARTIST!

Scenario:

You are a commercial artist at one of the most prestigious advertising firms in the city. You have designed award-winning billboards and bumper stickers. Your avocation, however, is environmental education. You are deeply concerned over reports such as the one from the U. S. Fish & Wildlife Service indicating a loss of over 60 acres of wetlands an hour in the United States between the 1780s and the 1980s. Therefore you volunteer to spearhead a campaign to notify the public through the use of bumper sticker messages why they need to preserve the wetlands. You have one week to complete this task.

Use the spaces below to illustrate your two best ideas. You might want to check out some books about commercial art for ideas.

BUMPER STICKER PICTURE IDEAS:



HANDOUT:

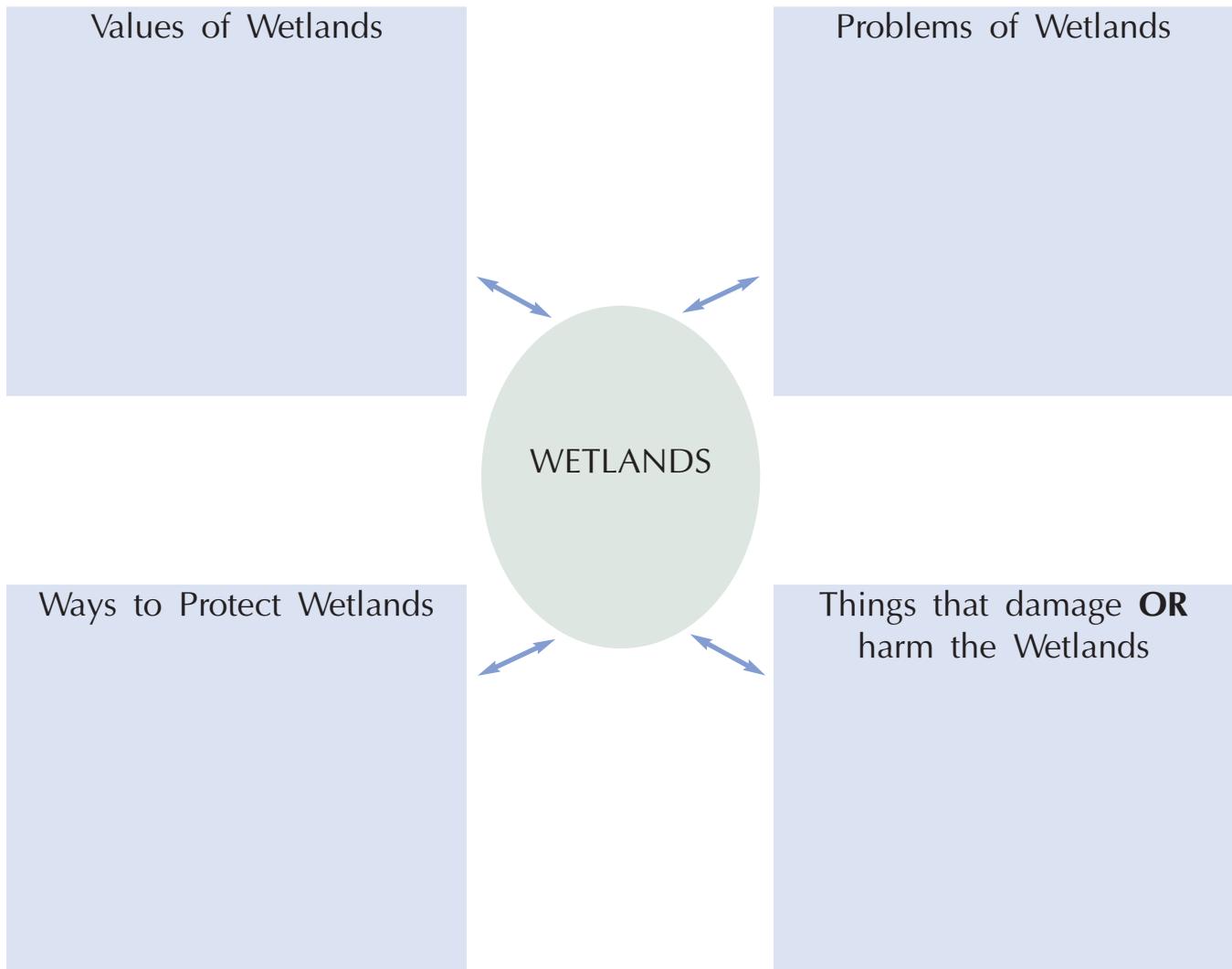
BUMPER BRAINSTORM

Brainstorming is an important step in stimulating your creativity. Brainstorming means generating many ideas. In your small group, you must think quickly and come up with as many ideas as you can. For example, if you were to brainstorm a list of “sweet things,” you might think of sugar, candy, perfume, strawberries, Aunt Betsy, and so on.

The rules of brainstorming are:

1. Write down all responses.
2. Generate as many ideas as possible. Every idea is accepted and recorded.
3. Withhold judgment—both positive and negative.
4. Hitchhike or build upon the ideas of others.
5. Encourage “far out” or “wild” ideas.

Brainstorm key words and phrases around each of the following topics. Let your creativity flow!





HANDOUT:

BUMPER DECISION MAKING

Now is the time to make some decisions about your bumper sticker. First, read each question on this page. Spend some time thinking, allowing your ideas to “incubate.” Refer to your brainstorming worksheets for ideas. When you are ready, write your responses.

1. Who will be your primary audience? (Whom do you really want to read your bumper sticker?)

2. What aspect of the wetlands will you focus on?
(Specific value or problem; what harms; what helps)

3. What is the reason for your bumper sticker?
(Is it to inform someone about the wetlands or to persuade someone to do something about the wetlands? Is it to complain to someone about what is happening to the wetlands?)

4. What size bumper sticker do you want to design, and what size font will you use?

5. What colors will you use? (Three colors or less)

6. Will you use an image? If so, what image(s) will you incorporate into your design?



HANDOUT:

BUMPER MESSAGE

One of the most important steps in designing a bumper sticker is creating a simple and clever message. Your message should not be too long. You might want to write a command. You may choose to use rhyming words. Have fun with this step. Be creative! Write as many messages as you can.

Here are some examples:

“Don’t trash the wetlands!” (command)

“For the wetlands: Be a Go Gitter. Don’t Litter.” (rhyme)



(one word message)

MAKE IT SPECIAL

After choosing your favorite wetlands message, you will need to consider a style of font (letter style). You can find samples of fonts in commercial art books in your public library or in your computer word processing program. You can draw your letters freehand or you may use stencils. Practice writing your message using different styles of letters. For example:

Don't trash the wetlands!

DON'T TRASH THE WETLANDS!

DON'T TRASH THE WETLANDS!

Don't trash the wetlands!

Don't trash the wetlands!

DON'T TRASH THE WETLANDS!

Don't trash the wetlands!



HANDOUT:

TIME TO DESIGN

After you decide upon your message and the font:

1. Practice drawing your bumper sticker message, using a rectangular shape. Use a ruler and draw the outline carefully.
2. If you decide to add graphics (images) to your bumper sticker, remember to keep them simple so that they do not compete with your message.
3. Think about the color of the background. Decide on the color(s) of your letters. Compare and contrast different combinations of colors before making a final decision. Use crayons to color your “practice” sticker.
4. When you are satisfied with your “practice” sticker, reproduce it on contact paper. Cut the contact paper to the size you need. Use permanent markers to color it.
5. Enter your bumper sticker into the contest! *Bonne Chance!*



Lesson Five:

Pass the Word—DESIGNING AN ENVIRONMENTAL ACTION BROCHURE FOR THE BTE



“Look deep into nature, and then you will understand everything better.”
~Albert Einstein

Welcome to the Quote Garden. (n.d.).
Retrieved March 21, 2005 from
<http://www.quote garden.com/nature.html>

Setting The Stage



Most people acknowledge that the keys to the solution of environmental problems are awareness, education and stewardship. How can anyone solve a problem if they are not aware of it? Following awareness is education to increase our knowledge of an issue and understand its connectedness to all aspects of an ecosystem. Appreciation of our environment comes from connecting environmental problems and solutions to their effects on our everyday lives. Once we appreciate the impact of the environment on our personal lives, this leads to a desire to protect it and preserve it. All citizens of every age can be led through a four-step environmental hierarchy of Knowledge-Understanding-Appreciation-Stewardship.

Can we use this four-step process to help solve the **seven priority problems** that affect the Barataria-Terrebonne National Estuary? Let's review them:

Hydrologic Modification
Habitat Loss and Modification
Eutrophication
Pathogen Contamination

Sediment Availability
Changes in Living Resources
Toxic Substances

To increase awareness about these serious issues and to educate the citizens of the BTE about them, we are going to design, reproduce and distribute environmental action brochures about the Seven Priority Problems. It will be interesting to see if our awareness and education campaign leads to understanding and stewardship!



Objectives

STUDENTS WILL

- **become better informed about the Seven Priority Problems of the BTE.**
- **use computer technology to produce a tri-fold environmental action brochure.**
- **identify four elements of an effective effort for environmental stewardship.**
- **design a brochure that not only informs citizens about one of the seven priority problems and the issues surrounding it but encourages them to take significant action.**

MATERIALS

- computers with word processing program & color printer
- BTNEP poster set of the *Seven Priority Problems*
- brochures/pamphlets as examples
- pictures, maps & other images that relate to the Seven Priority Problems

GETTING READY

1. Collect a number of brochures/pamphlets that inform and educate the public about an environmental issue. You can obtain them from BTNEP, the Lake Pontchartrain Basin Foundation, AMERICA'S WETLAND CAMPAIGN, Ducks Unlimited, or other organizations. (Teacher workshops and conferences are great places to pick these up for your classroom!)
2. Distribute a few brochures to each student group. Ask students to evaluate them. Allow ten-to-fifteen minutes to identify the strengths and weaknesses of the brochure's layout and text. Have each group share its conclusions with the class. Facilitate a discussion about eye-catching details and other appealing characteristics of an outstanding brochure.
3. Discuss expectations for the brochure. The final copy should be computer-processed or typed and should look professional. It should include the class's name, a purpose statement and information about the BTE, as well as how interested citizens can become involved.



4. Review the procedure for using a computer word-processing program, such as MS Word, MS Publisher, or Print Shop, to produce a brochure.
5. Assist students in obtaining pictures, maps and other images to incorporate into their brochures.
6. Brainstorm with the class where and how class brochures will be distributed to the public.
7. Distribute information/posters on the *Seven Priority Problems* (Available from BTNEP).

PROCESS

1. Assign students to groups of three or four and have them select one of the **seven priority problems** that affect the Barataria-Terrebonne National Estuary. Each group should have a different problem to research.
2. Have each group develop a brochure designed to inform concerned citizens about the problem and the issues surrounding it. While the main purpose of the brochure is to inform citizens, it should also encourage them to take significant action.
3. Review the following assessment criteria for the brochure:
 - The brochure must be scientifically accurate, grammatically correct and visually appealing.
 - It will need appropriate pictures, drawings, diagrams and maps.
 - The information in the brochure must be clearly organized. Each brochure should contain answers to the following questions:
 - a. What is the priority problem?
 - b. Why should we care about the priority problem?
 - c. What can we personally do about the priority problem?
4. Review specific tasks, such as:
 - **Everyone:** Gather information.
 - **Editor:** Select and proofread written information.
 - **Fact Checker:** Make sure that information is accurate.
 - **Artist/Illustrator:** Choose colors and layout; make diagrams, drawings and maps.
 - **Publisher:** Organize and print written information.
5. Have students list sources and resources used in the preparation of the brochure at the end of the brochure, along with a list of each member of the team and his/her role.



6. Enough copies of the brochure should be reproduced to distribute to the public according to the plans made by teacher and student groups. A special meeting or a local fair may accomplish this. Use it as an opportunity to meet local citizens and guide them through the four-step hierarchy of environmental stewardship!

QUESTIONS FOR JOURNALING

1. What new information did you learn about the BTNEP *seven priority problems*?
2. What can you personally do about one or more of the problems?
3. Were you able to generate interest among local citizens about this issue?
4. Do you feel that your efforts will lead others to environmental stewardship? Why or why not?

ASSESSMENT

1. Assess students according to the quality of their research, dedication to the task, group cooperation, journal entries and group brochures.
2. Use a scoring rubric to evaluate each group's brochure. This can be accomplished by teacher assessment and/or peer assessment. Have students participate in the rubric development process using these guidelines:

An **outstanding** brochure has all required elements. It is comprehensive, accurate, and well written; plus, there is evidence of creativity and extra research.

A **proficient** brochure has all required elements. It is fairly comprehensive, accurate, and well written; plus, it displays some creativity.

An **average** brochure has most of the required elements. It covers the subject, and it is, for the most part, accurate. But there are writing errors, and it is not creative.

A **below average** brochure will be missing most of the required elements. It is not accurate, well written, or creative.



EXTENSIONS

1. Students may design additional brochures/pamphlets on other issues.
2. Students may plan, coordinate and conduct an Environmental Awareness Fair during which they distribute flyers and/or pamphlets to educate other students in their school or the public.
3. Students may request a booth at an environmental fair such as the BTNEP *La'Fete d' Ecologie* in September to distribute brochures/flyers. Visit www.btnep.org for contact information.

RESOURCES

Assorted pamphlets/brochures from environmental organizations.

WEB SITES

Directions for producing a brochure using PrintShop can be downloaded at:

<http://www.fayar.net/admin/technology/curriculum/pamphlet.doc>.

(The site will ask for a password, but when “cancel” is clicked, the document will come up.)

Barataria-Terrebonne National Estuary Program has many resources online that can be used as examples for this lesson. There is also contact information to request brochures and posters to be mailed to you.

www.btnep.org

Lake Pontchartrain Basin Foundation also has many resources online to help with this lesson. Many of their brochures can be downloaded. Use the contact information on this site to request information.

www.saveourlake.org

The Coastal Wetland Planning, Protection, and Restoration Act Website can provide many examples of brochures. There is also contact information to request brochures and pamphlets.

www.lacoast.gov



Lesson Six:

Estuary Extra — PRODUCING YOUR OWN ENVIRONMENTAL NEWSPAPER



One interesting way to educate others about factors affecting the Barataria-Terrebonne Estuary is to produce a student newspaper. This can be a big job, but it can also be a lot of fun for teacher and students alike.

At a newspaper, the work is divided by department, so students will work in teams representing each different division. Students should consider what each of those jobs entails. Have them begin generating ideas for *Estuary Extra*. They can refer to other activities they've done in this unit and write about the people, events, and issues that are important in the Barataria-Terrebonne Estuary.

Here are the major departments in any newspaper. Feel free to add any others that you might need.

NEWSPAPER DEPARTMENT	RESPONSIBILITIES AND DUTIES
PUBLISHER	Head of the newspaper staff; assign newspaper jobs to various teams and individuals.
NEWS DEPARTMENT	Led by the Editor-in-Chief; write and illustrate all articles and features; take photos.
BUSINESS / ADVERTISING DEPARTMENT	Raise money to publish the newspaper; sell newspapers; sell advertising space.
DESIGN DEPARTMENT	Put stories, art, and photos into proper form for printing; print the newspaper



Objectives

STUDENTS WILL

- **brainstorm ideas for newspaper topics and design.**
- **select a department of the newspaper in which to work.**
- **work in cooperative groups to plan, design, edit and publish a student newspaper.**

MATERIALS

- Sample newspapers and newsletters
- Magazines with advertising
- Writing materials
- Computer and publishing software
- Copies of Handout *Writing for a Newspaper* (pp.3-8)

GETTING READY

1. Gather print materials.
2. Make copies of handout.

PROCESS

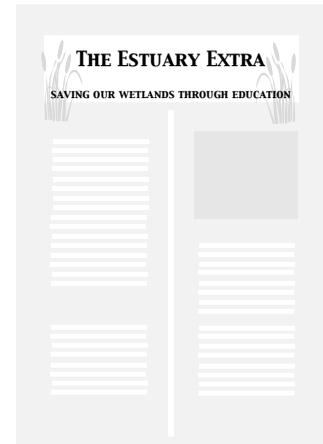
1. Provide good models for students to review and evaluate. Show them professional newspapers as well as student-produced newsletters.
2. Develop a few whole-class activities such as selecting the newspaper logo and masthead for use by all groups. Develop a catchy thematic title, if needed.
3. Create a class "newspaper headquarters" that contains group topic brainstorm, schedule, timeline of progress, assignments, responsibility chart, and "to-do" lists.
4. Have students manage files carefully by giving them a standard way of naming files such as "*estuaryextra1*."
5. Review and discuss the handouts.
6. Review rubrics with the students.

HANDOUT:

WRITING FOR A NEWSPAPER

READY?

1. Check the diagram below and start thinking about which part of the newspaper is right for your talents and interests.



2. Select which newspaper assignment you would like to do, or have your teacher assign you to a department.
3. If you have chosen a writing assignment, use the pointers provided here to help you.
4. Every article should have each of these components:

HEADLINE: the words printed across the top of an article to catch the reader's interest

DATELINE: the words at the beginning of an article telling when and where the story was written

BYLINE: the name of the author of the article, the artist of an illustration, or the photographer of a picture.



NEWS:

News articles are the most structured type of newspaper article. The purpose is to provide information about an event to your readers. Write articles on coastal erosion, habitat loss, endangered /threatened/ invasive species, restoration projects, loss of jobs, pollution, education or natural resources in the BTE. Be alert for any news stories on current events occurring in your local community that you can feature in your paper.

Here are some tips to help you write a great article:

Research your story.

- Make a list of questions you want to answer.
- Identify possible sources of information such as the Internet, the library, BTNEP, and reliable subject-matter experts or scientists.
- You can also investigate by visiting a site, observing, taking notes and comparing your conclusions with the other evidence you have gathered.
- As you find answers to your questions, take careful notes, documenting each source.
- Evaluate each source; consider factors such as reliability, objectivity and currency.

Start with a headline that captures the reader's interest.

Use your lead paragraph to hook your reader by highlighting your most fascinating or interesting finding. Summarize the story by including the 5 Ws: WHO, WHAT, WHEN, WHERE, and WHY of the story. The lead should be brief, objective, and limited to essential information. Use Thinking Maps or Graphic Organizers to help you organize your information logically.

- The following paragraphs should explain and develop the 5 Ws by providing details. Put the details in order from most important to least important. If possible, link the story to the life of the reader.
- Write in the third person (he, she, it, and they). Never write news articles in the first person. Personal stories are called “Features.”
- Use the active rather than passive voice when reporting.

HANDOUT: SUGGESTIONS FOR THE NEWS DEPARTMENT, CONTD.

- Stick to the facts. Do not include your personal opinions. Editorials or Letters to the Editor serve that purpose.
- Use relevant quotes to add local color to your article.
- Wrap up the article. Think about using a strong quote.

FEATURES:

Features are interesting stories about people, places and events, such as the annual BTNEP paddle trip, volunteer tree planting and the *La'Fete de Ecologie Festival*. Some features explore an issue that may be too complex for a hard news item. They are less concerned with facts and more about human interest. Write an article on "The Big One," telling what would happen if a Category 5 hurricane hit Morgan City. Pick one of the "Seven Priority Problems" of the BTE and write a feature story about it. Interview older relatives or friends about coastal land loss problems they have witnessed in the BTE in their lifetime. Possible interviewees include: C. C. Lockwood, the nature and wildlife photographer; Tab Benoit, local musician; Kerry St. Pe', Director of BTNEP; Mark Davis, Director of the Coalition to Restore Coastal Louisiana; Dr. Earl Melancon, oyster expert at Nicholls State University and LUMCON; Windell Curole, South Lafourche Levee District; Archie Chiasson, Manager of the Fresh Water Levee District, or Jerome Zeringue, Terrebonne Parish Levee District. Do a photo essay on plants and animals of the BTE. Report on a local festival, fishing rodeo, or volunteer at a marsh grass planting event. Give recipes for your favorite seafood or game dishes. Write an article on a field trip to your favorite place in the BTE.

Here are tips on writing feature stories:

Be Creative.

You are not bound by the same rules as when writing a news story. Pretend you are telling a story. Use your senses; invite your readers by describing sounds, smells, sights and textures. Paint a picture with your words. Personal thoughts can be part of your feature, but always tell both sides of the story.

If your feature involves an interview, keep the following tips in mind:

- Know your subject. Gather information about the person you are interviewing by reading about his/her work or by talking to friends and associates.
- Make a list of questions to ask, but be open for any spontaneous questions that may arise.
- Develop a positive, polite relationship with the person you are interviewing.



HANDOUT: SUGGESTIONS FOR THE NEWS DEPARTMENT, CONTD.

- Explain the ground rules of your interview, if any, and respect your subject's wishes about any off-the-record topics.
- Keep the subject focused. Do not let him/her stray from the topic.
- Tape record or videotape the interview for your records.

EDITORIAL:

This type of article gives you a chance to express your opinion and be persuasive. Write your opinion about the importance of hurricane preparedness, litter reduction or coastal restoration. Draw an editorial cartoon about pollution, wetland loss, problems in the fishing industry or coastal land loss in the BTE. Ask others to write letters to the editor on various topics of interest in the estuary.

Do not forget these tips when writing editorials or letters to the editor:

- Get your facts straight.
- Keep your audience in mind.
- Grab the attention of the reader with your first sentence.
- Present your opinion/arguments logically and persuasively.

SPORTS:

Cover the Grande Isle Tarpon Rodeo. Write an article about wildlife management in the BTE. Write an article about the history of trapping nutria, mink and muskrat. Interview a local fishing guide and report on the latest in fishing lures. Give dates and times for the Hunter Education Workshops and the "Outdoor Women" workshops sponsored by Louisiana Department of Wildlife & Fisheries.

ENTERTAINMENT:

Draw a comic strip or cartoon featuring "Clawdette," the BTE Crab mascot. Design a maze based on a map of the BTE. Develop a crossword puzzle or a word search puzzle with the vocabulary words from a wetland unit. Cover a concert by a local Cajun or zydeco musician or band.

WEATHER:

Design a weather report for the BTE. Include a map, high and low temperatures, rainfall, three-day forecast, ozone index, tidal graph chart, wind speed and direction and any other information your readers might need to know.

PHOTOGRAPHY AND ART:

Take photographs or use computer clip art that will highlight your articles and make them more interesting. Draw clear illustrations, graphs or charts that help your readers understand the subject more easily. Remember to include captions for your pictures or cite the artist you are using!





SUGGESTIONS FOR THE BUSINESS AND ADVERTISING DEPARTMENT

ADVERTISEMENTS:

RAISING MONEY TO PUBLISH A NEWSPAPER

- Decide on a “price” for each issue of the *Estuary Extra*.
- What is your plan for marketing the newspaper?
- Who is your intended audience?
- Who will sell or distribute the newspapers?
- You can raise money for your newspaper by selling advertising space. Make a decision about the type of ads you want to feature in *Estuary Extra*. Do you want to accept all advertising, or will you accept only advertising for environmentally-friendly products and services?

Here are some ideas for ad opportunities that you can develop:

- | | |
|---|----------------------------------|
| • a store that sells sports accessories | • music or computer store |
| • canoeing lessons | • an organic food store and deli |
| • Cajun cooking or dancing lessons | • charter fisherman |
| • shrimp for sale | • Red Fish Tournament |
| • Cajun Dance Lessons | • litter prevention |
| • safe septic systems | • Swamp Tours |
| • hunting dogs for sale | |
| • jackets, tennis shoes, and backpacks made of recycled plastic | |

guided tours to Bayou Segnette, Jean Lafitte National Historic Park, the LaBranche Wetlands, Des Allemands, Grande Isle State Park, and Bayou Lafourche.

Can you think of others? Look at advertising circulars from a local paper for more ideas.

- Make your ads interesting.
 - Use lettering (fonts) of different types and sizes to draw attention but not distract.
 - Keep the text simple.
 - Use descriptive adjectives and strong verbs.
 - Add artwork or photographs to enhance visual interest and to help “sell” the product.



GETTING THE PAPER READY TO PRINT

After the stories, artwork, and advertising are ready, the Design Department has the job of putting the *Estuary Extra* together. What does that job involve?

For a professional-looking newspaper, use a computer for your work's layout. Experiment with different types and sizes of fonts for variety as well as a look you like.

When articles are ready for publication, it's time to have another group meeting to determine layout. Consider printing articles as single columns to get a feel for length. Show students what 100 words "looks like" in a column so they can adjust content length.

Ask everyone to read the newsletter three times. Read it once for content, once for technical quality, and once backwards (back to front) to catch small errors.

- How large is your newspaper? Will readers have a hard time finding certain features of interest to them? You might want to develop an index on the front page to direct readers to the page number of their favorite section.
- Look at several different newspapers for ideas on layout. This is the arrangement you use for fitting all the pieces of the *Estuary Extra* on paper. Use a newsletter template from the Document command of your computer word processing program. Empty spaces? What will you do? Use cartoons, pictures or ads as fillers for those spots.
- How will you print the *Estuary Extra*? Will you use recycled paper? Be sure that all your arrangements are in order. You will need access to a copy machine and enough paper to print the necessary number of copies.

FINISHING TOUCHES BY THE EDITORIAL STAFF

PRESS TIME!!

LOOK!

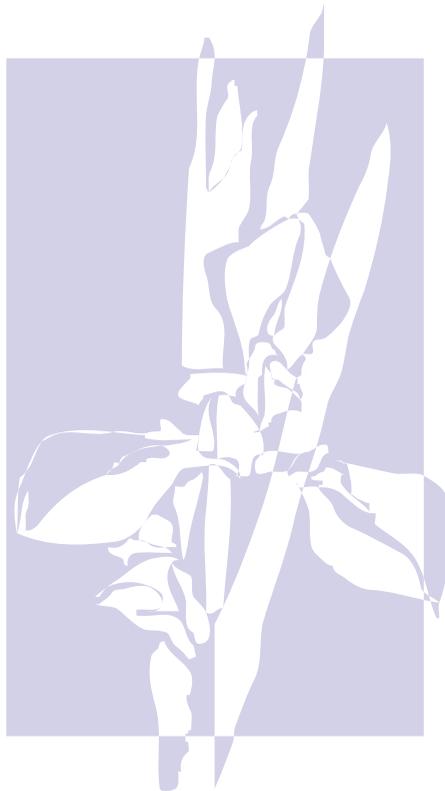
Be sure to proofread each article several times before the *Estuary Extra* goes to press. Double check the spelling of names and places. Be sure dates and times are accurate.

Do a final check on all headlines and photo captions for accuracy.

Check to see that the circulation staff is ready to distribute the paper.

QUESTIONS FOR JOURNALING

1. Why is a free press important in a democracy?
2. How important was it for you to research your subject well?
3. Did you interview any people for an article? What appreciation for their work did you gain?
4. Other than factual material, what are some of the important things you learned from writing a newspaper?
5. How did your readership relate to the newspaper?
6. Do you think people are now more informed about wetland issues? Why or why not?



ASSESSMENT

Cooperative Learning Group Performance: *Estuary Extra*

Project: _____

Group Members: _____

	3 OUTSTANDING	2 SATISFACTORY	1 NEEDS IMPROVEMENT
Each member of the group contributed ideas and suggestions for setting goals, assigning roles, and developing a plan of action for the newspaper.			
Each member of the group carried out the duties of his/her role.			
Each member of the group contributed to the development and distribution of the newspaper.			
A positive atmosphere was maintained during group meetings.			
Group goals were achieved.			

OVERALL RATING: TOTAL POSSIBLE POINTS = 15



Estuary Extra STUDENT NEWSPAPER RUBRIC*

CRITERIA	4	3	2	1
The 5 Ws Who, What, When, Where & Why	All articles adequately address the 5 Ws (who, what, when, where and why).	Most of the articles adequately address the 5 Ws (who, what, when, where and why).	Some of the articles adequately address the 5 Ws (who, what, when, where and why).	Few of the articles adequately address the 5 Ws (who, what, when, where and why).
Layout Headlines Captions	All articles have headlines that capture the reader's interest and accurately describe the content. All articles have a byline. All graphics have captions that adequately describe people and/or action.	All articles have headlines that accurately describe the content. All articles have a byline. All graphics have captions.	Most articles have headlines that accurately describe the content. All articles have a byline. Most graphics have captions.	Articles are missing bylines OR many articles do not have adequate headlines OR many graphics do not have captions.
Layout Columns	Columns are neatly typed in the "justified" type style. There are adequate and even spaces between all columns and articles. The newspaper makes you think "professional."	Columns are neatly typed. There are adequate and even spaces between all columns and articles. The newspaper makes you think "fairly professional."	Columns are typed. There are adequate spaces between most columns and articles. It is easy to read, but does not look professional.	Columns are not neatly typed and/or spaces are not adequate; newspaper is somewhat difficult to read. It looks unprofessional.
Contributions of Group Members	Each person in the group has contributed to the newspaper without prompting from the teacher or peers.	Each person in the group has contributed to the newspaper with few reminders from the teacher or peers.	Each person in the group has contributed to the newspaper with some minimal assistance from the teacher or peers.	One or more students in the group required quite a lot of assistance from the teacher or peers.
Spelling and Editing	No spelling or grammar errors remain after one or more people (in addition to the typist) read and correct the newspaper.	No more than 3 spelling or grammar errors remain after one or more people (in addition to the typist) read and correct the newspaper.	No more than 5 spelling or grammar errors remain after one or more people (in addition to the typist) read and correct the newspaper.	More than 5 spelling or grammar errors remain in the final copy of the newspaper.
Objectives	All of the articles establish a clear purpose in the lead paragraph and demonstrate a clear understanding of the topic.	Most of the articles establish a clear purpose in the lead paragraph and demonstrate a clear understanding of the topic.	Some of the articles establish a clear purpose in the lead paragraph and demonstrate a clear understanding of the topic.	Few of the articles establish a clear purpose in the lead paragraph and demonstrate a clear understanding of the topic.
Requirements	All of the required elements are present.	Most of the required elements are present.	Some of the required elements are present.	Few of the required elements are present.

Total Possible Points = **28**

OVERALL RATING:

* Adapted from C.A. Bennet Newspaper created (n.d.). Retrieved August 27, 2006 from http://coe.west.asu.edu/students/creuss/newspaper_rubric.htm

RESOURCES

Loyola University's Center for Environmental Communications

<http://www.loyno.edu/lucec/>

Society of Environmental Journalists

<http://www.sej.org/index.htm>

Knight Center for Environmental Journalism

<http://ej.msu.edu/index2.php>

School of Communication, Northern Arizona University

<http://www.nau.edu/~soc-p/ecrc/>

CNN Learning Resources: This site offers news stories, but includes an outline so that students can see how stories are structured. Many stories also contain audio or video, plus vocabulary quizzes, reading comprehension questions, and word searches.

<http://literacynet.org/cnnsf/>

An interactive language arts and journalism project for middle schools developed by ThinkTVNetwork, Dayton, Ohio. An OET/SchoolNet Project

<http://www.writesite.org/>

U.S. Environmental Protection Agency: Federal and State Regulations—Louisiana Legal Materials

<http://www.law.cornell.edu/states/louisiana.html#codes>

Federal and State constitutions, Statutes and codes

<http://www.law.cornell.edu/statutes.html>

Bureau of the Census

<http://www.census.gov/>

BTNEP online Self-Guided Tours of the BTE and “When I was your age...”

www.btnep.org

Weather: National Oceanic and Atmospheric Administration

www.noaa.gov/wx.html

The Weather Channel

www.weather.com

Louisiana Universities Marine Consortium website

www.lumcon.edu



Lesson Seven:

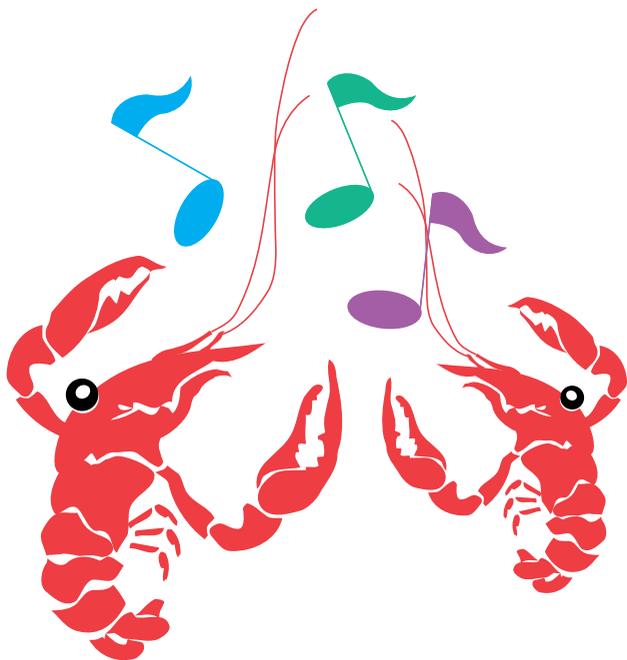
Musical Meaning

Music and song lyrics can make us think and feel a certain way about an issue. Songs have been used for centuries to provide information, debate issues, convey a story or express a sentiment.

Setting The Stage



For example, the song “Jambalaya” * by Hank Williams provides a picture of the Cajun/wetland way of life. He actually adapted this song from Cajun French Song entitled, “Grand Texas.” He used the melody from the Cajun version and wrote the following lyrics:



Goodbye Joe, me gotta go, me oh my oh
Me gotta go pole the pirogue down the bayou
My Yvonne, the sweetest one, me oh my oh
Son of a gun, we'll have good fun on the bayou

CHORUS:

Jambalaya, a-crawfish pie and-a file gumbo
'Cause tonight I'm gonna see my ma cher amio
Pick guitar, fill fruit jar and be gay-oh
Son of a gun, we'll have big fun on the bayou.

Thibodeaux, Fontainbleau, the place is buzzin'
Kinfolk come to see Yvonne by the dozen
Dress in style, go hog wild, me oh my oh
Son of a gun, we'll have big fun on the bayou.

REPEAT CHORUS

FINAL CHORUS:

Jambalaya, a-crawfish pie and-a fillet gumbo
'Cause tonight I'm gonna see my ma cher amio
Pick guitar, fill fruit jar and be gay-oh
Son of a gun, we'll have big fun on the bayou.
Son of a gun, we'll have big fun on the bayou.
Son of a gun, we'll have big fun on the bayou.

* This song is being used for educational purposes only.
No profit will be made from its use in this curriculum guide.



Cajuns then re-wrote the song in French:

"Goodby Joe" j'ai pour allez, mi-o-ma-y-o
j'ai pour allez moi tout seul sur le bayou
ma yvonne, la plus jolie sur le bayou
tonnerre m'ecrase un va avoir un bon temp sur le bayou

REFRAIN

Jambalaya, Des Tartes D'ecreuisse, File Gombo
par a soir moi j'va allez voir ma chere ami-o
jouer l'guitar, boire de la jogue(cruche) et fair de la musique
tomnnerre m'ecrase un va avoir un bon temp de sur le bayou

thibodeaux, fontenot, la place apre sonner
ca vien "en tas" pour voir yvonne par les douzaines
fair bien l'amour, et fair le fou, fair la musique
tonnerre m'ecrase un va avoir un bon temp

Objectives

STUDENTS WILL

- **learn about wetlands by researching songs that have lyrics describing them.**
- **interpret the meaning of the lyrics and what they mean to them.**

MATERIALS

- Copy of lyrics to "Jambalaya" song
- Internet access
- CD/tape player
- Handout: *Lyrics of "Jambalaya"* (p.4)
- CD/tape of song
- Access to music store/library
- Handout: *Journal Page: Song Interpretation* (p.5)

GETTING READY

1. Familiarize yourself with the song and its lyrics.
2. Make copies of the handout *Journal Page: Song Interpretation for the class.*

PROCESS

1. Play the song “Jambalaya” for the class and provide them with a copy of the lyrics. Discuss the meaning of the lyrics and how the music reflects those lyrics.
2. Facilitate a class participation exercise by completing the handout *Journal Page: Song Interpretation* using “Jambalaya.”
3. Ask students to research and find a song that has lyrics about the natural features or cultural heritage of the south Louisiana wetlands. Natural features can include water, forests, swamps, marsh, bayous, animals, etc.
4. Instruct the students to interpret the lyrics of the song in their own words as a reflective journal entry. Make sure they know to include their feelings about the subject of the song.
5. Have the students read their journals to their peers, and bring a CD or tape of the song to play for the class.

ASSESSMENT

- **Song:** The song lyrics reflect the natural or cultural features of the estuary. Yes No
- **Journal:** The interpretation of the lyrics paraphrase or reflect the content of the actual lyrics. Yes No
- **Journal:** The reflection includes an emotional response to the song. Yes No

EXTENSIONS

- Have students write their own lyrics to the tune of “Jambalaya” or another song that reflect what they’ve learned about wetlands. Have them perform their song to the class or make a recording.
- Create a PowerPoint presentation, matching photographs/drawings to the song lyrics/music.

HANDOUT:

LYRICS OF "JAMBALAYA" by Hank Williams

Goodbye Joe, me gotta go, me oh my oh
Me gotta go pole the pirogue down the bayou
My Yvonne, the sweetest one, me oh my oh
Son of a gun, we'll have good fun on the bayou

CHORUS:

Jambalaya, a-crawfish pie and-a file gumbo
'Cause tonight I'm gonna see my ma cher amio
Pick guitar, fill fruit jar and be gay-oh
Son of a gun, we'll have big fun on the bayou.

Thibodeaux, Fontainbleau, the place is buzzin'
Kinfolk come to see Yvonne by the dozen
Dress in style, go hog wild, me oh my oh
Son of a gun, we'll have big fun on the bayou.

REPEAT CHORUS

FINAL CHORUS:

Jambalaya, a-crawfish pie and-a fillet gumbo
'Cause tonight I'm gonna see my ma cher amio
Pick guitar, fill fruit jar and be gay-oh
Son of a gun, we'll have big fun on the bayou.
Son of a gun, we'll have big fun on the bayou.
Son of a gun, we'll have big fun on the bayou.

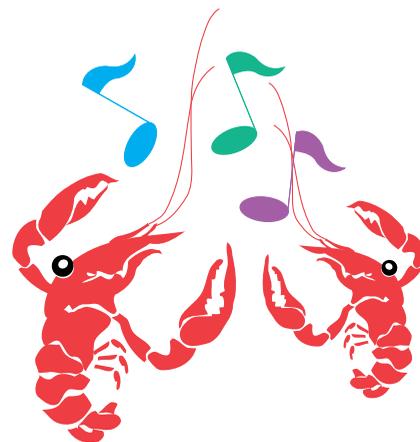
FRENCH VERSION

"Goodby Joe" j'ai pour allez, mi-o-ma-y-o
j'ai pour allez moi tout seul sur le bayou
ma yvonne, la plus jolie sur le bayou
tonnerre m'ecrase un va avoir un bon temp sur le bayou

REFRAIN:

Jambalaya, Des Tartes D'ecreuisse, File Gombo
par a soir moi j'va allez voir ma chere ami-o
jouer l'guitar, boire de la jogue(cruche) et fair de la
musique
tomnnerre m'ecrase un va avoir un bon temp de
sur le bayou

thibodeaux, fontenot, la place apre sonner
ca vien "en tas" pour voir yvonne par les
douzaines
fair bien l'amour, et fair le fou, fair la musique
tonnerre m'ecrase un va avoir un bon temp



HANDOUT:

JOURNAL PAGE: SONG INTERPRETATION

NAME OF SONG

NAME OF ARTIST

NATURAL FEATURES FOUND IN THE LYRICS

INTERPRETATION OF LYRICS

MY FEELINGS ABOUT THE SONG



RESOURCES

BOOKS

Ancelet, B. J., (1999). *Cajun and Creole Music Makers*. Jackson, MS: University Press of Mississippi.

Campbell, P. S. (1998). *Songs in their heads: Music and its Meaning in Children's Lives*. NYC, NY: Oxford University Press.

Doucet, M. (1995). *Le Hoogie Boogie*. (Cajun and zydeco music by Beausoleil for children with French and English lyrics.) Cambridge, MA: Rounder/Polygram.

Maygarden, D.F., Frierson, G.M., & Rheams, A.B. (2000). *A Guide to the Wetlands of the Lake Pontchartrain Basin*. Metairie, LA: The Lake Pontchartrain Basin Foundation. New Orleans, LA and The Coastal Research Laboratory in the Geology Department of the University of New Orleans: New Orleans, LA

Olivier, R. (photographer) and Sandmel B. (1999). *Zydeco*. University Press of Mississippi: Jackson, Mississippi.

WEB SITES

America's Wetland Campaign creates awareness for the country about Louisiana's wetland loss.
<http://www.americaswetland.com/>

Barataria Terrebonne National Estuary Program
Part of the US Environmental Protection Agency, this program manages, restores, promotes and educates about the Barataria-Terrebonne Estuary.
<http://www.btnep.org/>

Lake Pontchartrain Basin Foundation
A private, non-profit organization, its mission is to restore and protect the Pontchartrain Basin. Its programs include water quality monitoring, habitat protection, education/outreach and public access.
<http://www.saveourlake.org/>

One of the best web sites for Cajun and Zydeco music is found at Louisiana State University Eunice.
www.lsue.edu/acadgate/music/musicmain.htm

The Louisiana State Department of Natural Resources has a web site for teachers with good information about the state's wetland resources.
<http://www.dnr.louisiana.gov>



The Louisiana State Department of Wildlife and Fisheries provides teachers with information on the function and values of wetlands and the animal and plants that call them home.

<http://www.wlf.louisiana.gov/apps/netgear/index.asp?cn=lawlf&pid=392>

Louisiana Voices has a great web site that provides teachers with excellent resources on Louisiana culture and folklife.

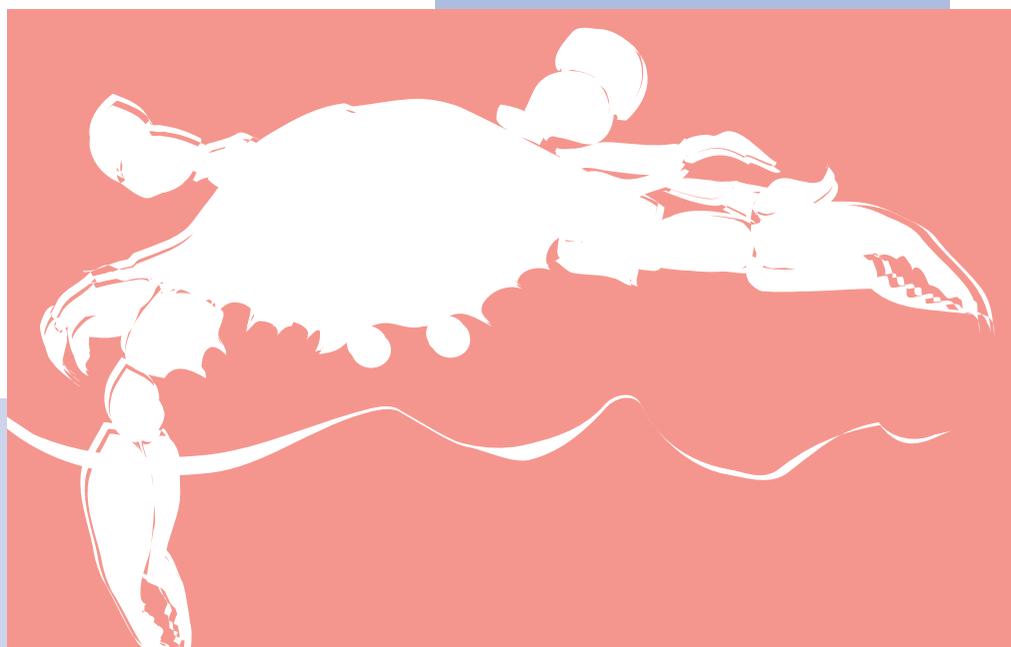
http://www.louisianavoices.org/edu_home.html

The USGS' National Wetlands Resources Center provides excellent information for teachers about wetland science.

<http://www.nwrc.usgs.gov/>

The University of Louisiana at Lafayette provides a wealth of information through its Center for Cultural and Ecotourism Program.

<http://ccet.louisiana.edu/>



Lesson Eight:

And Then a Hero Comes Along



John James Audubon

Setting The Stage



Joseph Campbell, who wrote, *The Power of Myth* tells us that a hero/heroine is "...someone who has given his or her life to something bigger than oneself." Myths- Dreams- Symbols. (n.d.). Retrieved February 1, 2005 from <http://www.mythsdreamsymbols.com/herojourney.html>

Do you know anyone who fits that description? Do you have what it takes to become a hero for the environment? According to the dictionary, there are five meanings of the term "hero:"

A hero is:

1. in mythology and legend, a person of great strength and courage, favored by the gods and in part descended from them.
2. any person admired for courage, nobility or exploits, especially in war.
3. any person admired for qualities or achievements and regarded as an ideal or model.
4. the central character in a novel, play, poem, etc. with whom the reader or audience is supposed to sympathize.
5. the central figure in any important event or period, honored for outstanding qualities.

When you think of an environmental hero, which definition has the most meaning?

Environmental heroes and heroines are persons who are admired and respected for their work to improve the ecology of earth's natural systems. Heroes and heroines are not just scientists who work on these problems every day. Environmental heroes can come from any walk of life, any age or gender, because they have devoted their energies to changing people's ways of looking at nature. For example, John Muir and Anna Botsford Comstock were naturalists who wrote about their adventures in the natural world. Theodore Roosevelt and Petra Kelly were political leaders who promoted ecological awareness. Rachel Carson and Aldo Leopold were scientists who wrote and spoke out about environmental problems. Joseph Wood Krutch and Sally Carrighar were writers who appreciated and interpreted nature through literature. The 2004 Nobel Peace Prize went to Wangari Maathai, an African woman who started out by organizing the women of Kenya to plant one tree at a time.

Are all environmental heroes world-famous people?

Heroes and heroines can also be identified by their actions in the community or local region. Individuals who activate a community-recycling program, organize a crusade to save wetlands, promote the planting of trees or initiate letter-writing campaigns to lawmakers about pollution or coastal land loss can all be considered heroes.

Who are the people in your community who qualify as environmental heroes? Which ones make good role models for young people? Role models are important to help you achieve your goals. Learning about people you admire, talking with them (if possible) and following their example will help you take the first step on your own journey toward becoming an environmental hero. We can all have influence over others; we can all take action on one or more of *BTNEP's Action Plans for Saving the Estuary*. In other words, **every one of us** has what it takes to be an environmental hero! We can all do what we can to preserve our environment because every individual action makes a difference on a global scale.

In the words of Richard N. Goldman, awarding the Goldman prize to seven environmental heroes:

The world is getting smaller, and the need is growing for everyone to take responsibility for keeping our planet healthy. The winners this year...illustrate how the courage and commitment of a single visionary individual can make a difference for generations to come.

Ordinary People, Extraordinary Heroes (2001).

Retrieved January 29, 2005 from

http://www.riverdeep.net/current/2001/08/081301_activists.jhtml

Objectives

STUDENTS WILL

- **research two people who have already been recognized as an environmental hero/heroine and list three important biographical facts about him or her.**
- **identify at least three important values that this person holds (held) about the environment and its protection and/or improvement.**
- **identify at least one action this person has taken to protect and/or improve the earth.**
- **identify local environmental heroes/heroines and the contributions they are making to the BTE.**



MATERIALS

- Computer with Internet access
- CD or tape player
- CD or tape of “Hero” by Mariah Carey (1993 Columbia 53205)
- CD or tape of “Wind Beneath my Wings” by Bette Midler

GETTING READY

1. Play a CD or tape of the Mariah Carey’s song “Hero.” Have students reflect on the lyrics, in particular, the line, “There’s a hero if you look inside your heart.” A print copy may be found at the URL: <http://www.seeklyrics.com/lyrics/Mariah-Carey/Hero.html>
2. In small groups, have students brainstorm a list of words or phrases from the song that describes a hero. On the board, compile a class list of heroic qualities.
3. Ask the students what they know about the accomplishments of the men and women on the following list of environmental heroes. Have them research the actions of the heroes with whom they are not familiar.
4. Discuss the formation of a person’s value system and the effect it has on that person’s actions.
5. Brainstorm a list of values or characteristics that are common to heroes.
6. Brainstorm a list of local heroes who are working to save all or part of the Barataria-Terrebonne National Estuary.

PROCESS

Teacher will ask the students to:

1. Select a male and female environmental hero from the lists on the following pages.
2. Conduct research in books and on the Internet about their history and accomplishments.

3. Ascertain the significant ideas and actions that made these people heroes/heroines.
4. Point out any hardships, obstacles or resistance they encountered.
5. Identify allies, resources or support they received.
6. List the characters or values each individual developed because of his/her life experiences. For example, some values include: bravery, charisma, kindness, fairness, justice, compassion, charity, duties or selflessness. What others can you and your classmates identify?
7. Select a minimum of three of the values listed that pertain to your hero and heroine? Why did you choose those values?
8. Identify a minimum of three life experiences (biographical facts) for each of your heroes that helped these values develop.
9. Compare and contrast the life experiences of your hero and heroine in a reflective paper or in a presentation to the class. Explain why you admire these people and how they can serve as your role models.
10. Choose one of the activities listed in “Extensions.”

A PARTIAL LIST OF PAST AND PRESENT ENVIRONMENTAL HEROES

John James Audubon	John Muir
John Wesley Powell	Luther Burbank
Rachel Carson	Theodore Roosevelt
George Washington Carver	Henry David Thoreau
Julia Butterfly Hill	Dr. Sylvia Earle
Jacques Cousteau	Aldo Leopold
Barbara Ward (Jackson)	David Brower
Chico Mendes	Gaylord Nelson
Marjory Stoneman Douglas	Dian Fossey
Peggy Shepard	Jeanne Guana
Ken Saro-Wiwa	Rudolfo Montiel
Peggy Saiha	Hazel Johnson
Bonnie Philis	Michael Kaplan
Riki Ott	Wangari Matthai
Michael Werihke	Reiko Amano
Nat Quansah	Oscar Rivas and Elias Diaz Pena
Oral Ataniyazova	Alexander Peal
Frances Moore Lappe	Jane Goodall
Paul Newman	Lois Gibbs



What Did They Believe and Do? Investigating Louisiana's Heroes and Heroines

The Coalition to Restore Coastal Louisiana is a non-profit advocacy organization whose mission is the preservation, restoration and responsible stewardship of the coastal wetlands, waters and barrier shorelines of coastal Louisiana. Each year the Coalition to Restore Coastal Louisiana recognizes individuals and groups who have made significant contributions to the preservation and restoration of Louisiana's coastal wetlands. These contributions set an example of the stewardship and serve as a vision of the future. These people are Louisiana's environmental heroes and heroines. To learn more about the Coalition visit the Web at www.crcl.org

RESEARCH THESE INDIVIDUALS TO FIND OUT . . .

Carlton Dufrechou	Kerry St. Pe'	Rex Caffey
Tab Benoit	Timothy P. Kerner	Patricia Strain
Sue Hawes	Elvis Cavalier	Donald Lirette
Ehab Meselhe	Reggie Dupre	Cathy Norman
Mark Schexnayder	Jenneke Visser	Randy Roach
Richard Raynie	Clifford Smith	Jim Ragland
Frank Bonifay	Dinah Maygarden	Dan Arceneaux
Melanie Boulet	Woody Crews	Alexis Duval
John Lopez	Joseph Madere	Ben Taylor
Rod Emmer	Art Cormier	Mike Dunne
Barry Guillot	Earl Melancon	Clay Midkiff
Gwen Dufrene	Bill Good	Kay Radlauer
Wilma Subra	Edgar Veillon	Milton Cambre
Norm Thomas	Dawn Boudreaux	Nicole Boudreaux
Paul Coreil	Rodney Guilbeaux	Chris Holmes
Frank Ehret, Jr.	Len Bahr	Robert Hastings
Rhett Hebert	Ann Part Pfalzgraf	Glenn Pitre
Jean Westbrook	Woody Gagliano	Bob Anderson
Gabrielle Boudreaux Bodin		

Team of Mark Ford, Bren Haase and Bryan Piazza
 Team of Tyrone Foreman and Dinah Maygarden
 Fischer Family/Orleans Audubon
 Bayou Lafourche Freshwater District
 Great River Camp Student Worker Program
 Jefferson Parish Department of Environmental Affairs
 "Explore Coastal Louisiana" CD-ROM produced by CWPPRA, BTNEP and USGS
 Houma-Terrebonne Chamber of Commerce
 CWPPRA (Breux Act) Task Force
 Women for a Better Louisiana
 Project F.U.R. (Fight Urban Runoff)
 Ducks Unlimited
 ShreveCORPS



QUESTIONS FOR JOURNALING

1. When legislators make laws that affect the estuary, they often must consider whether economic progress or environmental conservation is more important. For example, shall they allow the oil and gas industry to drill in fragile areas of the estuary which would create jobs and possibly find more fossil fuels, or shall they set those wetlands aside for conservation's sake, keeping alive any plants and animals that require that land to survive? What criteria should lawmakers use in that situation? Why should they choose one side over another? What role could you, as an individual, play in the decision-making process?
2. Pesticides were once considered to be a great discovery, until eventually it was discovered that pesticides were harming people as well as insects. Can you think of any technologies or inventions today that seem to be good for humans, but they might turn out to be harmful to the environment or to our health? How could you, as an individual, inform the public or prevent harm?
3. Develop a list of possible ways that you could be an environmental hero in your own community. What obstacles would you encounter? What resources might be available? What would be the potential rewards?

ASSESSMENT

- Teachers use observation of student interaction and completed projects.
- Create a holistic scoring rubric for expository writing.
- Create a rubric for oral presentation and/or PowerPoint presentation.

NOTE: While assessment of some activities can be accomplished by a simple checklist of your requirements for the lesson, you may want to design a more formal assessment tool, such as a rubric. Rubrics based on templates for project-based learning activities may be found on the Internet at: <http://rubistar.4teachers.org/index.php>

EXTENSIONS

1. Make a PowerPoint presentation about one or more of your local environmental heroes.
2. Develop a collage of pictures of the hero and his/her work.
3. Write articles for the school newspaper about local environmental heroes who are working to save the estuary.
4. Invite local environmental activists to speak to the class or school about estuary issues. You might want to consider Dr. Nancy Rabalais from the Louisiana University Marine Consortium (LUMCON), for her work with the “Dead Zone” in the Gulf of Mexico.
5. Design a play or speakers’ forum in which students role-play their environmental heroes.
6. Write a song about your favorite environmental hero.
7. Design a poster of a significant environmental hero.
8. Write an essay or journal entry citing how you can become an environmental hero or heroine. Choose one of these and explain why the issue is so important to you:
 - Describe two life experiences that have motivated you to work toward a healthier environment.
 - Identify two people who could help you in your environmental service work.

RESOURCES

Rock and Roll Hall of Fame and Museum Lesson Plans for Teachers

Lesson plans involving different genres of music that promote interest and creativity through interdisciplinary learning.

<http://www.rockhall.com/programs/plans.asp>

Environmental Heroes and Heroines

These sites have lists of great environmental trailblazers that became advocates for the environment and preservers of the natural world. There are pictures and websites provided for each person that include their life history, experiences, endeavors and accomplishments.

<http://www.time.com/time/reports/environment/heroes/heroessgallery/0,2967,mcdonough,00.html>

<http://www.outlook.noaa.gov/earthday/heroes.htm>

<http://news.nationalgeographic.com/kids/2004/04/barronprize.html>



<http://www.btneop.org>

NOAA Honors 25 Environmental Heroes

The National Oceanic and Atmospheric Administration presents 25 honorees who have helped to protect and preserve endangered environmental sanctuaries.

www.cnn.com/EARTH/9804/23/environmental.heroes/

Environmental Heroes: Aldo Leopold

This website contains information about the scientist, Aldo Leopold. He has the title of “Father of Wildlife Conservation.”

www.environmentaldefense.org/article.cfm?contentid=2762

Goldman Prize: The Year’s 7 Environmental Heroes Honored

These environmental heroes were honored with the Goldman prize and a \$125,000 cash prize for their efforts to promote international environmental reform. The recipients promised to use the cash prize toward conservation efforts.

<http://www.goldmanprize.org/>

Wetland Watchers

http://www.epa.gov/gmpo/gulfguard/2004_youth_1st_press1.html

Swamped Louisiana Students Become Wetlands Custodians

Barry Guillot started The Wetland Watcher program in 1998. Barry, the program, and Harry M. Hurst Middle School are featured in Edutopia, George Lucas’s Educational Magazine.

http://www.edutopia.org/php/article.php?id=Art_1208

Stanley, P.M. (1996). *American Environmental Heroes*. Berkeley Heights, NJ: Enslow Publishers, Inc.

These local awards annually honor individuals or groups for service to the environment:

- **Coalition to Restore Coastal Louisiana Coastal Stewardship Awards**
Kerry St. Pe’, Program Director at the Barataria-Terrebonne National Estuary Program, was one of the first awardees, receiving the award in 1996 and 2006. For a list of the 2005 Coastal Stewardship Awards visit <http://www.crcl.org/awards2005.html>
- **Gulf of Mexico Program Gulf Guardian Awards**
For a list of the 2005 Gulf Guardian Winners including the Youth Education Category, visit http://www.epa.gov/gmpo/gulfguard/2005_awards.html
- **Louisiana Wildlife Federation Conservation Awards**
Photographer C. C. Lockwood was recognized for his outstanding conservation achievement because of his “Marsh Mission” project and the publication of his book *Marsh Mission—Capturing the Vanishing Wetlands*. For a complete list of the 2005 Conservation Awards visit http://www.lawildlifefed.org/articles_detail.cfm?id=47



Lesson One:

I am an Estuarian—

Sensing

the Spirit of

the Estuary

Objectives

STUDENTS WILL

- observe the biotic factors of the Barataria-Terrebonne Estuary.
- develop an appreciation for the complex interrelationships among organisms of the Barataria-Terrebonne Estuary.
- communicate thoughts or feelings about the natural world as experienced in the Barataria-Terrebonne Estuary.
- develop “I AM” poems about estuary life and culture.

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K: GLE-25	Identify easily observable variations within types of plants and animals (e.g., features of classmates, varieties of trees, breeds of dogs)	LS-E-A4
1: GLE-26	Describe the differences between plants and animals	LS-E-A1
1: GLE-27	Identify what animals and plants need to grow and develop	LS-E-A1
1: GLE-34	Record evidence of plants and animals in the schoolyard or other environments	LS-E-C2
2: GLE-35	Identify the components of a variety of habitats and describe how organisms in those habitats depend on each other	LS-E-C1
2: GLE-45	Locate and identify plants and animals within an ecosystem	SE-E-A2
3: GLE-39	Compare organisms from different groups (e.g., birds with mammals, terrestrial plants with aquatic plants)	LS-E-A4
3: GLE-57	Describe the interrelationships of <i>living (biotic)</i> and <i>nonliving (abiotic)</i> components within various ecosystems (e.g., terrarium, swamp, backyard)	SE-E-A1
4: GLE-48	Classify examples of plants and animals based on a variety of criteria	LS-E-B2
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
5: GLE-27	Compare common traits of organisms within major ecosystems	LS-M-C3
7: GLE-36	Identify and describe the effects of limiting factors on a given population	SE-M-A2

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-38	Recite short poems, rhymes, and songs	ELA-4-E4
K: GLE-39	Listen to and recite short poems and stories for an audience	ELA-4-E5
1: GLE-29	Independently write a variety of grade-appropriate compositions, including: <ul style="list-style-type: none"> • simple letters, notes, and stories • simple informational descriptions • simple rhymes and poems 	ELA-2-E4
1: GLE-30	Use literary devices including dialogue and sensory details in shared writing activities	ELA-2-E5



Lesson One:

I am an Estuarian—CONTD.

*Sensing
the Spirit of*

LOUISIANA GRADE LEVEL EXPECTATIONS ELA CONTD.

2: GLE-24	Develop grade-appropriate compositions, for example: <ul style="list-style-type: none"> • friendly letters • poems • stories • informational descriptions with some detail 	ELA-2-E4
3: GLE-11	Connect ideas, events, and information identified in grade-appropriate texts to prior knowledge and life experiences in oral and written responses	ELA-1-E6
4: GLE-12	Identify a variety of types of literature, including poetry and short stories, in oral and written responses	ELA-6-E2
4: GLE-15	Justify solutions to problems in texts by verifying, confirming, and supporting	ELA-7-E2
5: GLE-11	Use knowledge of the distinctive characteristics to classify and interpret elements of various genres, including: <ul style="list-style-type: none"> • fiction (e.g., folktales, fairy tales, fables, legends, short stories, novels) • nonfiction (e.g., biography, autobiography, informational text) • poetry (e.g., lyric, narrative) • drama (e.g., one-act plays or skits) 	ELA-6-M3
6: GLE-10	Use knowledge of the distinctive characteristics to classify and interpret elements of various genres, including: <ul style="list-style-type: none"> • fiction (e.g., myths, historical fiction) • nonfiction (e.g., newspaper articles, magazine articles) • poetry (e.g., lyric, narrative) • drama (e.g., short plays) 	ELA-6-M3
7: GLE-5	Interpret ideas and information in a variety of texts, including periodical articles, editorials, and lyrics, and make connections to real-life situations and other texts	ELA-1-M4
7: GLE-6	Identify universal themes (e.g., search for identity, love, friendship, family, courage, adversity) and cultural viewpoints found in national, world, and multicultural literature in oral and written responses	ELA-6-M1
7: GLE-8	Use knowledge of the distinctive characteristics to classify and interpret elements of various genres, including: <ul style="list-style-type: none"> • fiction (e.g. science fiction/fantasy) • nonfiction (e.g., essays, letters) • poetry (e.g., lyric, narrative) • drama (e.g., short plays) 	ELA-6-M3
8: GLE-5	Interpret ideas and information in a variety of texts (e.g., scientific reports, technical guidelines, business memos) and make connections to real-life situations and other texts	ELA-1-M4
8: GLE-6	Analyze universal themes found in a variety of world and multicultural texts in oral and written responses	ELA-6-M1
8: GLE-8	Use knowledge of the distinctive characteristics to classify and explain the significance of various genres, including: <ul style="list-style-type: none"> • fiction (e.g., mystery, novel) • nonfiction (e.g., workplace documents, editorials) • poetry (e.g., lyric, narrative) • drama (e.g., plays) 	ELA-6-M3

Lesson Two:

The Material of Culture

Objectives

Sensing the Spirit of the Estuary

STUDENTS WILL

- research cultural artifacts.
- study the process of creating material culture.
- create an exhibit of Native American, African, and/or Cajun/Creole cultural artifacts.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none"> • Students know the differences between materials, techniques, and processes • Students use different media, techniques, and processes to communicate ideas, experiences, and stories • Students use art materials and tools in a safe and responsible manner
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none"> • Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know that the visual arts have both a history and specific relationship to various cultures • Students identify specific works of art as belonging to particular cultures, times, and places • Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students understand there are various purposes for creating works of visual art • Students describe how people’s experiences influence the development of specific artworks • Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know and compare the artwork in various eras and cultures
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students compare multiple purposes for creating works of art

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

2: GLE-50	Identify and describe the significance of various community landmarks and symbols	H-1GE4
2: GLE-51	Identify cultural elements (e.g., crafts, customs, music, folklore) of the local community	H-1GE4
3: GLE-49	Identify ways different cultures record their histories (e.g., oral, visual, written)	H-1A-E3
4: GLE-55	Describe beliefs, customs, and traditions of family life in the past and present	H-1B-E1
4: GLE-63	Identify how dance, music, and arts of various cultures around the world reflect the history, daily life, and beliefs of the people	H-1D-E1

Lesson Three:

Louisiana Wetlands — TO BUILD OR NOT TO BUILD COASTAL LAND LOSS AND RESTORATION IN LOUISIANA AN ONLINE INVESTIGATION IN THREE PARTS

Objectives

STUDENTS WILL

- learn that America's coast in Louisiana is disappearing at a catastrophic rate
- compare and evaluate a variety of actual coastal restoration techniques
- use accurate scientific terminology to discuss basic facts of coastal zone management
- describe examples of current problems associated with land loss
- develop a PSA to create an awareness of coastal land loss issues
- analyze restoration projects that identify and remediate coastal and loss problems
- prepare an evaluative presentation that critiques current practices

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

1: GLE-24	Identify ways to participate in public service within school or community (e.g., volunteer, donations, parent organizations)	C-1D-E5
2: GLE-10	Describe changes in the physical and human characteristics in the local community and why people modify the physical environment over time	G-1B-E3
2: GLE-15	Explain ways in which people in the local community depend on the physical environment to satisfy basic needs	G-1D-E1
3: GLE-11	Describe how people and the physical environment have changed over time in Louisiana based on given information	G-1B-E3
3: GLE-13	Identify examples of physical processes affecting Louisiana (e.g., coastal erosion, river changes)	G-1C-E1
3: GLE-19	Identify and explain ways in which people in Louisiana modify the physical environment to meet basic needs and achieve certain purposes (e.g., clearing land for urban development)	G-1D-E1
4: GLE-16	Identify ways in which people in the United States depend upon and modify the physical environment	G-1D-E1
4: GLE-18	Describe the importance of specific natural resources to human survival and human endeavors	G-1D-E4
5: GLE-14	Describe the impact of human action on the physical environment of early America	G-1D-M1
7: GLE-66	Identify major technological developments related to land, water, and transportation and explain how they transformed the economy, created international markets, and affected the environment	H-1B-M10
8: GLE-2	Locate major landforms and geographic features, places, and bodies, of water/waterways on a map of Louisiana	G-1A-M2
8: GLE-5	Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions	G-1B-M1
8: GLE-6	Describe ways in which location and physical features have influenced historical events in Louisiana and the development of the state (e.g., Mississippi River/swamp in the Battle of New Orleans)	G-1B-M2
8: GLE-7	Explain how or why specific regions are changing as a result of physical phenomena (e.g., changes in the coastal wetlands)	G-1B-M3



Lesson Three:

Louisiana Wetlands — CONTD.

Sensing

LOUISIANA GRADE LEVEL EXPECTATIONS SOCIAL STUDIES CONTD.

8: GLE-8	Identify and describe factors that cause a Louisiana region to change (e.g., natural occurrences, disaster, migration)	G-1B-M3
8: GLE-9	Explain ways in which goals, cultures, interests, inventions, and technological advances have affected perceptions and uses of places or regions in Louisiana	G-1B-M4
8: GLE-14	Analyze, evaluate, and predict consequences of environmental modifications on Louisiana landforms, natural resources, and plant or animal life	G-1D-M1
8: GLE-15	Analyze the benefits and challenges of the Louisiana physical environments on its inhabitants (e.g., flooding, soil, climate conducive to growing certain plants)	G-1D-M2
8: GLE-17	Identify a contemporary Louisiana geographic issue, and research possible solutions	G-1D-M4

LOUISIANA GRADE LEVEL EXPECTATIONS SCIENCE

3: GLE-58	Describe how humans have had negative and positive effects on organisms and their environments	SE-E-A3	SE-E-A5
4: GLE-72	Predict and describe consequences of the removal of one component in a balanced ecosystem (e.g., consumer, herbivores, nonliving component)		SE-E-A2
5: GLE-33	Identify the processes that prevent or cause erosion		ESS-M-A7
5: GLE-50	Describe the consequences of several types of human activities on local ecosystems (e.g., polluting streams, regulating hunting, introducing nonnative species)		SE-M-A4
6: GLE-47	Illustrate how various technologies influence resource use in an ecosystem (e.g., forestry management, soil conservation, fishery improvement)		SE-M-A8
7: GLE-29	Explain how technology can expand the senses and contribute to the increase and/or modification of scientific knowledge (SI-M-B3)		SI-M-B3
7: GLE-SI-39	Identify areas in which technology has changed human lives (e.g., transportation, communication, geographic information systems, DNA fingerprinting)		SI-M-B7
7: GLE-SE-39	Analyze the consequences of human activities on ecosystems		SE-M-A4
7: GLE-43	Identify and analyze the environmental impact of humans use of technology (e.g., energy production, agriculture, transportation, human habitation)		SE-M-A8
8: GLE-SI-29	Explain how technology can expand the senses and contribute to the increase and/or modification of scientific knowledge		SI-M-B3
8: GLE-SI-39	Identify areas in which technology has changed human lives (e.g., transportation, communication, geographic information systems, DNA fingerprinting) (SI-M-B7)		SI-M-B7
8: GLE-51	Analyze the consequences of human activities on global Earth systems		SE-M-A4
8: GLE-53	Distinguish among several examples of erosion (e.g., stream bank, topsoil, coastal) and describe common preventive measures		SE-M-A10



Lesson Three:

Louisiana Wetlands—**CONTD.**

*Sensing
the Spirit of
the Earth*

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-34	Express feelings, needs, and ideas in complete sentences	ELA-4-E1
1: GLE-29	Independently write a variety of grade-appropriate compositions, including: <ul style="list-style-type: none"> • simple letters, notes, and stories • simple informational descriptions • simple rhymes and poems 	ELA-2-E4
2: GLE-24	Develop grade-appropriate compositions, for example: <ul style="list-style-type: none"> • friendly letters • poems • stories • informational descriptions with some detail 	ELA-2-E4
3: GLE-11	Connect ideas, events, and information identified in grade-appropriate texts to prior knowledge and life experiences in oral and written responses	ELA-1-E6
4: GLE-15	Justify solutions to problems in texts by verifying, confirming, and supporting	ELA-7-E2
5: GLE-17	Analyze grade-appropriate print and nonprint texts using various reasoning skills, including: <ul style="list-style-type: none"> • identifying cause-effect relationships • raising questions • thinking inductively and deductively • generating a theory or hypothesis • skimming/scanning • distinguishing facts from opinions and probability 	ELA-7-M4
5: GLE-20	Develop grade-appropriate compositions on student- or teacher-selected topics that include the following: <ul style="list-style-type: none"> • word choices (diction) appropriate to the identified audience and/or purpose • vocabulary selected to clarify meaning, create images, and set a tone • information/ideas selected to engage the interest of the reader • clear voice (individual personality) • variety in sentence structure 	ELA-2-M2
5: GLE-25	Write for various purposes, including: <ul style="list-style-type: none"> • formal and informal letters that state a purpose, make requests, or give compliments • evaluations of media, such as films, performances, or field trips • explanations of stories and poems using retellings, examples, and text-based evidence 	ELA-2-M6
5: GLE-40	Evaluate media for various purposes, including: <ul style="list-style-type: none"> • effectiveness of organization and presentation usefulness and relevance of information 	ELA-4-M5
6: GLE-7	Explain the connections between ideas and information in a variety of texts (e.g., journals, technical specifications, advertisements) and real-life situations and other texts	ELA-1-M4



Lesson Three:

Louisiana Wetlands—**CONTD.**

ELA **CONTD.**

LOUISIANA GRADE LEVEL EXPECTATIONS

6: GLE-19	<p>Develop grade-appropriate compositions on student- or teacher- selected topics that include the following:</p> <ul style="list-style-type: none"> • word choices (diction) appropriate to the identified audience and/or purpose • vocabulary selected to clarify meaning, create images, and set a tone • information/ideas selected to engage the interest of the reader • clear voice (individual personality) • variety in sentence structure 	ELA-2-M2
6: GLE-37	<p>Demonstrate active listening strategies for various purposes, including:</p> <ul style="list-style-type: none"> • viewing a video to interpret the meaning of the story, to determine the speaker's/character's attitude using verbal and nonverbal cues, and to draw conclusions about the presentation • summarizing the main points of a speaker's message, including supporting details and their significance 	ELA-4-M4
6: GLE-39	<p>Evaluate media for various purposes, including:</p> <ul style="list-style-type: none"> • text structure • images/sensory details • support for main position • background information • opinions vs. facts • sequence of ideas and organization 	ELA-4-M5
6: GLE-42	<p>Locate and integrate information from grade-appropriate resources, including:</p> <ul style="list-style-type: none"> • multiple printed texts (e.g., encyclopedias, atlases, library catalogs, specialized dictionaries, almanacs, technical encyclopedias) • electronic sources (e.g., websites, databases) • other media surces (e.g., audio and video tapes, films, documentaries, television, radio) 	ELA-5-M2
7,8: GLE-5	<p>Interpret ideas and information in a variety of texts, including periodical articles, editorials, and lyrics, and make connections to real-life situations and other texts</p>	ELA-1-M4
7: GLE-6	<p>Identify universal themes (e.g., search for identity, love, friendship, family, courage, adversity) and cultural viewpoints found in national, world, and multicultural literature in oral and written responses</p>	ELA-6-M1
7,8: GLE-9	<p>Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including:</p> <ul style="list-style-type: none"> • sequencing events and steps in a process • summarizing and paraphrasing information • identifying stated or implied main ideas and explaining how details support ideas • comparing and contrasting literary elements and ideas • making inferences and drawing conclusions • predicting the outcome of a story or situation • identifying literary devices 	ELA-7-M1
7,8: GLE-10	<p>Explain the relationship between life experiences and texts to generate solutions to problems</p>	ELA-7-M2



Lesson Three:

Louisiana Wetlands—**CONTD.**

*Sensing
the Spirit of
the Estuary*

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

CONTD.

7,8: GLE-11	Use technical information and other available resources (e.g., web sites, interviews) to solve problems	ELA-7-M2
7,8: GLE-22	Write for various purposes, including: <ul style="list-style-type: none">• letters of complaint supported with complete and accurate information and reasons• evaluations of media, such as television, radio, and the arts• text-supported interpretations of elements of grade-appropriate stories, poems, plays, and novels• applications, such as memberships and library cards	ELA-2-M6
7: GLE-34	Evaluate and determine bias and credibility of various media presentations (e.g., TV and radio advertising)	ELA-4-M4
7,8: GLE-4	Draw conclusions and make inferences in print and nonprint responses about ideas and information in grade-appropriate texts, including: <ul style="list-style-type: none">• epics• consumer materials• public documents	ELA-1-M3



Lesson Four:

Where Has All the Greenspace Gone— Objectives

CONSTRUCTING A COMMUNITY GREEN MAP

STUDENTS WILL

- identify greenspace, natural areas, and/or other important sites in the BTNE.
- research history of development in the BTNE.
- reflect on the ecological impact of urbanization.
- construct a Green Map.
- communicate their findings to the community.

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

K: GLE-1	Identify a map and a globe as a representation of Earth	G-1A-E1
1: GLE-1	Identify and use simple map symbols and key/legend	G-1A-E1
1: GLE-3	Describe a map as a representation of a place	G-1A-E1
1: GLE-4	Locate places on the school campus and describe their relative location	G-1A-E2
1: GLE-5	Create simple maps to identify the relative location of places in the school and community	G-1A-E3
1: GLE-7	Identify human features in the local region such as farms, cities, buildings, and roads	G-1B-E3
2: GLE-2	Describe basic characteristics of maps and globes	G-1A-E1
2: GLE-3	Use cardinal directions to locate places on maps and places in the classroom, school, and community	G-1A-E2
2: GLE-4	Identify geographical features in the local region	G-1A-E2
2: GLE-6	Sketch a simple map related to the classroom, school, or community (mental map)	G-1A-E3
3: GLE-1	Describe characteristics and uses of various maps (e.g., physical, political, topographical, population)	G-1A-E1
3: GLE-4	Use a compass rose and cardinal directions to locate and interpret a map of the community and Louisiana	G-1A-E2
4: GLE-1	Interpret different kinds of maps using a map key/legend, compass rose, cardinal and intermediate directions, and distance scale	G-1A-E1
4: GLE-5	Draw, complete, and add features to a map (including such map elements as a title, compass rose, legend, and scale), based on given information	G-1A-E3
4: GLE-16	Identify ways in which people in the United States depend upon and modify the physical environment	G-1D-E1
4: GLE-19	Describe the use, distribution, and importance of natural resources in different regions of the United States using geographic tools such as maps	G-1D-E4
5: GLE-1	Describe the characteristics, functions, and applications of various types of maps	G-1A-M1



Lesson Four:

*Sensing
Where Has All the Greenspace Gone—
the Spirit of* CONTD.
the Future

LOUISIANA GRADE LEVEL EXPECTATIONS SOCIAL STUDIES CONTD.

5: GLE-2	Compare the uses of different types of maps, including two different types of maps of the same area	G-1A-M1
5: GLE-3	Interpret a map, using a map key/legend and symbols, distance scale, compass rose, cardinal or intermediate directions, and latitude and longitude	G-1A-M2
5: GLE-4	Locate major landforms and geographic features, places, and bodies of water/waterways on a map of the United States	G-1A-M2
5: GLE-5	Translate a mental map into sketch form to illustrate relative location, size, and distances between places	G-1A-M3
6: GLE-2	Identify land and climatic conditions conducive to human settlement in regions of the world and describe the role of these conditions	G-1B-M1
7: GLE-5	Explain patterns of rural/urban migration and the positive and negative consequences of urban development in the United States	G-1GM3
8: GLE-2	Locate major landforms and geographic features, places, and bodies of water/waterways on a map of Louisiana	G-1A-M2
8: GLE-3	Construct a map based on given narrative information	G-1A-M2
8: GLE-4	Construct a chart or diagram to display geographical information in an organized way	G-1A-M2
8: GLE-5	Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions	G-1B-M1
8: GLE-14	Analyze, evaluate, and predict consequences of environmental modifications on Louisiana landforms, natural resources, and plant or animal life	G-1D-M1

Lesson Five:

Rhythm of the Tides — Sensing the Spirit of the Estuary

Objectives

STUDENTS WILL

- understand the movement of the tides.
- learn the importance of tides on habitats.
- learn basic rhythm in music.
- learn basic rhythms in nature.

NATIONAL STANDARDS FOR ARTS EDUCATION:

MUSIC

K- 4.3	Improving Melodies, Variations, and Accompaniments <ul style="list-style-type: none">• Students improvise “answers” in the same style to given rhythmic and melodic phases
K- 4.5	Reading and Notating Music <ul style="list-style-type: none">• Students read whole, half, dotted half, quarter, and eighth notes and rests in 2/4, 3/4, and 4/4 meter• Students use standard symbols to notate meter, rhythm, pitch, and dynamics in simple patterns presented by the teacher
K- 4.6	Listening to, Analyzing, and Describing Music <ul style="list-style-type: none">• Students identify simple music forms when presented aurally
K- 4.8	Understanding Relationships Between Music, the Other Arts, and Disciplines Outside the Arts <ul style="list-style-type: none">• Students identify ways in which the principles and subject matter of other disciplines taught in the school are interrelated with those of music (Science-Moon-Tides)
5- 8.3	Improving Melodies, Variations, and Accompaniments <ul style="list-style-type: none">• Students improvise short melodies, unaccompanied and over given rhythmic accompaniments, each in a consistent style, meter, and tonality
5-8.5	Reading and Notating Music <ul style="list-style-type: none">• Students use standard notation to record their musical ideas and the musical ideas of others
5-8.6	Listening to, Analyzing, and Describing Music <ul style="list-style-type: none">• Students demonstrate knowledge of the basic principles of meter, rhythm, tonality, intervals, chords, and harmonic progressions in their analyses of music
5-8.8	Understanding Relationships Between Music, the Other Arts, and Disciplines Outside the Arts <ul style="list-style-type: none">• Students describe ways in which the principles and subject matter of other disciplines taught in the school are interrelated with those of music (Science-Moon-Tides)

Lesson Five:

Rhythm of the Tides — CONTD.

*Sensing
the Spirit of
the Estuary*

LOUISIANA GRADE LEVEL EXPECTATIONS SCIENCE

K: GLE-30	Distinguish between areas of Earth covered by land and water	ESS-E-A2
K: GLE-32	Discuss and differentiate objects seen in the day and/or night sky (e.g., clouds, Sun, stars, Moon)	ESS-E-B1
2: GLE-43	Describe characteristics of the Sun, stars, and Earth's moon (e.g., relative size, shape, color, production of light/heat)	ESS-E-B1
4: GLE-64	Describe and sequence the phases of the Moon and eclipses	ESS-E-B2
4: GLE-67	Explain the changing appearance of the Moon and its location in the sky over the course of a month	ESS-E-B3
8: GLE-41	Describe the effects of the Moon on tides	ESS-M-C4



Lesson Six:

The Landscape of the Estuary—

Objectives

*Sensing
the Spirit of
the Estuary*

STUDENTS WILL

- study the landscape of the estuary using a variety of visual images including satellite images, aerial photography, maps and art forms.
- create “mental maps” of part of the Barataria-Terrebonne estuary.
- travel on a field trip to locations in the estuary to observe landforms and human-made features of the landscape.
- sketch and photograph landscape features in the field.
- create a tourism brochure for their part of the estuary, highlighting the most interesting natural and man-made features

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1
K: GLE-2	Pose questions that can be answered by using students’ own observations and scientific knowledge	SI-E-A1
K: GLE-4	Use the five senses to describe observations	SI-E-A3
1: GLE-5	Use the five senses to describe observations	SI-E-A3
2,3: GLE-6	Use the five senses to describe observations	SI-E-A3
4: GLE-7	Use the five senses to describe observations	SI-E-A3
5,6,7,8: GLE-19	Communicate ideas in a variety of ways (e.g., symbols, illustrations, graphs, charts, spreadsheets, concept maps, oral and written reports, equations)	SI-M-A7
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
6,7,8: GLE-7	Record observations using methods that complement investigations (e.g., journals, tables, charts)	SI-M-A3

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-22	Create simple text using prior knowledge by drawing, dictating to the teacher, and/or writing using developmental/inventive spelling	ELA-2-E3
K: GLE-34	Express feelings, needs, and ideas in complete sentences	ELA-4-E1
1: GLE-15	Retell important facts from informational text	ELA-1-E5
1: GLE-29	Independently write a variety of grade-appropriate compositions, including: <ul style="list-style-type: none"> • simple letters, notes, and stories • simple informational descriptions • simple rhymes and poems 	ELA-2-E4



Lesson Six:

The Landscape of the Estuary—CONTD.

LOUISIANA GRADE LEVEL EXPECTATIONS ELA CONTD.

1: GLE-58	Use various sources, including print materials and observations, to gather information to explain a topic	ELA-5-E2
2: GLE-24	Develop grade-appropriate compositions, for example: <ul style="list-style-type: none">• friendly letters• poems• stories• informational descriptions with some detail	ELA-2-E4
2: GLE-51	Gather and arrange information in a variety of organizational forms, including graphic organizers, simple outlines, notes, and summaries	ELA-5-E3
2: GLE-53	Tell and write about the sources of learned information	ELA-5-E5
3: GLE-17	Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: <ul style="list-style-type: none">• sequencing events• making predictions using information from texts• making simple inferences and drawing conclusions about information in texts• comparing and contrasting, including story elements (e.g., theme, character, and conflicts) and main points or ideas in informational texts• distinguishing between a main idea and a summary• identifying main ideas of texts	ELA-7-E1
3: GLE-21	Apply basic reasoning skills, including: <ul style="list-style-type: none">• identifying differences between fact and opinion• skimming and scanning texts to locate specific information• identifying multiple causes and/or effects in texts and life situations• raising questions to obtain clarification and/or direct investigation• connecting what is learned to real-life situations	ELA-7-E4
3: GLE-23	Incorporate grade-appropriate vocabulary and information when writing for an intended audience and/or purpose	ELA-2-E2
3: GLE-27	Write for various purposes, including: <ul style="list-style-type: none">• informal letters using appropriate letter format• book reports and informational compositions that include main ideas and significant details from the text	ELA-2-E6
3: GLE-46	Locate information from multiple sources, including books, periodicals, videotapes, web sites, and CD-ROMs	ELA-5-E2
3: GLE-50	Use available electronic and print resources to draft, revise, and publish simple research reports, book reports, and other projects	ELA-5-E4
3: GLE-52	Locate information found in graphic organizers such as timelines, charts, graphs, schedules, tables, diagrams, and maps	ELA-5-E6

Lesson Six:

The Landscape of the Estuary—*Sensing the Spirit of* CONTD.

LOUISIANA GRADE LEVEL EXPECTATIONS **ELA** CONTD.

4: GLE-19	Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: <ul style="list-style-type: none">• supporting differences between fact and opinion with information from texts• skimming and scanning texts for various purposes (e.g., locating information, verifying facts)• identifying cause-effect relationships in texts and real-life situations• generating questions to guide examination of topics in texts and real-life situations• explaining connection between information from texts and real-life experiences	ELA-7-E4
4: GLE-22	Identify an audience for a specific writing assignment and select the appropriate vocabulary, details, and information to create a tone or set the mood and to affect or manipulate the intended audience	ELA-2-E2
4: GLE-45	Paraphrase or summarize information from a variety of sources	ELA-5-E3
5: GLE-8	Identify the connections between ideas and information in a variety of texts (e.g., cartoons, poetry, fiction, instructional manuals) and real-life situations and other texts	ELA-1-M4
5: GLE-25	Write for various purposes, including: <ul style="list-style-type: none">• formal and informal letters that state a purpose, make requests, or give compliments• evaluations of media, such as films, performances, or field trips• explanations of stories and poems using retellings, examples, and text-based evidence	ELA-2-M6
5: GLE-45	Generate grade-appropriate research reports that include information presented in a variety of forms, including: <ul style="list-style-type: none">• visual representations of data/information• graphic organizers (e.g., outlines, timelines, charts, webs)• bibliographies	ELA-5-M3
6: GLE-7	Explain the connections between ideas and information in a variety of texts (e.g., journals, technical specifications, advertisements) and real-life situations and other texts	ELA-1-M4
6: GLE-39	Evaluate media for various purposes, including: <ul style="list-style-type: none">• text structure• images/sensory details• support for main position• background information• opinions vs. facts• sequence of ideas and organization	ELA-4-M5
6: GLE-45	Generate grade-appropriate research reports that include information presented in a variety of forms, including: <ul style="list-style-type: none">• visual representations of data/information• graphic organizers (e.g., outlines, timelines, charts, webs)• bibliographies	ELA-5-M3



Lesson Six:

The Landscape of the Estuary—CONTD.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

CONTD.

7: GLE-4	Draw conclusions and make inferences in oral and written responses about ideas and information in grade-appropriate texts, including: <ul style="list-style-type: none">• instructional materials• essays• dramas	ELA-1-M3
7: GLE-5	Interpret ideas and information in a variety of texts, including periodical articles, editorials, and lyrics, and make connections to real-life situations and other texts	ELA-1-M4
7: GLE-6	Identify universal themes (e.g., search for identity, love, friendship, family, courage, adversity) and cultural viewpoints found in national, world, and multicultural literature in oral and written responses	ELA-6-M1
7,8: GLE-8	Use knowledge of the distinctive characteristics to classify and interpret elements of various genres, including: <ul style="list-style-type: none">• fiction (e.g., science fiction/fantasy)• non-fiction (e.g., essays, letters)• poetry (e.g., lyric, narrative)• drama (e.g., short plays)	ELA-6-M
7,8: GLE-43	Generate grade-appropriate research reports that include information presented in a variety of forms, including: <ul style="list-style-type: none">• visual representations of data/information• graphic organizers (e.g., outlines, timelines, charts, webs)• works cited lists and/or bibliographies	ELA-5-M3
8: GLE-5	Interpret ideas and information in a variety of texts (e.g., scientific reports, technical guidelines, business memos) and make connections to real-life situations and other texts	ELA-1-M4

Lesson Seven:

The Architecture of the Barataria- Terrebonne Estuary

Objectives

STUDENTS WILL

- gather information on the characteristic features of the traditional architectural styles found in the Barataria-Terrebonne Estuary.
- organize the features in a graphic organizer.
- visit at least one historic building in their community.
- choose and draw a building that displays features of one of the traditional styles.
- contrast the traditional styles with modern architectural styles and discuss the importance of preserving historic buildings.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none">• Students know the differences between materials, techniques, and processes• Students use different media, techniques, and processes to communicate ideas, experiences, & stories
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none">• Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none">• Students explore and understand prospective content for works of art• Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none">• Students know that the visual arts have both a history and specific relationship to various cultures• Students identify specific works of art as belonging to particular cultures, times, and places• Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none">• Students understand there are various purposes for creating works of visual art• Students describe how people's experiences influence the development of specific artworks• Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none">• Students integrate visual, spatial, and temporal concepts with content to communicate intended meaning in their artworks• Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none">• Students know and compare the artwork in various eras and cultures
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none">• Students compare multiple purposes for creating works of art



Lesson Seven:

*The Architecture of the Barataria-
Terrebonne Estuary* — **CONTD.**
*Sensing the Spirit of
the Estuary*

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

1: GLE-15	Identify various types of human shelters and describe building materials used for construction	G-1D-E2
2: GLE-47	Identify sources where historical information can be found and how that information can be used	H-1A-E3
2: GLE-50	Identify and describe the significance of various community landmarks and symbols	H-1GE2
8: GLE-5	Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions	G-1B-M1
8: GLE-70	Conduct historical research using a variety of resources, and evaluate those resources, to answer historical questions related to Louisiana history	H-1A-M6



Lesson Eight:

Form and Function of Boat Designs—

Objectives

IN THE BARATARIA-TERREBONNE ESTUARY

STUDENTS WILL

- study, compare and contrast the design features of four boat types described in the handout *The Form and Function of Louisiana Fishing Boats* and on the Louisiana Folklife website.
- create a Venn diagram to highlight the similarities and differences between two fishing boat designs.
- draw their favorite fishing boat designs either from life (preferred if possible) or from a photograph.
- describe and explain in both oral and written form the design features they consider most important to the specific job their chosen boat does and how form follows function.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none">• Students know the differences between materials, techniques, and processes• Students use different media, techniques, and processes to communicate ideas, experiences, & stories
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none">• Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none">• Students explore and understand prospective content for works of art• Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none">• Students know that the visual arts have both a history and specific relationship to various cultures• Students identify specific works of art as belonging to particular cultures, times, and places• Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none">• Students understand there are various purposes for creating works of visual art• Students describe how people's experiences influence the development of specific artworks• Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none">• Students integrate visual, spatial, and temporal concepts with content to communicate intended meaning in their artworks• Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none">• Students know and compare the artwork in various eras and cultures
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none">• Students compare multiple purposes for creating works of art

Lesson Nine:

Be Instrumental— Objectives

Sensing the Spirit of the Estuary

STUDENTS WILL

- learn about the natural products of wetlands that humans used to create instruments.
- create their own instruments from the wetlands.
- create their own chant to tell the story and importance of wetlands.

NATIONAL STANDARDS FOR ARTS EDUCATION:

MUSIC

K-4.2	Performing on Instruments, Alone and With Others, a Varied Repertoire of Music <ul style="list-style-type: none">• Students perform expressively a varied repertoire of music representing diverse genres and styles
K-4.3	Improving Melodies, Variations, and Accompaniments <ul style="list-style-type: none">• Students improvise “answers” in the same style to given rhythmic and melodic phases
K-4.4	Composing and Arranging Music Within Specified Guidelines <ul style="list-style-type: none">• Students create and arrange music to accompany readings or dramatizations
K-4.6	Listening to, Analyzing, and Describing Music <ul style="list-style-type: none">• Students identify simple music forms when presented aurally
5-8.2	Performing on Instruments, Alone and With Others, a Varied Repertoire of Music <ul style="list-style-type: none">• Students perform music representing diverse genres and cultures, with expression appropriate for the work being performed
5-8.3	Improving Melodies, Variations, and Accompaniments <ul style="list-style-type: none">• Students improvise short melodies, unaccompanied and over given rhythmic accompaniments, each in a consistent style, meter, and tonality
5-8.4	Composing and Arranging Music Within Specified Guidelines <ul style="list-style-type: none">• Students use a variety of traditional and nontraditional sound sources and electronic media when composing and arranging
5-8.5	Reading and Notating Music <ul style="list-style-type: none">• Students use standard notation to record their musical ideas and the musical ideas of others
5-8.6	Listening to, Analyzing, and Describing Music <ul style="list-style-type: none">• Students demonstrate knowledge of the basic principles of meter, rhythm, tonality, intervals, chords, and harmonic progressions in their analyses of music

Lesson Ten:

Birds of Paradise — PROTECT MY HOME

Objectives

*Sensing
the Spirit of
the Estuary*

STUDENTS WILL

- list threatened/ endangered birds of the Barataria-Terrebonne estuary.
- examine and describe the role of humans in threatening/endangering the birds of the Barataria-Terrebonne estuary.
- examine and describe the role of humans in protecting the birds of the Barataria-Terrebonne estuary.
- create a postcard urging people to protect the threatened/ endangered birds of the Barataria-Terrebonne estuary.

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1	
1: GLE-32	Describe the differences between plants and animals	LS-E-A1	
2: GLE-35	Identify the components of a variety of habitats and describe how organisms in those habitats depend on each other	LS-E-C1	
2: GLE-48	Describe a variety of activities related to preserving the environment	SE-E-A3	
2: GLE-50	Describe ways in which habitat loss or change can occur as a result of natural events or human impact	SE-E-A5	
2: GLE-51	Describe and give examples of threatened or endangered species	SE-E-A5	
3: GLE-57	Describe the interrelationships of <i>living (biotic)</i> and <i>nonliving (abiotic)</i> components within various ecosystems (e.g., terrarium, swamp, backyard)	SE-E-A1	
3: GLE-58	Describe how humans have had negative and positive effects on organisms and their environments	SE-E-A3	SE-E-A5
3: GLE-61	Explain how selected animals once classified as endangered have recovered	SE-E-A5	
3: GLE-62	Identify animals in Louisiana that have recovered and that are no longer considered endangered	SE-E-A5	
4: GLE-48	Classify examples of plants and animals based on a variety of criteria	LS-E-B2	
4: GLE-50	Explain how some organisms in a given habitat compete for the same resources	LS-E-C1	
4: GLE-53	Identify the habitat in which selected organisms would most likely live and explain how specific structures help organisms to survive	LS-E-C2	
4: GLE-54	Describe the effect of sudden increases or decreases of one group of organisms upon other organisms in the environment	LS-E-C3	
4: GLE-72	Predict and describe consequences of the removal of one component in a balanced ecosystem (e.g., consumer, herbivores, nonliving component)	SE-E-A2	
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3	



Lesson Ten:

Birds of Paradise — PROTECT MY HOME, CONTD.

*Sensing
the Spirit of
the Estuary*

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE CONTD.

5: GLE-29	Describe adaptations of plants and animals that enable them to thrive in local and other natural environments	LS-M-D1
5: GLE-48	Determine the ability of an ecosystem to support a population (carrying capacity) by identifying the resources needed by that population	SE-M-A2
5: GLE-50	Describe the introducing nonnative species; consequences of several types of human activities on local ecosystems (e.g., polluting streams, regulating hunting)	SE-MA4
7: GLE-29	Predict the impact changes in a species population have on an ecosystem	LS-M-C4
7: GLE-32	Describe changes that can occur in various ecosystems and relate the changes to the ability of an organism to survive	LS-M-D2
7: GLE-33	Illustrate how variations in individual organisms within a population determine the success of the population	LS-M-D2
7: GLE-34	Explain how environmental factors impact survival of a population	LS-M-D2
7: GLE-39	Analyze the consequences of human activities on ecosystems	SE-M-A4
7: GLE-43	Identify and analyze the environmental impact of humans use of technology (e.g., energy production, agriculture, transportation, human habitation)	SE-M-A8
8: GLE-51	Analyze the consequences of human activities on global Earth systems	SE-M-A4



Lesson Eleven:

“A Time to be Born; A Time to Die” —

Objectives

*Sensing
the Spirit of
the Estuary*

STUDENTS WILL

- identify threatened/endangered species of the Barataria—Terrebonne Estuary.
- identify comeback species of the Barataria—Terrebonne Estuary.
- understand the causes of the threatened or endangered status of those animals or plants.
- understand the causes of the comeback status of those animals or plants.

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1	
1: GLE-32	Describe the differences between plants and animals	LS-E-A1	
2: GLE-35	Identify the components of a variety of habitats and describe how organisms in those habitats depend on each other	LS-E-C1	
2: GLE-48	Describe a variety of activities related to preserving the environment	SE-E-A3	
2: GLE-50	Describe ways in which habitat loss or change can occur as a result of natural events or human impact	SE-E-A5	
2: GLE-51	Describe and give examples of threatened or endangered species	SE-E-A5	
3: GLE-57	Describe the interrelationships of <i>living (biotic)</i> and <i>nonliving (abiotic)</i> components within various ecosystems (e.g., terrarium, swamp, backyard)	SE-E-A1	
3: GLE-58	Describe how humans have had negative and positive effects on organisms and their environments	SE-E-A3	SE-E-A5
3: GLE-61	Explain how selected animals once classified as endangered have recovered	SE-E-A5	
3: GLE-62	Identify animals in Louisiana that have recovered and that are no longer considered endangered	SE-E-A5	
4: GLE-48	Classify examples of plants and animals based on a variety of criteria	LS-E-B2	
4: GLE-50	Explain how some organisms in a given habitat compete for the same resources	LS-E-C1	
4: GLE-53	Identify the habitat in which selected organisms would most likely live and explain how specific structures help organisms to survive	LS-E-C2	
4: GLE-54	Describe the effect of sudden increases or decreases of one group of organisms upon other organisms in the environment	LS-E-C3	
4: GLE-72	Predict and describe consequences of the removal of one component in a balanced ecosystem (e.g., consumer, herbivores, nonliving component)	SE-E-A2	
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3	



Lesson Eleven:

“A Time to be Born; A Time to Die” —
Sensing
the Spirit of CONTD.

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

CONTD.

5: GLE-29	Describe adaptations of plants and animals that enable them to thrive in local and other natural environments	LS-M-D1
5: GLE-48	Determine the ability of an ecosystem to support a population (carrying capacity) by identifying the resources needed by that population	SE-M-A2
5: GLE-50	Describe the introducing nonnative species; consequences of several types of human activities on local ecosystems (e.g., polluting streams, regulating hunting)	SE-M-A4
7: GLE-29	Predict the impact changes in a species population have on an ecosystem	LS-M-C4
7: GLE-32	Describe changes that can occur in various ecosystems and relate the changes to the ability of an organism to survive	LS-M-D2
7: GLE-33	Illustrate how variations in individual organisms within a population determine the success of the population	LS-M-D2
7: GLE-34	Explain how environmental factors impact survival of a population	LS-M-D2
7: GLE-39	Analyze the consequences of human activities on ecosystems	SE-M-A4
7: GLE-43	Identify and analyze the environmental impact of humans use of technology (e.g., energy production, agriculture, transportation, human habitation)	SE-M-A8
8: GLE-51	Analyze the consequences of human activities on global Earth systems	SE-M-A4

Lesson Twelve:

Jambalaya, Crawfish Pie, Filé Gumbo—

Objectives

*Savoring
the Spirit of
the Estuary*

STUDENTS WILL

- state the impact the estuary has on culture and cooking.
- create an authentic Southern Louisiana-style cookbook, with both recipes and cultural stories.
- illustrate the recipes through drawings and/or photography.

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

1: GLE-11	Identify and compare basic elements of culture (e.g., food, music, celebrations)	G-1GE4
1: GLE-12	Identify the types of economic activities in which family members participate	G-1GE5
2: GLE-9	Identify the human characteristics of the local community	G-1B-E2
2: GLE-14	Identify ways of making a living within the community	G-1GE5
2: GLE-51	Identify cultural elements (e.g., crafts, customs, music, folklore) of the local community	H-1GE4
3: GLE-16	Identify and compare customs, celebrations, and traditions of various cultural groups in Louisiana	G-1GE4
3: GLE-57	Identify cultural elements that have contributed to our state heritage (e.g., Mardi Gras, Cajun/Creole cooking)	H-1GE4
4: GLE-12	Describe characteristics of the human population in a given area (e.g., cultural diversity, population size or growth)	G-1GE3
4: GLE-13	Explain and compare the cultural identities of various U.S. regions and how a region is influenced by past events and the heritage of its people	G-1GE4
4: GLE-55	Describe beliefs, customs, and traditions of family life in the past and present	H-1B-E1
4: GLE-63	Identify how dance, music, and arts of various cultures around the world reflect the history, daily life, and beliefs of the people	H-1D-E1
8: GLE-5	Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions	G-1B-M1
8: GLE-75	Describe the contributions of ethnic groups significant in Louisiana history	H-1D-M1
8: GLE-81	Explain cultural elements that have shaped Louisianas heritage (e.g., festivals, music, dance, food, languages)	H-1D-M6

Lesson One:

A Handful of Estuary Critters—

Objectives

Capturing the Spirit of the Estuary

STUDENTS WILL

- list a minimum of 10 critters of the Barataria-Terrebonne Estuary.
- select one critter and research, observe, and describe it.
- paint as realistically as possible one critter on their partners' hand using craft paint or tempera paint.
- photograph and display their work.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none">• Students know the differences between materials, techniques, and processes• Students use different media, techniques, and processes to communicate ideas, experiences, and stories• Students use art materials and tools in a safe and responsible manner
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none">• Students know the difference among visual characteristics and purposes of art in order to convey ideas• Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none">• Students explore and understand prospective content for works of art• Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none">• Students understand there are various purposes for creating works of visual art• Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none">• Students integrate visual, spatial, and temporal concepts with content to communicate intended meaning in their artworks• Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none">• Students compare multiple purposes for creating works of art



Lesson One:

A Handful of Estuary Critters—CONTD.

Capturing the Spirit of the Estuary

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using students' own observations and scientific knowledge	SI-E-A1
1: GLE-32	Describe features of some animals that benefit them in their environments	LS-E-C1
1: GLE-34	Record evidence of plants and animals in the schoolyard or other environments	LS-E-C2
2: GLE-30	Identify physical characteristics of organisms (e.g., worm, amphibians, plants)	LS-E-A4
2: GLE-45	Locate and identify plants and animals within an ecosystem	SE-E-A2
3: GLE-35	Describe features of some animals that benefit them in their environments	LS-E-C1
4: GLE-41	Describe how parts of animals' bodies are related to their functions and survival (e.g., wings/flying, webbed feet/swimming)	LS-E-A3
4: GLE-48	Classify examples of plants and animals based on a variety of criteria	LS-E-B2
4: GLE-51	Describe how organisms can modify their environment to meet their needs (e.g., beavers making dams)	LS-E-C1
4: GLE-52	Describe how some plants and animals have adapted to their habitats	LS-E-C2
4: GLE-53	Identify the habitat in which selected organisms would most likely live and explain how specific structures help organisms to survive	LS-E-C2
5,6,7,8: GLE-3	Use a variety of sources to answer questions	SI-M-A1
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
5: GLE-29	Describe adaptations of plants and animals that enable them to thrive in local and other natural environments	LS-M-D1
7: GLE-26	Describe and compare the levels or organization of living things within an ecosystem	LD-M-C3
7: GLE-30	Differentiate between structural and behavioral adaptations in a variety of organisms	LS-M-D1



Lesson Two:

Natural Notes— Objectives

Capturing the Spirit of the Estuary

STUDENTS WILL

- understand the importance of sound in the natural world and wetlands in particular.
- mimic the sound made by their chosen animal.
- understand the habitat niche of the animal.

NATIONAL STANDARDS FOR ARTS EDUCATION:

MUSIC

5- 8.4

Composing and Arranging Music Within Specified Guidelines

- Students use a variety of traditional and nontraditional sound sources and electronic media when composing and arranging

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using students' own observations and scientific knowledge	SI-E-A1
1: GLE-32	Describe features of some animals that benefit them in their environments	LS-E-C1
1: GLE-34	Record evidence of plants and animals in the schoolyard or other environments	LS-E-C2
2: GLE-45	Locate and identify plants and animals within an ecosystem	SE-E-A2
3: GLE-57	Describe the interrelationships of <i>living (biotic)</i> and <i>nonliving (abiotic)</i> components within various ecosystems (e.g., terrarium, swamp, backyard)	SE-E-A1
5,6,7,8: GLE-3	Use a variety of sources to answer questions	SI-M-A1
4: GLE-48	Classify examples of plants and animals based on a variety of criteria	LS-E-B2
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
5: GLE-27	Compare common traits of organisms within major exosystems	LS-M-C3
7: GLE-28	Differentiate between ecosystem components of habitat and niche	LS-M-C4



Lesson Three:

Objectives

Capturing the Spirit of the Estuary
This is Driving Me Buggy... —
SO LET'S WRAP IT UP!

STUDENTS WILL

- research common insects of the BTNE.
- sketch outlines of insects or find patterns of insect shapes.
- make potato prints or Styrofoam stamps.
- design and print wrapping paper with an insect pattern.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none"> • Students know the differences between materials, techniques, and processes • Students use different media, techniques, and processes to communicate ideas, experiences, and stories • Students use art materials and tools in a safe and responsible manner
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none"> • Students know the difference among visual characteristics and purposes of art in order to convey ideas • Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students explore and understand prospective content for works of art • Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students understand there are various purposes for creating works of visual art • Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students integrate visual, spatial, and temporal concepts with content to communicate intended meaning in their artworks • Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students compare multiple purposes for creating works of art

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using students' own observations and scientific knowledge	SI-E-A1
3: GLE-57	Describe the interrelationships of <i>living (biotic)</i> and <i>nonliving (abiotic)</i> components within various ecosystems (e.g., terrarium, swamp, backyard)	SE-E-A1
5,6,7,8: GLE-3	Use a variety of sources to answer questions	SI-M-A1
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
5: GLE-27	Common common traits of organisms within major ecosystems	LS-M-C3



Lesson Four:

Painting in Style — FLOWERS OF THE ESTUARY

Objectives

*Capturing
the Spirit of
the Estuary*

STUDENTS WILL

- describe the following styles of art: Egyptian Hieroglyphics, Classical Realism, Impressionism and Pointillism, Surrealism, and Abstract and Cubism
- identify paintings from each of the above styles.
- identify the following flowers of the estuary : Water Hyacinth, Louisiana Iris, Cardinal flower, White Water Lily, and the Spider Lily.
- research and identify at least ten flowers of the estuary and their habitats.
- create artwork using one of the above styles.
- identify and discuss the elements and principles of design in their paintings.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none"> • Students know the differences between materials, techniques, and processes • Students use different media, techniques, and processes to communicate ideas, experiences, and stories
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none"> • Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students explore and understand prospective content for works of art • Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know that the visual arts have both a history and specific relationships to various cultures • Students identify specific works of art as belonging to particular cultures, times, and places • Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students understand there are various purposes for creating works of visual art • Students describe how people’s experiences influence the development of specific artworks • Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students integrate visual, spatial, and temporal concepts with content to communicate intended meaning in their artworks • Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know and compare the artwork in various eras and cultures
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students compare multiple purposes for creating works of art



Lesson Four:

Painting in Style

FLOWERS OF THE ESTUARY, CONTD.

*Capturing
the Spirit of
the Estuary*

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using students' own observations and scientific knowledge	SI-E-A1
1: GLE-30	Record and share observations of changes in developing plants	LS-E-B1
1: GLE-34	Record evidence of plants and animals in the schoolyard or other environments	LS-E-C2
2: GLE-45	Locate and identify plants and animals within an ecosystem	SE-E-A2
3: GLE-36	Compare structures (e.g., roots, leaves, stems, flowers, seeds) and their functions in a variety of plants	LS-E-A3
4: GLE-48	Classify examples of plants and animals based on a variety of criteria	LS-E-B2
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
5: GLE-27	Compare common traits of organisms within major ecosystems	LS-M-C3

Lesson Five:

We Walk in Beauty—Capturing the Spirit of the Estuary
Objectives

STUDENTS WILL

- identify a minimum of fifteen plants that live in the Barataria-Terrebonne Estuary.
- research the life cycle and the special characteristics of a plant from the estuary.
- describe the skills necessary to keep a field journal.
- use observation, reflection, drawing, and writing during a field trip to create a field journal.

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using students' own observations and scientific knowledge	SI-E-A1
1: GLE-30	Record and share observations of changes in developing plants	LS-E-B1
1: GLE-34	Record evidence of plants and animals in the schoolyard or other environments	LS-E-C2
2: GLE-45	Locate and identify plants and animals within an ecosystem	SE-E-A2
3: GLE-36	Compare structures (e.g., roots, leaves, stems, flowers, seeds) and their functions in a variety of plants	LS-E-A3
4: GLE-48	Classify examples of plants and animals based on a variety of criteria	LS-E-B2
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
5: GLE-27	Compare common traits of organisms within major ecosystems	LS-M-C3

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-22	Create simple text using prior knowledge by drawing, dictating to the teacher, and/or writing using developmental/inventive spelling	ELA-2-E3
K: GLE-34	Express feelings, needs, and ideas in complete sentences	ELA-4-E1
1: GLE-15	Retell important facts from informational text	ELA-1-E5
1: GLE-31	Write for various purposes, including: <ul style="list-style-type: none"> • responses that include simple judgments about stories and texts • responses that follow simple formats, including envelopes, lists, and journals 	ELA-2-E6
1: GLE-58	Use various sources, including print materials and observations, to gather information to explain a topic	ELA-5-E2



Lesson Five:

We Walk in Beauty — **CONTD.**

*Capturing
the Spirit of*

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

CONTD.

2: GLE-24	Develop grade-appropriate compositions, for example: <ul style="list-style-type: none"> • friendly letters • poems • stories • informational descriptions with some detail 	ELA-2-E4
2: GLE-51	Gather and arrange information in a variety of organizational forms, including graphic organizers, simple outlines, notes, and summaries	ELA-5-E3
2: GLE-53	Tell and write about the sources of learned information	ELA-5-E5
3: GLE-46	Locate information from multiple sources, including books, periodicals, videotapes, web sites, and CD-ROMs	ELA-5-E2
4: GLE-22	Identify an audience for a specific writing assignment and select appropriate vocabulary, details, and information to create a tone or set the mood and to affect or manipulate the intended audience	ELA-2-E2
4: GLE-45	Paraphrase or summarize information from a variety of sources	ELA-5-E3
5,6: GLE-45	Generate grade-appropriate research reports that include information presented in a variety of forms, including: <ul style="list-style-type: none"> • visual representations of data/information • graphic organizers (e.g., outlines, timelines, charts, webs) • bibliographies 	ELA-5-M3
6: GLE-7	Explain the connections between ideas and information in a variety of texts (e.g., journals, technical specifications, advertisements) and real-life situations and other texts	ELA-1-M4
7,8: GLE-5	Interpret ideas and information in a variety of texts, including periodical articles, editorials, and lyrics, and make connections to real-life situations and other texts	ELA-1-M4
7,8: GLE-11	Use technical information and other available resources (e.g., web sites, interviews) to solve problems	ELA-7-M2
7,8: GLE-43	Generate grade-appropriate research reports that include information presented in a variety of forms, including: <ul style="list-style-type: none"> • visual representations of data/information • graphic organizers (e.g., outlines, timelines, charts, webs) • works cited lists and/or bibliographies 	ELA-5-M3



Lesson Six:

Cherokee Leaf Painting

Objectives

*Capturing
the Spirit of
the Estuary*

STUDENTS WILL

- analyze a painting and discuss the elements of art, the principles of design, as well as its meaning.
- investigate the techniques of watercolor painting.
- create a watercolor painting of a plant in the estuary.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none">• Students know the differences between materials, techniques, and processes• Students use different media, techniques, and processes to communicate ideas, experiences, and stories
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none">• Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none">• Students explore and understand prospective content for works of art• Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none">• Students know that the visual arts have both a history and specific relationships to various cultures• Students identify specific works of art as belonging to particular cultures, times, and places• Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none">• Students understand there are various purposes for creating works of visual art• Students describe how people's experiences influence the development of specific artworks• Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none">• Students integrate visual, spatial, and temporal concepts with content to communicate intended meaning in their artworks• Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none">• Students know and compare the artwork in various eras and cultures
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none">• Students compare multiple purposes for creating works of art

Lesson Seven:

Objectives

*The World's Greatest Sculptor—
Capturing
the Spirit of
the Estuary*

STUDENTS WILL

- learn about the life of a river.
- learn about erosion and its affects on the landscape.
- design a river system that creates a sculpture.

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., rocks, plants, storms)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using student' own observations and scientific knowledge	SI-E-A1
2: GLE-37	Compare bodies of water found on Earth (e.g., oceans, seas, lakes, rivers, glaciers)	ESS-E-A2
3: GLE-46	Describe earth processes that have affected selected physical features in students' neighborhoods (e.g., rusting, weathering, erosion)	ESS-E-A1
5: GLE-33	Evaluate models, identify problems in design, and make recommendations for improvement	SI-M-B4
8: GLE-53	Distinguish among several examples of erosion (e.g., stream bank, topsoil, coastal) and describe common preventive measures	SE-M-A10

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

1: GLE-6	Identify Earth's various physical features (e.g., oceans, islands, mountains, rivers)	G-1B-E1
2: GLE-4	Identify geographical features in the local region	G-1A-E2
3: GLE-5	Locate major geographic features of Louisiana on a map	G-1A-E2
3: GLE-13	Identify examples of physical processes affecting Louisiana (e.g., coastal erosion, river changes)	G-1GE1
5: GLE-4	Locate major landforms and geographic features, places, and bodies of water/waterways on a map of the United States	G-1A-M2
8: GLE-2	Locate major landforms and geographic features, places, and bodies of water/waterways on a map of Louisiana	G-1A-M2



Lesson Seven:

The World's Greatest Sculptor—CONTD.

*Capturing
the Spirit of
the*

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none">• Students know the differences between materials, techniques, and processes• Students use different media, techniques, and processes to communicate ideas, experiences, and stories
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none">• Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none">• Students explore and understand prospective content for works of art• Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none">• Students know that the visual arts have both a history and specific relationships to various cultures• Students identify specific works of art as belonging to particular cultures, times, and places• Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none">• Students understand there are various purposes for creating works of visual art• Students describe how people's experiences influence the development of specific artworks• Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none">• Students integrate visual, spatial, and temporal concepts with content to communicate intended meaning in their artworks• Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none">• Students know and compare the artwork in various eras and cultures
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none">• Students compare multiple purposes for creating works of art

Lesson Eight:

Objectives

Capturing the Spirit of the Estuary
Doin' What Comes Naturally—
NATURALIST? ARTIST? OR BOTH?

STUDENTS WILL

- discuss the importance of careful, accurate drawings when describing something in nature.
- learn a variety of drawing and sketching techniques.
- actively observe and interpret the drawings of other students.
- study the work of naturalists who sketched to remember places and objects.
- write reflectively on their field experiences.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none"> • Students know the differences between materials, techniques, and processes • Students use different media, techniques, and processes to communicate ideas, experiences, and stories
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none"> • Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students explore and understand prospective content for works of art • Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know that the visual arts have both a history and specific relationships to various cultures • Students identify specific works of art as belonging to particular cultures, times, and places • Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students understand there are various purposes for creating works of visual art • Students describe how people’s experiences influence the development of specific artworks • Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students integrate visual, spatial, and temporal concepts with content to communicate intended meaning in their artworks • Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know and compare the artwork in various eras and cultures
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students compare multiple purposes for creating works of art

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

8: GLE-5	Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions	G-1B-M1
8: GLE-7	Explain how or why specific regions are changing as a result of physical phenomena	G-1B-M3
8: GLE-8	Identify and describe factors that cause a Louisiana region to change	G-1B-M3

Lesson Eight:

Capturing the Spirit of
Doin' What Comes Naturally—

NATURALIST? ARTIST? OR BOTH?, CONTD.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-22	Create simple text using prior knowledge by drawing, dictating to the teacher, and/or writing using developmental/inventive spelling	ELA-2-E3
K: GLE-34	Express feelings, needs, and ideas in complete sentences	ELA-4-E1
1: GLE-15	Retell important facts from informational text	ELA-1-E5
1: GLE-31	Write for various purposes, including: <ul style="list-style-type: none"> • responses that include simple judgments about stories and texts • responses that follow simple formats, including envelopes, lists, and journals 	ELA-2-E6
1: GLE-58	Use various sources, including print materials and observations, to gather information to explain a topic	ELA-5-E2
2: GLE-24	Develop grade-appropriate compositions, for example: <ul style="list-style-type: none"> • friendly letters • stories • poems • informational descriptions with some detail 	ELA-2-E4
2: GLE-51	Gather and arrange information in a variety of organizational forms, including graphic organizers, simple outlines, notes, and summaries	ELA-5-E3
2: GLE-53	Tell and write about the sources of learned information	ELA-5-E5
3: GLE-46	Locate information from multiple sources, including books, periodicals, videotapes, web sites, and CD-ROMs	ELA-5-E2
4: GLE-22	Identify an audience for a specific writing assignment and select appropriate vocabulary, details, and information to create a tone or set the mood and to affect or manipulate the intended audience	ELA-2-E2
4: GLE-45	Paraphrase or summarize information from a variety of sources	ELA-5-E3
5,6: GLE-45	Generate grade-appropriate research reports that include information presented in a variety of forms, including: <ul style="list-style-type: none"> • visual representations of data/information • graphic organizers (e.g., outlines, timelines, charts, webs) • bibliographies 	ELA-5-M3
6: GLE-7	Explain the connections between ideas and information in a variety of texts (e.g., journals, technical specifications, advertisements) and real-life situations and other texts	ELA-1-M4
7,8: GLE-5	Interpret ideas and information in a variety of texts, including periodical articles, editorials, and lyrics, and make connections to real-life situations and other texts	ELA-1-M4
7,8: GLE-11	Use technical information and other available resources (e.g., web sites, interviews) to solve problems	ELA-7-M2
7,8: GLE-43	Generate grade-appropriate research reports that include information presented in a variety of forms, including: <ul style="list-style-type: none"> • visual representations of data/information • graphic organizers (e.g., outlines, timelines, charts, webs) • works cited lists and/or bibliographies 	ELA-5-M3

Lesson Nine:

Objectives

Nature's Art — Capturing the Spirit of the Estuary

STUDENTS WILL

- describe how art materials are derived from natural sources.
- explain how ideas and feelings can be communicated through artwork.
- analyze a piece of artwork to determine the natural materials and artist materials used to create the work.
- discuss the impact artwork has on people's perception of the estuary.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none"> • Students know the differences between materials, techniques, and processes • Students describe how different materials, techniques, and processes to communicate ideas, experiences, and stories • Students use different media, techniques, and processes to communicate ideas, experiences, and stories
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none"> • Students know the differences among visual characteristics and purposes of art in order to convey ideas • Students describe how different expressive features and organizational principles cause different responses • Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students explore and understand prospective content for works of art • Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know that the visual arts have both a history and specific relationships to various cultures • Students identify specific works of art as belonging to particular cultures, times, and places • Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students understand there are various purposes for creating works of visual art • Students describe how people's experiences influence the development of specific artworks • Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know and compare the characteristics of artworks in various eras and cultures • Students analyze, describe, and demonstrate how factors of time and place influence visual characteristics that give meaning and value to a work of art
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students compare multiple purposes for creating works of art • Students analyze contemporary and historic meanings in specific artworks through cultural and aesthetic inquiry



Lesson Ten:

Mamas, Your Babies Grow Up to Be—
Objectives

*Capturing
the Spirit of
the Estuary*

STUDENTS WILL

- design a class mural depicting scenes from life in the Barataria-Terrebonne Estuary. (They could also use their “I Am A Child of the Estuary” poems.)
- explore their cultural heritage through artistic expression and historical research.
- interview viewers about the effect the mural has on them. (Use questions such as: How do you feel? What is your favorite scene? What don’t you like? etc...)

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

K-4.1	Understanding and applying media, techniques, and processes: <ul style="list-style-type: none"> • Students know the differences between materials, techniques, and processes • Students describe how different materials, techniques, and processes cause different responses • Students use different media, techniques, and processes to communicate ideas, experiences, and stories
K-4.2	Using knowledge of structures and function: <ul style="list-style-type: none"> • Students know the differences among visual characteristics and purposes of art in order to convey ideas • Students describe how different expressive features and organizational principles cause different responses • Students use visual structures and functions of art to communicate ideas
K-4.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students explore and understand prospective content for works of art • Students select and use subject matter, symbols, and ideas to communicate meaning
K-4.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know that the visual arts have both a history and specific relationships to various cultures • Students identify specific works of art as belonging to particular cultures, times, and places • Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art
K-4.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students understand there are various purposes for creating works of visual art • Students describe how people’s experiences influence the development of specific artworks • Students understand there are different responses to specific artworks
5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know and compare the artwork in various eras and cultures • Students analyze, describe, and demonstrate how factors of time and place influence visual characteristics that give meaning and value to a work of art
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students compare multiple purposes for creating works of art • Students analyze contemporary and historic meanings in specific artworks through cultural and aesthetic inquiry



Lesson Ten:

*Mamas, Your Babies Grow Up to Be—
Capturing the Spirit of* **CONTD.**

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

the Estuaries

1: GLE-11	Identify and compare basic elements of culture (e.g., food, music, celebrations)	G-1GE4
2: GLE-9	Identify the human characteristics of the local community	G-1B-E2
2: GLE-51	Identify cultural elements (e.g., crafts, customs, music, folklore) of the local community	H-1GE4
3: GLE-10	Identify and describe the human characteristics of places in Louisiana	G-1B-E2
3: GLE-16	Identify and compare customs, celebrations, and traditions of various cultural groups in Louisiana	G-1GE4
3: GLE-57	Identify cultural elements that have contributed to our state heritage (e.g., Mardi Gras, Cajun/Creole cooking)	H-1GE4
4: GLE-12	Describe characteristics of the human population in a given area (e.g., cultural diversity, population size or growth)	G-1CE3
4: GLE-63	Identify how dance, music, and arts of various cultures around the world reflect the history, daily life, and beliefs of the people	H-1D-E1
4: GLE-64	Identify significant historical achievements of various cultures of the world (e.g., building of the pyramids, founding of the Olympics)	H-1D-E1
8: GLE-5	Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions	G-1B-M1
8: GLE-81	Explain cultural elements that have shaped Louisianas heritage (e.g., festivals, music, dance, food, languages)	H-1D-M6

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-12	Respond to stories, legends, song, and other literature from diverse cultural and ethnic groups by participating in activities such as answering questions, role-playing, and drawing	ELA-6-E1
K: GLE-22	Create simple text using prior knowledge by drawing, dictating to the teacher, and/or writing using developmental/inventive spelling	ELA-2-E3
3: GLE-42	Use active listening strategies, including: <ul style="list-style-type: none"> • asking quesitons and responding to ideas/opinions • giving oral responses, such as explanations of written and/or spoken texts 	ELA-4-E5
5: GLE-9	Identify cultural characteristics, including customs, traditions, and viewpoints, found in national, world, and multicultural literature in oral and written responses	ELA-6-M1
5: GLE-38	Demonstrate active listening strategies (e.g., asking focused questions, responding to questions, making visual contact)	ELA-4-M4
7: GLE-6	Identify universal themes (e.g.,search for identity, love, friendship, family, courage, adversity) and cultural viewpoints found in national, world, and multicultural literature in oral and written responses	ELA-6-M1



Lesson Eleven:

Cajun Music — TRADUIRE (TO TRANSLATE)

Objectives

*Capturing
the Spirit of
the Estuary*

STUDENTS WILL

- translate Cajun French words into English.
- describe the unique relationship between Cajun musicians and wetlands.
- interpret the lyrics in their own words regarding the song’s message about wetlands.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-12	Respond to stories, legends, song, and other literature from diverse cultural and ethnic groups by participating in activities such as answering questions, role-playing, and drawing	ELA-6-E1
K: GLE-34	Express feelings, needs, and ideas in complete sentences	ELA-4-E1
K: GLE-38	Recite short poems, rhymes, and songs	ELA-4-E4
1: GLE-54	Listen and orally respond to information presented in a variety of media, such as audio and video recordings	ELA-4-E6
3: GLE-11	Connect ideas, events, and information identified in grade-appropriate texts to prior knowledge and life experiences in oral and written responses	ELA-1-E6
3: GLE-43	Compare ideas and points of view from a wide variety of media, including television, video, music, the web, charts, and print materials	ELA-4-E6
4: GLE-11	Compare and contrast stories/tales from different cultures and explain the influence of culture on each tale in oral, written, and visual responses	ELA-6-E1
5: GLE-8	Identify the connections between ideas and information in a variety of texts (e.g., cartoons, poetry, fiction, instructional manuals) and real-life situations and other texts	ELA-1-M4
5: GLE-9	Identify cultural characteristics, including customs, traditions, and viewpoints, found in national, world, and multicultural literature in oral and written responses	ELA-6-M1
6: GLE-7	Explain the connections between ideas and information in a variety of texts (e.g., journals, technical specifications, advertisements) and real-life situations and other texts	ELA-1-M4
7: GLE-5	Interpret ideas and information in a variety of texts, including periodical articles, editorials, and lyrics, and make connections to real-life situations and other texts	ELA-1-M4
7: GLE-22	Write for various purposes, including: <ul style="list-style-type: none"> • letters of complaint supported with complete and accurate information and reasons • evaluations of media, such as television, radio, and the arts • text-supported interpretations of elements of grade-appropriate stories, poems, plays, and novels • applications, such as memberships and library cards 	ELA-2-M6
8: GLE-3	Interpret literary devices, including: <ul style="list-style-type: none"> • allusions • understatement (meiosis) • how word choice and images appeal to the senses and suggest mood and tone • the use of foreshadowing and flashback to direct plot development • the effects of hyperbole and symbolism 	ELA-1-M2
8: GLE-37	Compare, contrast, and evaluate information found in a wide variety of text/electronic media, (e.g., microprint, public speeches, art form)	ELA-4-M5

Lesson Twelve:

Bals De Maison — (HOUSE DANCES)

*Capturing
the Spirit of
the Estuary*

Objectives

STUDENTS WILL

- learn why the wetlands were (and still are) an isolating factor for the Cajun culture.
- learn how Cajuns used dance and music as a means of entertainment and socializing.
- learn that the harvest from the wetlands was used as a reason to celebrate through music and dance.
- experience the music and dance of the Cajuns.

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

4: GLE-63	Identify how dance, music, and arts of various cultures around the world reflect the history, daily life, and beliefs of the people	H-1D-E1
8: GLE-81	Explain cultural elements that have shaped Louisiana’s heritage (e.g., festivals, music, dance, food, languages)	H-1D-M6

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

3: GLE-11	Connect ideas, events, and information identified in grade-appropriate texts to prior knowledge and life experiences in oral and written responses	ELA-1-E6
5: GLE-9	Identify cultural characteristics, including customs, traditions, and viewpoints, found in national, world, and multicultural literature in oral and written responses	ELA-6-M1
7: GLE-6	Identify universal themes (e.g., search for identity, love, friendship, family, courage, adversity) and cultural viewpoints found in national, world, and multicultural literature in oral and written responses	ELA-6-M1



Lesson Thirteen:

Dialogue: Disappearing Wetlands

Objectives

Capturing the Spirit of the Estuary

STUDENTS WILL

- analyze David Bates' painting, *Grassy Lake*, generating and interpreting a list of what they observe in the painting.
- improvise a dialogue between two people in a canoe in the swamp.
- write a dialogue about the disappearing wetlands in Louisiana, using the writing process, i.e., prewriting, drafting, reviewing, and editing.
- research the wetlands of the BTE for the purpose of creating a script that will be shared with an audience.
- critique, edit, and revise each others' work.
- learn techniques needed to create a tape of their dialogues.
- use the Internet to find an appropriate audience with whom to share their taped dialogues.
- make a fact page or brochure to provide additional wetlands information to their audience.
- record daily reflections in their journals about the process.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know and compare the artwork in various eras and cultures • Students analyze, describe, and demonstrate how factors of time and place influence visual characteristics that give meaning and value to a work of art
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students compare multiple purposes for creating works of art • Students analyze contemporary and historic meanings in specific artworks through cultural and aesthetic inquiry

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-22	Create simple text using prior knowledge by drawing, dictating to the teacher, and/or writing using developmental/inventive spelling	ELA-2-E3
K: GLE-34	Express feelings, needs, and ideas in complete sentences	ELA-4-E1
1: GLE-15	Retell important facts from informational text	ELA-1-E5
1: GLE-29	Independently write a variety of grade-appropriate compositions, including: <ul style="list-style-type: none"> • simple letters, notes, and stories • simple informational descriptions • simple rhymes and poems 	ELA-2-E4
1: GLE-58	Use various sources, including print materials and observations, to gather information to explain a topic	ELA-5-E2
2: GLE-24	Develop grade-appropriate compositions, for example: <ul style="list-style-type: none"> • friendly letters • stories • poems • informational descriptions with some detail 	ELA-2-E4

Lesson Thirteen:

Dialogue: Disappearing Wetlands — CONTD.

Capturing the Spirit of

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

CONTD.

2: GLE-51	Gather and arrange information in a variety of organizational forms, including graphic organizers, simple outlines, notes, and summaries	ELA-5-E3
2: GLE-53	Tell and write about the sources of learned information	ELA-5-E5
3: GLE-17	Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: <ul style="list-style-type: none"> sequencing events making predictions using information from texts making simple inferences and drawing conclusions about information in texts comparing and contrasting, including story elements (e.g., theme, character, and conflicts) and main points or ideas in informational texts distinguishing between a main idea and a summary identifying main ideas of texts 	ELA-7-E1
3: GLE-21	Apply basic reasoning skills, including: <ul style="list-style-type: none"> identifying differences between fact and opinion skimming and scanning texts to locate specific information identifying multiple causes and/or effects in texts and life situations raising questions to obtain clarification and/or direct investigation connecting what is learned to real-life situations 	ELA-7-E4
3: GLE-23	Incorporate grade-appropriate vocabulary and information when writing for an intended audience and/or purpose	ELA-2-E2
3: GLE-27	Write for various purposes, including: <ul style="list-style-type: none"> informal letters using appropriate letter format book reports and informational compositions that include main ideas and significant details from the text 	ELA-2-E6
3: GLE-46	Locate information from multiple sources, including books, periodicals, videotapes, web sites, and CD-ROMs	ELA-5-E2
3: GLE-50	Use available electronic and print resources to draft, revise, and publish simple research reports, book reports, and other projects	ELA-5-E4
3: GLE-52	Locate information found in graphic organizers such as timelines, charts, graphs, schedules, tables, diagrams, and maps	ELA-5-E6
4: GLE-19	Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: <ul style="list-style-type: none"> supporting differences between fact and opinion with information from texts skimming and scanning texts for various purposes (e.g., locating information, verifying facts) identifying cause-effect relationships in texts and real-life situations generating questions to guide examination of topics in texts and real-life situations explaining connection between information from texts and real-life experiences 	ELA-7-E4

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

2: GLE-4	Identify geographical features in the local region	G-1A-E2
2: GLE-15	Explain ways in which people in the local community depend on the physical environment to satisfy basic needs	G-1D-E1

Lesson Fourteen:

From the Sugar Cane Fields to the Easel — THE MYSTERY OF GEORGE RODRIGUE'S BLUE DOG

Objectives

STUDENTS WILL

- define pop, abstract, and expressionistic art as it relates to Cajun artist George Rodrigue.
- define the elements and principles of art.
- view and analyze artistic elements and principles of the work of celebrated artists Jackson Pollock, Andy Warhol, Edvard Munch, and George Rodrigue.
- research the life of the artists George Rodrigue, Pablo Picasso, Andy Warhol, Jackson Pollock, and Edvard Munch to develop an understanding of abstract, pop, and abstract expressionist art.
- study pop, abstract, and abstract expressionist art genres and come to understand the type of art that inspires George Rodrigue.
- study in-depth the art of Cajun artist George Rodrigue and create a pop image using Photo Shop to recreate a Rodrigue-inspired pop image.
- depict elements (animal and landscape) of the BTNE in their pop-inspired art.
- research and discuss the influence of the estuary on the artistic development styles of New Iberia artist George Rodrigue.
- develop their critical thinking skills as well as appreciation of art through the use of teacher generated art critique questions.

NATIONAL STANDARDS FOR ARTS EDUCATION:

VISUAL ARTS

5-8.3	Choosing and evaluating a range of subject matter, symbols, and ideas: <ul style="list-style-type: none"> • Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks
5-8.4	Understanding the visual arts in relation to history and cultures: <ul style="list-style-type: none"> • Students know and compare the artwork in various eras and cultures • Students analyze, describe, and demonstrate how factors of time and place influence visual characteristics that give meaning and value to a work of art
5-8.5	Reflecting upon and assessing the characteristics and merits of their work and the work of others: <ul style="list-style-type: none"> • Students compare multiple purposes for creating works of art • Students analyze contemporary and historic meanings in specific artworks through cultural and aesthetic inquiry

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using students' own observations and scientific knowledge	SI-E-A1
K: GLE-25	Identify easily observable variations within types of plants and animals (e.g., features of classmates, varieties of trees, breeds of dogs)	LS-E-A4
1: GLE-34	Record evidence of plants and animals in the schoolyard or other environments	LS-E-C2
2: GLE-30	Identify physical characteristics of organisms (e.g., worms, amphibians, plants)	LS-E-A4
2: GLE-45	Locate and identify plants and animals within an ecosystem	SE-E-A2
3: GLE-57	Describe the interrelationships of <i>living</i> (biotic) and <i>nonliving</i> (abiotic) components within various ecosystems (e.g., terrarium, swamp, backyard)	SE-E-A1

Lesson One:

Objectives **Music Makers** —

*Preserving
the Spirit of
the Estuary*

STUDENTS WILL

- locate a Cajun or Zydeco musician who might be willing to be interviewed.
- create an interview questionnaire.
- interview a local musician to get their perspective on Louisianan Wetlands.
- research Cajun and Zydeco music.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-12	Respond to stories, legends, song, and other literature from diverse cultural and ethnic groups by participating in activities such as answering questions, role-playing, and drawing	ELA-6-E1
K: GLE-22	Create simple text using prior knowledge by drawing, dictating to the teacher, and/or writing using developmental/inventive spelling	ELA-2-E3
3: GLE-42	Use active listening strategies, including: <ul style="list-style-type: none"> • asking questions and responding to ideas/opinions • giving oral responses, such as explanations of written and/or spoken texts 	ELA-4-E5
5: GLE-9	Identify cultural characteristics, including customs, traditions, and viewpoints, found in national, world, and multicultural literature in oral and written responses	ELA-6-M1
5: GLE-38	Demonstrate active listening strategies (e.g., asking focused questions, responding to questions, making visual contact)	ELA-4-M4
7: GLE-6	Identify universal themes (e.g., search for identity, love, friendship, family, courage, adversity) and cultural viewpoints found in national, world, and multicultural literature in oral and written responses	ELA-6-M1

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

1: GLE-11	Identify and compare basic elements of culture (e.g., food, music, celebrations)	G-1GE4
2: GLE-9	Identify the human characteristics of the local community	G-1B-E2
2: GLE-51	Identify cultural elements (e.g., crafts, customs, music, folklore) of the local community	H-1GE4
3: GLE-10	Identify and describe the human characteristics of places in Louisiana	G-1B-E2
3: GLE-16	Identify and compare customs, celebrations, and traditions of various cultural groups in Louisiana	G-1GE4
3: GLE-57	Identify cultural elements that have contributed to our state heritage (e.g., Mardi Gras, Cajun/Creole cooking)	H-1GE4
4: GLE-12	Describe characteristics of the human population in a given area (e.g., cultural diversity, population size or growth)	G-1GE3
4: GLE-63	Identify how dance, music, and arts of various cultures around the world reflect the history, daily life, and beliefs of the people	H-1D-E1
4: GLE-64	Identify significant historical achievements of various cultures of the world (e.g., building of the pyramids, founding of the Olympics)	H-1D-E1
8: GLE-5	Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions	G-1B-M1
8: GLE-81	Explain cultural elements that have shaped Louisianas heritage (e.g., festivals, music, dance, food, languages)	H-1D-M6

Lesson Two:

Objectives

Commercials for the Coast

Preserving
the Spirit of
the Estuary

STUDENTS WILL

- investigate the importance of wetlands.
- use wetlands vocabulary to write their commercial “jingle.”
- discuss basic principles of melody.
- create a melody and lyrics that teaches about wetlands.

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using students’ own observations and scientific knowledge	SI-E-A1
K: GLE-25	Identify easily observable variations withn types of plants and animals (e.g., features of classmates, varieties of trees, breeds of dogs)	SI-E-A4
1: GLE-26	Describe the differences between plants and animals	LS-E-A1
1: GLE-27	Identify what animals and plants need to grow and develop	LS-E-A1
1: GLE-34	Record evidence of plants and animals in the schoolyard or other environments	LS-E-C2
2: GLE-35	Identify the components of a variety of habitats and describe how organisms in those habitats depend on each other	LS-E-C1
2: GLE-45	Locate and identify plants and animals within an ecosystem	SE-E-A2
3: GLE-39	Compare organisms from different groups (e.g., birds with mammals, terrestrial plants with aquatic plants)	LS-E-A4
3: GLE-57	Describe the interrelationships of <i>living (biotic)</i> and <i>nonliving (abiotic)</i> components within various ecosystems (e.g., terrarium, swamp, backyard)	SE-E-A1
4: GLE-48	Classify examples of plants and animals based on a variety of criteria	LS-E-B2
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
5: GLE-27	Compare common traits of organisms within major ecosystems	LS-M-C3
7: GLE-36	Identify and describe the effects of limiting factors on a given population	SE-M-A2

LOUISIANA GRADE LEVEL EXPECTATIONS

SOCIAL STUDIES

2: GLE-15	Identify ways in which people in the community depend on the physical environment to satisfy basic needs	G-1D-E1
4: GLE-18	Describe the importance of specific natural resources to human survival and human endeavors	G-1D-E4

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

4: GLE-38	Listen to and critique messages such as advertising that are communicated in a variety of mediums, including television and print	ELA-4-E6
7: GLE-34	Evaluate and determine bias and credibility of various media presentations (e.g., TV and radio advertising)	ELA-4-M4

Lesson Three:

Who Knows? The Shadow Puppets Do! —

Objectives

*Preserving
the Spirit of
the Estuary*

STUDENTS WILL

- research and discuss the Focus Questions and indicators linked to priority problems in the Barataria-Terrebonne Estuary System.
- conduct in-depth research pertaining to one of the focus questions.
- write a story for a shadow puppet play that brings one of the focus questions to life, using background setting, characters, dialogue, plot, conflict, etc.
- create and perform the shadow puppet play for an authentic audience.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-12	Respond to stories, legends, song, and other literature from diverse cultural and ethnic groups by participating in activities such as answering questions, role-playing, and drawing	ELA-6-E1
K: GLE-34	Express feelings, needs, and ideas in complete sentences	ELA-4-E1
K: GLE-36	Relate an experience or creative story in a logical sequence	ELA-4-E3
K: GLE-37	Describe people, places, things (e.g., size, color, shape), locations, and actions from a story read aloud	ELA-4-E3
K: GLE-38	Recite short poems, rhymes, and songs	ELA-4-E4
K: GLE-39	Listen to and recite short poems and stories for an audience	ELA-4-E5
1: GLE-52	Give oral presentations that have a recognizable organization (e.g., sequence, summary)	ELA-4-E4
1: GLE-54	Listen and orally respond to information presented in a variety of media, such as audio and video recordings	ELA-4-E6
2: GLE-40	Tell and retell stories with the following included: <ul style="list-style-type: none"> • sequential order, including setting, character, and simple plot • supportive facts and details from the story • explicit and implicit main ideas 	ELA-4-E3
2: GLE-45	Give oral responses, including: <ul style="list-style-type: none"> • telling stories and personal experiences • giving explanations and reports 	ELA-4-E5
3: GLE-11	Connect ideas, events, and information identified in grade-appropriate texts to prior knowledge and life experiences in oral and written responses	ELA-1-E6
3: GLE-39	Tell a complex story that includes the following: <ul style="list-style-type: none"> • a central idea • ideas and details organized chronologically 	ELA-4-E3
3: GLE-40	Give rehearsed oral presentations that include the following: <ul style="list-style-type: none"> • expression of an opinion about a text, topic, or idea • relevant facts and details from multiple sources 	ELA-4-E4
3: GLE-41	Clarify and enhance oral presentations through the use of appropriate props (e.g., objects, pictures, charts)	ELA-4-E4

Lesson Three:

Who Knows? The Shadow Puppets Do! —

*Preserving
the Spirit of
the Estuary* CONTD.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

CONTD.

4: GLE-11	Compare and contrast stories/tales from different cultures and explain the influence of culture on each tale in oral, written, and visual responses	ELA-6-E1
5: GLE-8	Identify the connections between ideas and information in a variety of texts (e.g., cartoons, poetry, fiction, instructional manuals) and real-life situations and other texts	ELA-1-M4
5: GLE-9	Identify cultural characteristics, including customs, traditions, and viewpoints, found in national, world, and multicultural literature in oral and written responses	ELA-6-M1
5: GLE-39	Deliver formal and informal presentations for a variety of purposes, including: <ul style="list-style-type: none"> • book reports • personal experiences • explanations of projects 	ELA-4-M4
6: GLE-7	Explain the connections between ideas and information in a variety of texts (e.g., journals, technical specifications, advertisements) and real-life situations and other texts	ELA-1-M4
6: GLE-38	Deliver oral presentations and responses, including: <ul style="list-style-type: none"> • a research-based presentation • formal and informal descriptive presentations that convey relevant information and descriptive details 	ELA-4-M4
7: GLE-5	Interpret ideas and information in a variety of texts, including periodical articles, editorials, and lyrics, and make connections to real-life situations and other texts	ELA-6-M1
8: GLE-31	Deliver oral presentations that include the following: <ul style="list-style-type: none"> • phrasing, enunciation, voice modulation, verbal and nonverbal techniques, and inflection adjusted to stress important ideas and impact audience response • language choices selected to suit the content and context an organization that includes an introduction, relevant details that develop the topic, and a conclusion 	ELA-4-H3



Lesson Three:

Who Knows? The Shadow Puppets Do! —

*Preserving
the Spirit of
the Estuary* CONTD.

LOUISIANA GRADE LEVEL EXPECTATIONS SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using student' own observations and scientific knowledge	SI-E-A1
K: GLE-25	Identify easily observable variations within types of plants and animals (e.g., features of classmates, varieties of trees, breeds of dogs)	LS-E-A4
1: GLE-26	Describe the differences between plants and animals	LS-E-A1
1: GLE-27	Identify what animals and plants need to grow and develop	LS-E-A1
1: GLE-34	Record evidence of plants and animals in the schoolyard or other environments	LS-E-C2
2: GLE-35	Identify the components of a variety of habitats and describe how organisms in those habitats depend on each other	LS-E-C1
2: GLE-45	Locate and identify plants and animals within an ecosystem	SE-E-A2
3: GLE-39	Compare organisms from different groups (e.g., birds with mammals, terrestrial plants with aquatic plants)	LS-E-A4
3: GLE-57	Describe the interrelationships of <i>living (biotic)</i> and <i>nonliving (abiotic)</i> components within various ecosystems (e.g., terrarium, swamp, backyard)	SE-E-A1
4: GLE-48	Classify examples of plants and animals based on a variety of criteria	LS-E-B2
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
5: GLE-27	Compare common traits of organisms within major ecosystems	LS-M-C3
7: GLE-36	Identify and describe the effects of limiting factors on a given population	SE-M-A2

Lesson Four:

Honk if You Love the Wetlands

Objectives

Preserving the Spirit of the Estuary

STUDENTS WILL

- list and describe the functions and values of wetlands.
- discuss the importance of wetlands.
- design and share a communication strategy to make others aware of the importance of wetlands.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

5: GLE-8	Identify the connections between ideas and information in a variety of texts (e.g., cartoons, poetry, fiction, instructional manuals) and real-life situations and other texts	ELA-1-M4
5: GLE-25	Write for various purposes, including: <ul style="list-style-type: none"> • formal and informal letters that state a purpose, make requests, or give compliments • evaluations of media, such as films, performances, or field trips • explanations of stories and poems using retellings, examples, and text-based evidence 	ELA-2-M6
8: GLE-5	Interpret ideas and information in a variety of texts (e.g., scientific reports, technical guides, business memos) and make connections to real-life situations and other texts	ELA-1-M4
8: GLE-14	Analyze grade-appropriate print and nonprint texts using various reasoning skills	ELA-7-M3
8: GLE-22	Write for various purposes	ELA-2-M6
8: GLE-46	Interpret information from a variety of graphic organizers including timelines: charts, schedules, tables, diagrams, and maps in grade-appropriate sources	ELA-5-M6

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using students' own observations and scientific knowledge	SI-E-A1
1: GLE-32	Describe features of some animals that benefit them in their environments	LS-E-C1
1: GLE-34	Record evidence of plants and animals in the schoolyard or other environments	LS-E-C2
2: GLE-45	Locate and identify plants and animals within an ecosystem	SE-E-A2
3: GLE-57	Describe the interrelationships of <i>living (biotic)</i> and <i>nonliving (abiotic)</i> components within various ecosystems (e.g., terrarium, swamp, backyard)	SE-E-A1
5,6,7,8: GLE-3	Use a variety of sources to answer questions	SI-M-A1
4: GLE-48	Classify examples of plants and animals based on a variety of criteria	LS-E-B2
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
5: GLE-27	Compare common traits of organisms within major ecosystems	LS-M-C3
7: GLE-36	Identify and describe the effects of limiting factors on a given population	LS-M-C4



Lesson Five:

Pass the Word —

Preserving the Spirit of the Estuary
DESIGNING AN ENVIRONMENTAL ACTION BROCHURE FOR THE BTNE

Objectives

STUDENTS WILL

- become better informed about the Seven Priority Problems of the BTNE.
- use computer technology to produce a tri-fold environmental action brochure.
- identify four elements of an effective effort for environmental stewardship.
- design a brochure that not only informs citizens about one of the seven priority problems and the issues surrounding it but encourages them to take significant action.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-22	Create simple text using prior knowledge by drawing, dictating to the teacher, and/or writing using developmental/inventive spelling	ELA-2-E3
K: GLE-34	Express feelings, needs, and ideas in complete sentences	ELA-4-E1
1: GLE-15	Retell important facts from informational text	ELA-1-E5
1: GLE-29	Independently write a variety of grade-appropriate compositions, including: <ul style="list-style-type: none"> • simple letters, notes, and stories • simple informational descriptions • simple rhymes and poems 	ELA-2-E4
1: GLE-58	Use various sources, including print materials and observations, to gather information to explain a topic	ELA-5-E2
2: GLE-24	Develop grade-appropriate compositions, for example: <ul style="list-style-type: none"> • friendly letters • stories • poems • informational descriptions with some detail 	ELA-2-E4
2: GLE-51	Gather and arrange information in a variety of organizational forms, including graphic organizers, simple outlines, notes, and summaries	ELA-5-E3
2: GLE-53	Tell and write about the sources of learned information	ELA-5-E5
3: GLE-17	Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: <ul style="list-style-type: none"> • sequencing events • making predictions using information from texts • making simple inferences and drawing conclusions about information in texts • comparing and contrasting, including story elements (e.g., theme, character, and conflicts) and main points or ideas in informational texts • distinguishing between a main idea and a summary • identifying main ideas of texts 	ELA-7-E1



Lesson Five:

Pass the Word — *Preserving* DESIGNING AN ENVIRONMENTAL

ACTION BROCHURE FOR THE BTNE, CONTD.

*the Spirit of
the Estuary*

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

CONTD.

3: GLE-21	Apply basic reasoning skills, including: <ul style="list-style-type: none"> identifying differences between fact and opinion skimming and scanning texts to locate specific information identifying multiple causes and/or effects in texts and life situations raising questions to obtain clarification and/or direct investigation connecting what is learned to real-life situations 	ELA-7-E4
3: GLE-23	Incorporate grade-appropriate vocabulary and information when writing for an intended audience and/or purpose	ELA-2-E2
3: GLE-27	Write for various purposes, including: <ul style="list-style-type: none"> informal letters using appropriate letter format book reports and informational compositions that include main ideas and significant details from the text 	ELA-2-E6
3: GLE-46	Locate information from multiple sources, including books, periodicals, videotapes, web sites, and CD-ROMs	ELA-5-E2
3: GLE-50	Use available electronic and print resources to draft, revise, and publish simple research reports, book reports, and other projects	ELA-5-E4
3: GLE-52	Locate information found in graphic organizers such as timelines, charts, graphs, schedules, tables, diagrams, and maps	ELA-5-E6
4: GLE-19	Demonstrate understanding of information in grade-appropriate texts using a variety of strategies, including: <ul style="list-style-type: none"> supporting differences between fact and opinion with information from texts skimming and scanning texts for various purposes (e.g., locating information, verifying facts) identifying cause-effect relationships in texts and real-life situations generating questions to guide examination of topics in texts and real-life situations explaining connection between information from texts and real-life experiences 	ELA-7-E4
4: GLE-22	Identify an audience for a specific writing assignment and select appropriate vocabulary, details, and information to create a tone and set the mood and to affect or manipulate the intended audience	ELA-2-E2
5: GLE-8	Identify the connections between ideas and information in a variety of texts (e.g., cartoons, poetry, fiction, instructional manuals) and real-life situations and other texts	ELA-1-M4
5: GLE-25	Write for various purposes	ELA-2-M6
5: GLE-45	Paraphrase or summarize information from a variety of sources	ELA-5-E4



Lesson Five:

Pass the Word — *Preserving the Spirit of* — DESIGNING AN ENVIRONMENTAL ACTION BROCHURE FOR THE BTNE, CONTD.

LOUISIANA GRADE LEVEL EXPECTATIONS SOCIAL STUDIES CONTD.

3: GLE-11	Describe how people and the physical environment have changed over time in Louisiana based on given information	G-1B-E3
3: GLE-13	Identify examples of physical processes affecting Louisiana (e.g., coastal erosion, river changes)	G-1GE1
3: GLE-19	Describe how people and the physical environment have changed over time in Louisiana based on given information	G-1B-E3
4: GLE-12	Describe characteristics of the human population in a given area (e.g., cultural diversity, population size or growth)	G-1GE3
4: GLE-14	Locate economic activities that use natural resources in the local region, state, and nation and describe the importance of the activities to these areas	G-1C-E5
7: GLE-66	Identify major technological developments related to land, water, and transportation and explain how they transformed the economy, created international markets, and affected the environment	H-1B-M10
8: GLE-5	Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions	G-1B-M1
8: GLE-14	Analyze, evaluate, and predict consequences of environmental modifications on Louisiana landforms, natural resources, and plant or animal life	G-1D-M1
8: GLE-15	Analyze the benefits and challenges of the Louisianan physical environments on its inhabitants (e.g., flooding, soil, climate conducive to growing certain plants)	G-1D-M2
8: GLE-16	Analyze the distribution and uses of Louisiana’s natural resources	G-1D-M3
8: GLE-17	Identify a contemporary Louisiana geographic issue, and research possible solutions	G-1D-M4

LOUISIANA GRADE LEVEL EXPECTATIONS SCIENCE

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1	
K,1: GLE-2	Pose questions that can be answered by using students’ own observations and scientific knowledge	SI-E-A1	
2: GLE-48	Describe a variety of activities related to preserving the environment	SE-E-A3	
2: GLE-49	Describe how consumption of resources can be reduced by recycling, reusing, and conserving	SE-E-A4	
2: GLE-50	Describe ways in which habitat loss or change can occur as a result of natural events or human impact	SE-E-A5	
3: GLE-58	Describe how humans have had negative and positive effects on organisms and their environments	SE-E-A3	SE-E-A5
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3	



Lesson Five:

Pass the Word — *Preserving the Spirit of the Estuary*
DESIGNING AN ENVIRONMENTAL ACTION BROCHURE FOR THE BTNE, CONTD.

LOUISIANA GRADE LEVEL EXPECTATIONS

SCIENCE CONTD.

5: GLE-49	Identify and give examples of pollutants found in water, air, and soil	SE-M-A3
5: GLE-50	Describe the consequences of several types of human activities on local ecosystems (e.g., polluting streams, regulating hunting, introducing nonnative species)	SE-M-A4
6: GLE-40	Evaluate the impact of research on scientific thought, society, and the environment	SI-M-B7
6: GLE-46	Identify ways people can reuse, recycle, and reduce the use of resources to improve and protect the quality of life	SE-MA-6
6: GLE-47	Illustrate how various technologies influence resource use in an ecosystem (e.g., forestry management, soil conservation, fishery improvement)	SE-MA-8
7: GLE-34	Explain how environmental factors impact survival of a population	LS-M-D2
7: GLE-39	Analyze the consequences of human activities on ecosystems (SE-M-A4)	SE-M-A4
7: GLE-40	Construct or draw food webs for various ecosystems	SE-M-A5
7: GLE-43	Identify and analyze the environmental impact of humans use of technology (e.g., energy production, agriculture, transportation, human habitation)	SE-M-A8
8: GLE-51	Analyze the consequences of human activities on global Earth systems	SE-M-A4

Lesson Six:

Objectives

Estuary Extra

*Preserving
the Spirit of
the Estuary*

—PRODUCING YOUR OWN
ENVIRONMENTAL NEWSPAPER

STUDENTS WILL

- brainstorm ideas for newspaper topics and design.
- select a department of the newspaper in which to work.
- work in cooperative groups to plan, design, edit and publish a student newspaper.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

5: GLE-8	Interpret ideas and information in a variety of texts and make connections to real-life situations and other texts	ELA-1-M4
5: GLE-25	Write for various purposes	ELA-2-M6
5: GLE-39	Deliver formal and informal presentations for a variety of purposes	ELA-4-M4
5: GLE-41	Participate in group and panel discussions	ELA-4-M6
7: GLE-4	Draw conclusions and make inferences in oral and written responses about ideas and information in grade-appropriate texts	ELA-1-M3
7: GLE-5	Interpret ideas and information in a variety of texts, including periodical articles, editorials, and lyrics, and make connections to real-life situations and other texts	ELA-1-M4
7: GLE-9	Demonstrate understanding of information in grade-appropriate texts using a variety of strategies	ELA-7-M1
7: GLE-10	Explain the relationship between real-life experiences and texts to generate solutions to problems	ELA-7-M2
7: GLE-14	Analyze grade-appropriate print and nonprint texts using various reasoning skills	ELA-7-M4
7: GLE-36	Deliver grade-appropriate research-based presentations	ELA-4-M4
7: GLE-38	Participate in group and panel discussions	ELA-4-M6

Lesson Six:

Estuary Extra — *Preserving the Spirit of the Estuary*
PRODUCING YOUR OWN ENVIRONMENTAL NEWSPAPER, CONTD.

LOUISIANA GRADE LEVEL EXPECTATIONS **SCIENCE**

K,1,2,3,4: GLE-1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms)	SI-E-A1
K,1: GLE-2	Pose questions that can be answered by using students' own observations and scientific knowledge	SI-E-A1
2: GLE-48	Describe a variety of activities related to preserving the environment	SE-E-A3
2: GLE-49	Describe how consumption of resources can be reduced by recycling, reusing, and conserving	SE-E-A4
2: GLE-50	Describe ways in which habitat loss or change can occur as a result of natural events or human impact	SE-E-A5
3: GLE-58	Describe how humans have had negative and positive effects on organisms and their environments	SE-E-A3 SE-E-A5
5: GLE-26	Identify and describe ecosystems of local importance	LS-M-C3
5: GLE-49	Identify and give examples of pollutants found in water, air, and soil	SE-M-A3
5: GLE-50	Describe the consequences of several types of human activities on local ecosystems (e.g., polluting streams, regulating hunting, introducing nonnative species)	SE-M-A4
6: GLE-40	Evaluate the impact of research on scientific thought, society, and the environment	SI-M-B7
6: GLE-46	Identify ways people can reuse, recycle, and reduce the use of resources to improve and protect the quality of life	SE-MA-6



Lesson Seven:

Musical Meaning— Objectives

Preserving the Spirit of the Estuary

STUDENTS WILL

- learn about wetlands by researching songs that have lyrics describing them.
- interpret the meaning of the lyrics and what they mean to them.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-12	Respond to stories, legends, song, and other literature from diverse cultural and ethnic groups by participating in activities such as answering questions, role-playing, and drawing	ELA-6-E1
K: GLE-34	Express feelings, needs, and ideas in complete sentences	ELA-4-E1
K: GLE-38	Recite short poems, rhymes, and songs	ELA-4-E4
1: GLE-54	Listen and orally respond to information presented in a variety of media, such as audio and video recordings	ELA-4-E6
3: GLE-11	Connect ideas, events, and information identified in grade-appropriate texts to prior knowledge and life experiences in oral and written responses	ELA-1-E6
3: GLE-43	Compare ideas and points of view from a wide variety of media, including television, video, music, the web, charts, and print materials	ELA-4-E6
4: GLE-11	Compare and contrast stories/tales from different cultures and explain the influence of culture on each tale in oral, written, and visual responses	ELA-6-E1
5: GLE-8	Identify the connections between ideas and information in a variety of texts (e.g., cartoons, poetry, fiction, instructional manuals) and real-life situations and other texts	ELA-1-M4
5: GLE-9	Identify cultural characteristics, including customs, traditions, and viewpoints, found in national, world, and multicultural literature in oral and written responses	ELA-6-M1
6: GLE-7	Explain the connections between ideas and information in a variety of texts (e.g., journals, technical specifications, advertisements) and real-life situations and other texts	ELA-1-M4
7: GLE-5	Interpret ideas and information in a variety of texts, including periodical articles, editorials, and lyrics, and make connections to real-life situations and other texts	ELA-1-M4
7: GLE-22	Write for various purposes, including: <ul style="list-style-type: none"> • letters of complaint supported with complete and accurate information and reasons • evaluations of media, such as television, radio, and the arts • text-supported interpretations of elements of grade-appropriate stories, poems, plays, and novels • applications, such as memberships and library cards 	ELA-2-M6
8: GLE-3	Interpret literary devices, including: <ul style="list-style-type: none"> • allusions • understatement (meiosis) • how word choice and images appeal to the senses and suggest mood and tone • the use of foreshadowing and flashback to direct plot development • the effects of hyperbole and symbolism 	ELA-1-M2
8: GLE-37	Compare, contrast, and evaluate information found in a wide variety of text/electronic media (e.g., microprint, public speeches, art form)	ELA-4-M5



Lesson Eight:

And Then A Hero Comes Along

Objectives

Preserving the Spirit of the Estuary

STUDENTS WILL

- research two people who have already been recognized as an environmental hero/heroine and list three important biographical facts about him or her.
- identify at least three important values that this person holds (held) about the environment and its protection and/or improvement.
- identify at least one action this person has taken to protect and/or improve the earth.
- identify local environmental heroes/heroines and the contributions they are making to the BTE.

LOUISIANA GRADE LEVEL EXPECTATIONS

ELA

K: GLE-12	Respond to stories, legends, song, and other literature from diverse cultural and ethnic groups by participating in activities such as answering questions, role-playing, and drawing	ELA-6-E1
K: GLE-22	Create simple text using prior knowledge by drawing, dictating to the teacher, and/or writing using developmental/inventive spelling	ELA-2-E3
K: GLE-34	Express feelings, needs, and ideas in complete sentences	ELA-4-E1
1: GLE-53	Use active listening strategies (e.g., making eye contact, asking questions, restating acquired information and procedures) to acquire information and understand procedures	ELA-4-E5
3: GLE-42	Use active listening strategies, including: <ul style="list-style-type: none">• asking questions and responding to ideas/opinions• giving oral responses, such as explanations of written and/or spoken texts	ELA-4-E5
5: GLE-38	Demonstrate active listening strategies (e.g., asking focused questions, responding to questions, making visual contact)	ELA-4-M4
8: GLE-36	Summarize a speaker's purpose and point of view	ELA-4-M4

Spirit of the Estuary
Using **Art** to Understand **Ecology**

