

Picture Our World

Background Information for Teachers

Maps are graphic representations of part or all of the Earth. They have lines, words, symbols, and colors to show the distribution and arrangement of features displayed on the map. Maps help us travel from place to place. They help us to visualize the world and even the planets and stars around us. They help us gain information about the people that live on the earth, population sizes, political information, and infrastructure (roads, electrical lines, schools, hospitals, etc.).

However, for young children, maps can be confusing. Maps are oriented from an overview perspective, and since most young children have never experienced that perspective personally, it can be difficult for them to understand.

The first thing to do to help your students orient themselves by having them form a perspective using the story activity sheet provided, "It's All in How You Look at It."

Image Credit: Jean Lafitte National Historical Park & Preserve



Time to Experiment: INTRODUCTION TO THE MAP -

Materials: (you must provide materials unless otherwise noted)

Background information, "What is a map?" (provided)

Story, "It's All in How You Look at It" (provided)

Student Worksheet What is a Map? (provided)

Instructor Worksheet What is a Map? (provided)

Student Worksheet Alligator's Adventure Map (provided)

Instructor Worksheet Alligator's Adventure Map (provided)

Pencil, pen, or crayons for students to write or draw with



Procedure:

1. Read "What is a map?" background information.
2. Read the story "It's All in How You Look at It" aloud or have your students read it to themselves, as their skill level permits.
3. Have your students complete the worksheet, "What is a Map?"
4. Have your students complete the worksheet, "Alligator's Adventure Map"

Extensions:

1. Have your students make their sample map of their classroom, bedroom, etc.
2. If your students have computer/internet access - they can go to the U.S. Geological Society website and look at their map activities for teachers and student project ideas at <http://interactive2.usgs.gov/learningweb/teachers/mapadv.htm>

Conclusions:

Your students will more familiar with the parts of the map after they complete the following experiments.



What is a Map?

Different kinds of maps serve different purposes. One kind may show the number of people in every country of the world or compare the amount of rainfall in different areas or how hot different places on the sun are. There are other maps that show three dimensions. These are called contour maps and they show levels of elevation so you can find out how tall the mountains on the moon are. Globes are three-dimensional maps too and can have pictures of the surface of planets or layout of stars mounted on a sphere.

Maps themselves are filled with information. Parts of the maps tell you different things. The "Title" tells you what the map may be about. The "Scale" tells you how much distance the map covers. The "Legend" tells you what the symbols and colors represent. The "Grid" helps you locate sites. The map "Orientation" is almost always North (up); this will sometimes be shown by a compass rose or simply an arrow pointing up with an N on it.

Shaping a New Land



Maps help us find our way around our city, state, country, world, solar system, or even universe.



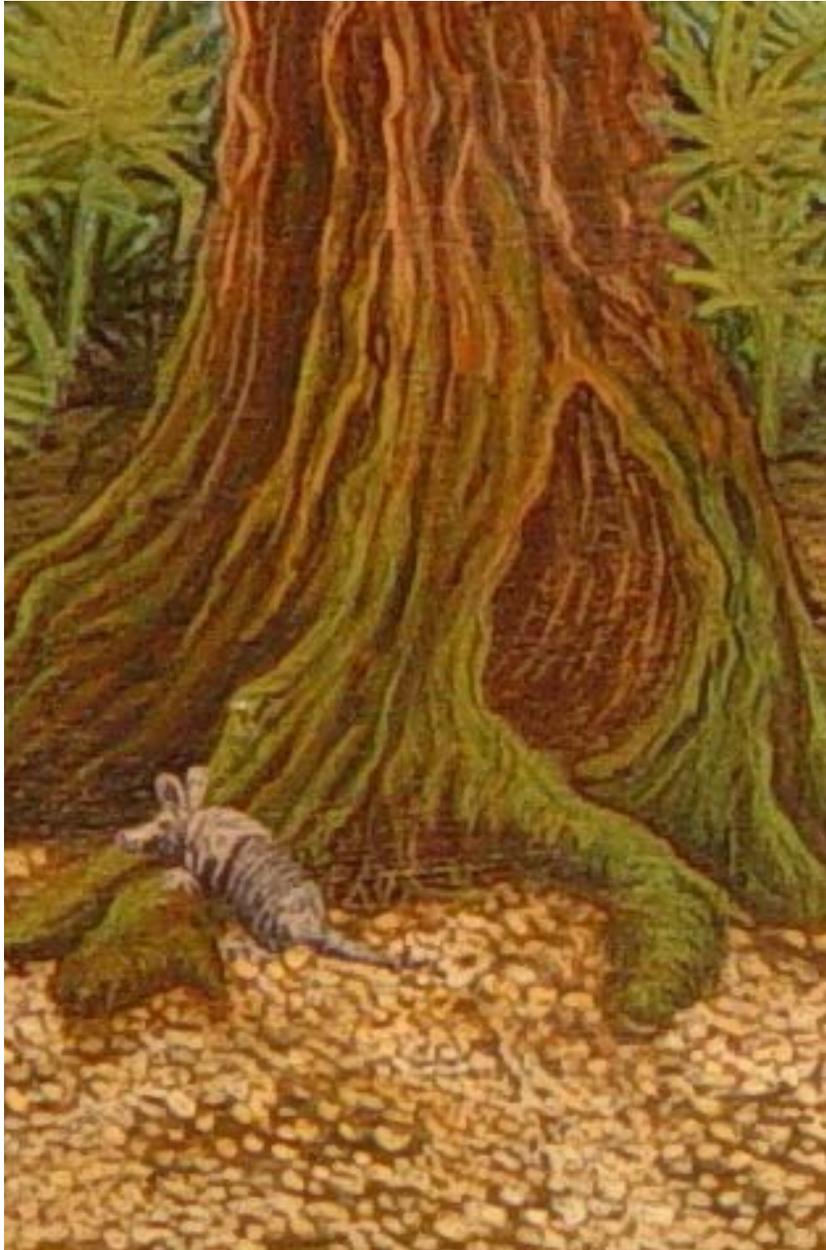
It's All in How You Look at It

The mystery of Barataria Swamp began one bright and cheerful afternoon, when everything was hushed, and the animals looked out of their dens in fear. The wind didn't howl but the animals hunkered down anyway. Something was terribly wrong. The baby squirrels were missing.



Frog and Alligator couldn't see a thing
because they were too far away.





Armadillo was too close. He couldn't see anything either. What everyone needed was a different point of view, a new way of seeing things! The baby squirrels were missing and they had to be found. They were small and grey and everyone worried that they were helpless.

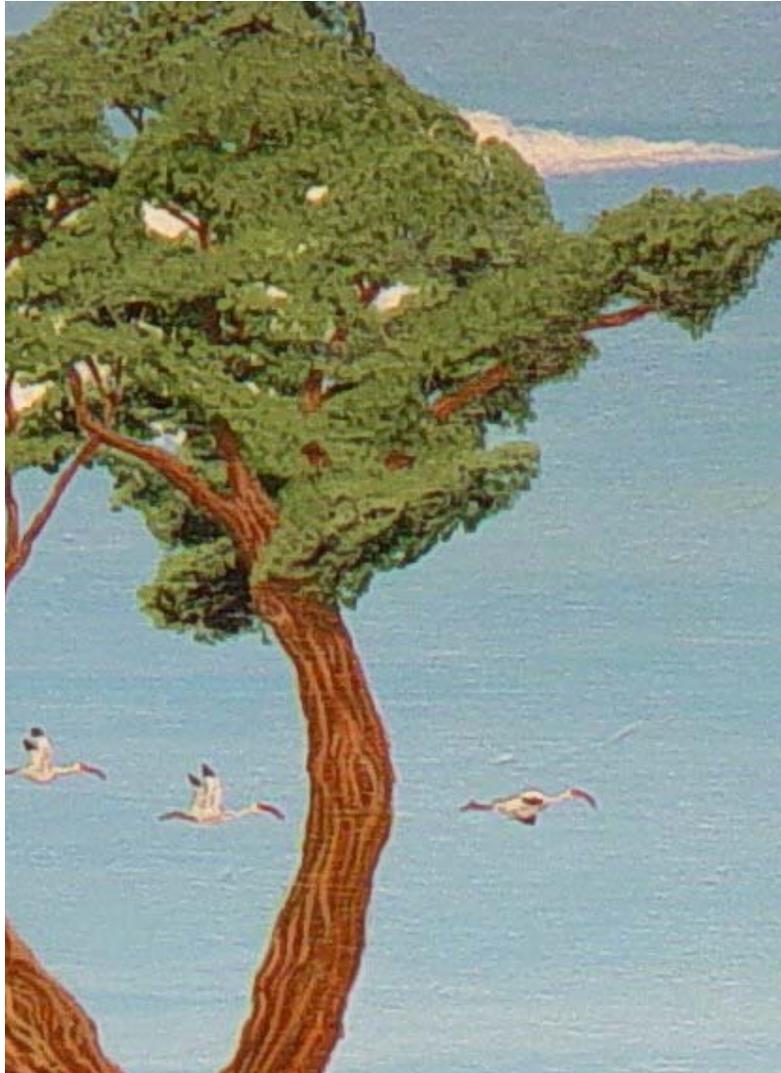




So began the great mystery of the Barataria Swamp. Then the Ibises, with their funny curved beaks, had an idea. "We could look for the baby squirrels on the ground while we probe the wonderful rich mud in search of yummy crabs. And if we don't see them there, we could fly overhead and look for them."



**It was decided that the Ibises should fly
on a search and rescue mission!**



**But everything looked different from the sky!
Flying created a different perspective. A different way
to look at things was just what everyone needed.**



So what did it look like to the Ibises?



It might look like this to us, but from overhead:



Just as they were flying over the old oak tree on the shell midden, they spotted something...



two little grey smiling faces looking up at them from the tree. Then everyone knew the baby squirrels had been playing hide and seek!





See if you can find the playing squirrels in their tree.

Perspective or a new way of looking at things can make a big difference in what you can see. The squirrels are very hard to see in the branches of the old oak tree. Look very carefully along the same line the Ibises are flying.

To help us see things better, we use tools called maps. Maps help us see things in a different perspective, look at a large area at one time, or discover information about an area like how many people live there or even the surface of another planet. Maps are pictures of places that can give us important information about that place.

You will be working with different maps to better understand south Louisiana, the place we call home.

The End



Name:

Date:

Student Sheet

What is a map?

Maps are special pictures that help us figure out what's around us.
See if you can match the picture to the perspective (way of seeing things).
Draw a line from the picture to the description.

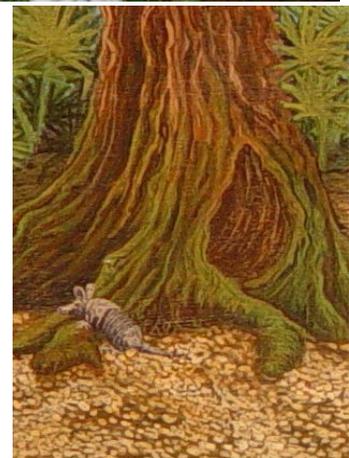
A bird flying overhead might see the tree like this.



This is how a tree might look to us if we walk up very close to it



This is how a tree might look to us if we were far away walking up to a tree.



Instructor Sheet

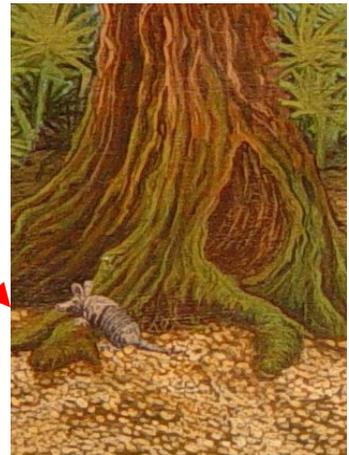
What is a map?

Maps are special pictures that help us figure out what's around us.
See if you can match the picture to the perspective (way of seeing things).
Draw a line from the picture to the description.

A bird flying over-head might see the tree like this.

This is how a tree might look to us if we walk up very close to it

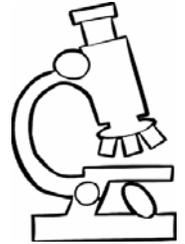
This is how a tree might look to us if we were far away walking up to a tree.



This game will help your students read a map and directions.

Time to Experiment: ALLIGATOR'S ADVENTURE MAP -

Materials: (you must provide materials unless otherwise noted)
Alligator's Adventure Map Sheet (provided)
Teacher's Adventure Map Sheet (provided)
Pencil/pen/crayon



Procedure:

Read Alligator's Adventure Map and help him find his way home!

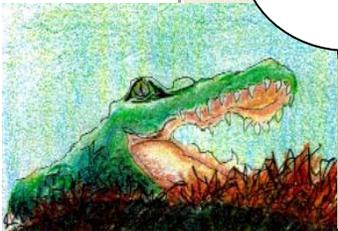
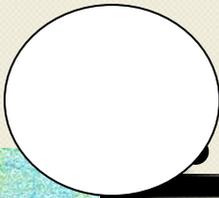
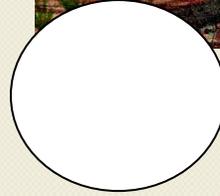
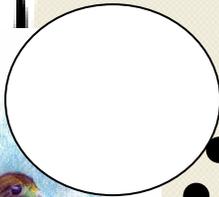
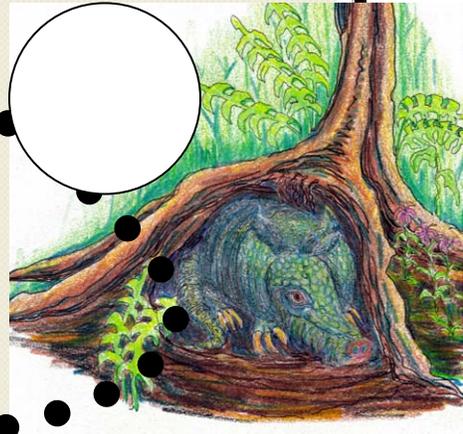


Name:

Date:

Student Sheet

Alligator's Adventure Map



Label each place on the map that Alligator visits with a number.

- 1 The Alligator goes to the marsh.
- 2 Then he sees his friend Armadillo near the forest.
- 3 The Red-tailed Hawks watch Alligator swim by.
- 4 Finally Alligator goes home.



Instructor Sheet

Alligator's Adventure Map

1

2

3

4

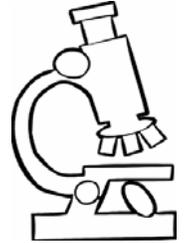
Label each place on the map that Alligator visits with a number.

- 1 The Alligator goes to the marsh.
- 2 Then he sees his friend Armadillo near the forest.
- 3 The Red-tailed Hawks watch Alligator swim by.
- 4 Finally Alligator goes home.



Time to Experiment: LOUISIANA STATE MAP -

Materials: (you must provide materials unless otherwise noted)
Louisiana State Map Student Sheet [provided]
Louisiana State Map Instructor Sheet [provided]



Procedure:

Read and follow the directions for the Louisiana State Map.. Point out to your students the northern part of the state and the southern part of the state.



Name:

Date:

Student Sheet

Louisiana State Map

This state map of Louisiana will help you locate some special places all over our wonderful state!



Color All Our Stars:

Color **Shreveport** Yellow

Color **Alexandria** Purple

Color **Lafayette** Green

Color **Baton Rouge** Orange

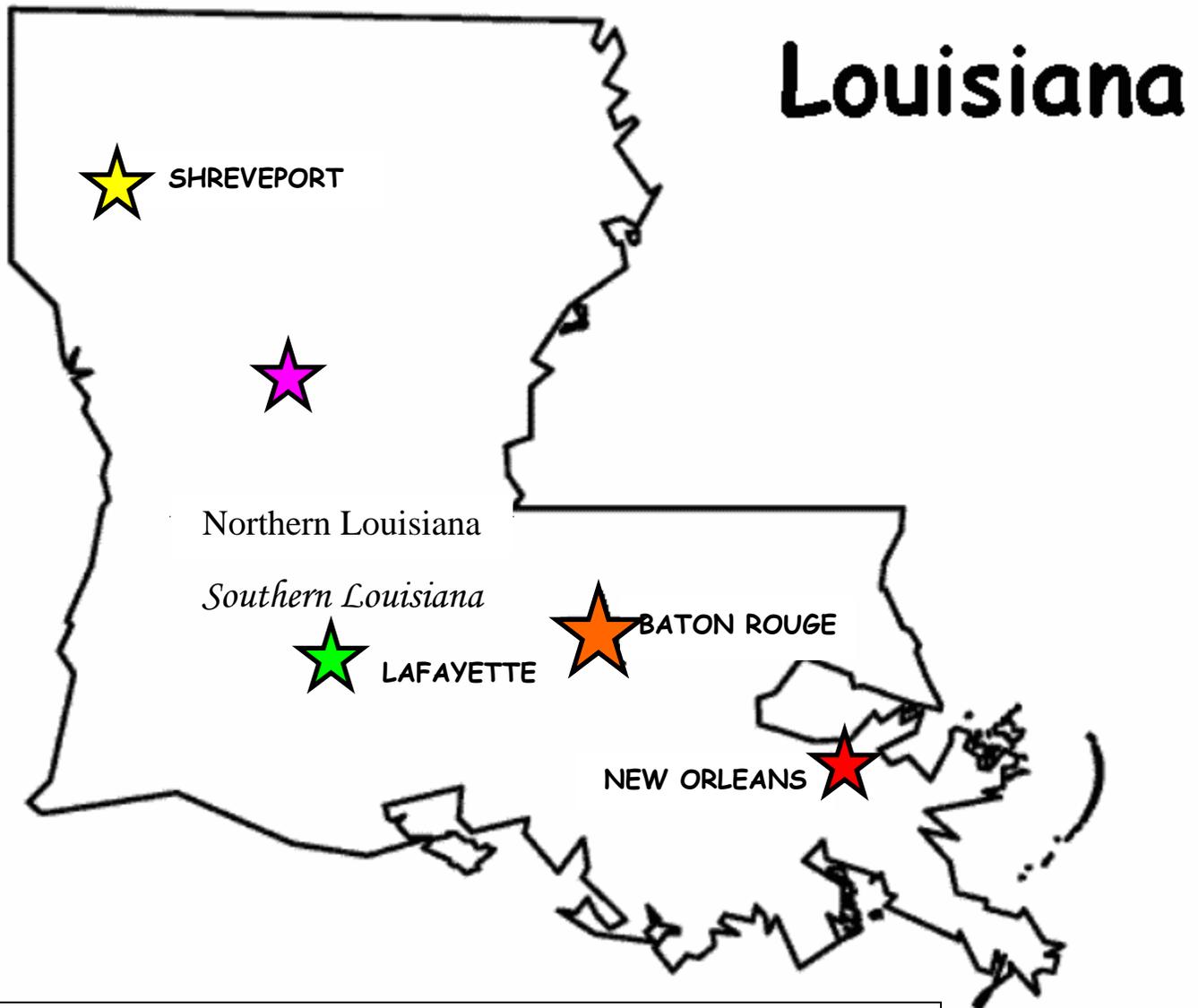
Color **New Orleans** Red



Instructor Sheet

Louisiana State Map

This state map of Louisiana will help you locate some special places all over our wonderful state!



Color All Our Stars:

Color Shreveport Yellow

Color Alexandria Purple

Color Lafayette Green

Color Baton Rouge Orange



This game will help your students read a map and recognize many features of southern Louisiana, like the delta on which we live. You can also point out the high ground and lower elevations where the river flowed as it was building the deltaic plain.



Time to Experiment: MAP READING -

Materials: (you must provide materials unless otherwise noted)

Jean Lafitte National Historical Park and Preserve Brochure Map (provided)

Student's acetate game overlay for Jean Lafitte Brochure Map (provided)

Instructor's acetate game overlay for Jean Lafitte Brochure Map (provided)

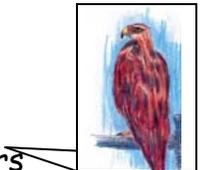
Student card sheet (provided)

Game pieces (provided)

Penny

Procedure:

1. Read all the instructions first.
2. Using the Jean Lafitte National Historical Park and Preserve's Brochure place the acetate game overlay in the middle on top of the sheet.
3. Print out the game pieces provided on the following pages. Cut along the solid line and fold along the dotted line, so the game piece appears like image at right.
4. Cut out the card pieces provided
 - a. Help your students notice the:
 1. "N" which points north to help orient you to the map and the direction you'll be traveling in (look in the lower left corner of the map).
 2. Scale of the map (measures 25 miles) tells you the distances on the map and is next to the orientation mark.
 3. Bayou Teche is in the lower left middle of the map.
 4. New Iberia, is up from Bayou Teche on Highway 90 as you travel towards Lafayette.
 5. The Atachfalaya River is just east and runs parallel to Highway 90 and Bayou Teche.



6. Look for the Acadian Cultural Center label, north of New Iberia on Highway 90, in Lafayette.
7. Baton Rouge, our capital city, is at the intersection of Interstate Highway 110, Interstate 10, Highway 90 and LA Highway 1 in the upper middle of map.
8. The Prairie Acadian Cultural Center in Eunice is on the left upper corner of map.
9. Follow LA Highway 1 from Baton Rouge towards Thibodaux, and notice where Bayou Lafourche forks off of the Mississippi River. This is the town of Donaldsonville.
10. Towards the middle of the map just east of the Mississippi River is Lake Pontchartrain.
11. The Wetlands Acadian Cultural Center is in the town of Thibodaux on Bayou Lafourche, towards the middle of the map and west of the Mississippi River.
12. The city of New Orleans is home to Jean Lafitte National Historical Park and Preserve's headquarters and the French Quarter Visitor Center.
13. Just outside the city of New Orleans below Lake Pontchartrain and just east of the Mississippi River is Chalmette Battlefield, where the Battle of New Orleans was fought at the end of the War of 1812.
14. Just below New Orleans and west of the Mississippi River is Lake Salvador. On the eastern side of the lake is the Barataria Preserve.
15. "Title" of the map, "Shaping a New Land," is at the top left side of the map.
16. As you follow the Mississippi River out to the Gulf of Mexico, you pass Breton Sound on the western side.
17. Continue to follow the Mississippi River out towards the Gulf of Mexico, and you reach one of the last towns - Venice.



18. Where the Mississippi River empties into the Gulf of Mexico, the river forms the newest land, a growing bird's foot delta.
19. The milky area around the bird's foot delta is the sediment plume of the river.
20. The border between the two states of Louisiana and Mississippi is marked by the Pearl River near Slidell (not easy to read on this map, so look carefully near where interstates I-10 and I-12 cross at Slidell and towards the outlet of Lake Pontchartrain).

Extensions:

1. You may also wish to fill in your own ideas like having your students find:
 - a. Gulf of Mexico
 - b. the map legend and what the colors represent
 - c. the clouds in the water that are actually sediments dropping out of the river
 - d. that the river delta has more than one outlet into the sea
2. Using the park brochure, have your students
 - e. Read about the six sites of Jean Lafitte National Historical Park and Preserve and study the detail maps provided.
 - f. Look at the river delta land and lobe formations (at the top of the map).
 - g. Turn the brochure over and read about the Mississippi River delta cultures.
3. If your students have computer/internet access - they can go to the Enchanted Learning website and look at their map activities for the Mississippi River at:
<http://www.enchantedlearning.com/usa/statesbw/mrstates/ms.shtml>

Conclusions:

Your students should be able to identify and label all the parts of the map after they complete the following experiments.



Game Pieces: print out, cut, and fold.

Monarch Butterflies



Grey Squirrel



Game Pieces: print out, cut, and fold.

Mexican Freetail Bat



Red Swamp Crawfish



Game Pieces: print out, cut, and fold.

Green Tree Frog



Golden Orb Weaver Spider



Cards for Map Quest Game

<p>1 Find the orientation symbol for north</p> <p><i>Move ahead 1 space</i></p>	<p>2 How many miles are covered on the map's scale?</p> <p><i>Move ahead 1 space</i></p>	<p>3 Find Bayou Teche</p> <p>Chitimacha tale of how the waterway was created by a snake</p> <p><i>Move ahead 1 space</i></p>	<p>4 Find New Iberia where the Louisiana hot sauce Tabasco is made.</p> <p><i>Move ahead 1 space</i></p>	<p>5 Find Atchafalaya River</p> <p><i>Move ahead 2 spaces</i></p>
<p>6 Find Lafayette</p> <p>Jean Lafitte National Park's Acadian Cultural Center</p> <p><i>Move ahead 1 space</i></p>	<p>7 Find Baton Rouge</p> <p>Louisiana's state capital</p> <p>Baton Rouge means Red Stick</p> <p><i>Move ahead 1 space</i></p>	<p>8 Find Eunice</p> <p>Jean Lafitte National Park's Prairie Acadian Cultural Center</p> <p><i>Move ahead 1 space</i></p>	<p>9 Find Donaldsonville where the Mississippi River meets Bayou Lafourche</p> <p><i>Move ahead 2 spaces</i></p>	<p>10 Find Lake Ponchartrain</p> <p><i>Move ahead 1 space</i></p>
<p>11 Find Thibodaux</p> <p>Jean Lafitte National Park's Wetlands Acadian Cultural Center</p> <p><i>Move ahead 1 space</i></p>	<p>12 Find New Orleans</p> <p>Jean Lafitte National Park's French Quarter Visitor Center</p> <p><i>Move ahead 1 space</i></p>	<p>13 Find New Orleans</p> <p>Jean Lafitte National Park's Chalmette Battlefield</p> <p><i>Move ahead 1 space</i></p>	<p>14 Find Lake Salvador</p> <p>Jean Lafitte's National Park's Barataria Preserve</p> <p><i>Move ahead 1 space</i></p>	<p>15 Find the Map's Title</p> <p>Shaping a New Land</p> <p><i>Move ahead 2 spaces</i></p>
<p>16 Find Breton Sound</p> <p>follow the Mississippi River</p> <p><i>Move ahead 1 space</i></p>	<p>17 Find Venice</p> <p>towards the end of the Mississippi River</p> <p><i>Move ahead 1 space</i></p>	<p>18 Find the "birdfoot"</p> <p>delta at the end of the Mississippi River</p> <p><i>Move ahead 1 space</i></p>	<p>19 Find the sediment plume of the Mississippi River</p> <p><i>Move ahead 1 space</i></p>	<p>20 Find the border of Louisiana and Mississippi state line</p> <p><i>Move ahead 2 spaces</i></p>

Follow the directions given and move around the map.

The following experiment will help your students learn to recognize a delta and see what the delta here in Louisiana looks like. Having learned the water cycle and the rock cycle, they can begin to put them together to understand how deltas, like the one here in Louisiana, are formed and that not all deltas look alike.

Time to Experiment: KNOW YOUR DELTAS -

Materials: (you must provide materials unless otherwise noted)

Student worksheet (provided)

Instructor's worksheet (provided)



Procedure:

- 1 Read all the instructions first.
- 2 Using the worksheet provided, help your students notice the:
 - a. deltas shaped like a Greek letter "Delta" for which all deltas are named
 - b. fan-shaped delta
 - c. "arcuate" delta (arc-shaped)

Extensions:

1. Have your students draw their own made-up delta in any shape they like and explain why it has that shape.
2. If your students have computer/internet access - they can go to the NASA Earthcam website and look at their incredible pictures of deltas from the satellites overhead. <http://www.earthcam.ucsd.edu/public/images/mississippiriverdelta.shtml>

Conclusions:

Your students will be to recognize shapes and pictures of deltas after they complete the following experiments.



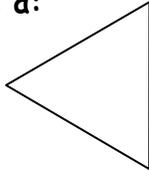
Student Worksheet: Know Your Deltas

Reading a map:

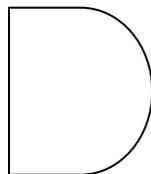
Look at the pictures of the deltas and match them with the type of deltas listed:

The delta that looks like a:

The Greek letter "delta"



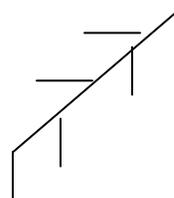
A fan shaped delta



A bird's foot delta



A straight delta with distributary channels



Conclusions (what happened and why):

1 Deltas can have many shapes - name 3:

- 1 _____
- 2 _____
- 3 _____

2. Where do deltas form?

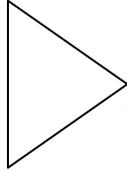
Teacher's Sheet: Know Your Deltas

Reading a map:

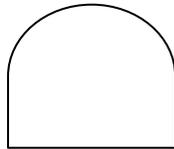
Look at the pictures of the deltas and match them with the type of deltas listed:

The delta that looks like a:

The Greek letter "delta"



A fan shaped delta



A bird's foot delta



A straight delta with fingers



Conclusions (What happened and why):

1 Deltas can have many shapes - name 3:

- 1 Fan
- 2 Bird's Foot
- 3 Delta/Triangle
- 4 Straight with fingers

2 Where do deltas form? From rivers flowing into a sea, lake, desert, etc.



Benchmarks and Grade Level Expectations

Benchmarks K-4

Science as Inquiry

C. Abilities Necessary to do Scientific Inquiry

- SI-E-A1 asking appropriate questions about organisms and events in the environment.
- SI-E-A2 planning and/or designing and conducting a scientific investigation.
- SI-E-A3 communicating that observations are made with one's senses.
- SI-E-A6 communicating observations and experiments in oral and written formats.
- SI-E-A7 utilizing safety procedures during experiments.

D. Understanding Scientific Inquiry

- SI-E-B5 presenting the results of experiments.
- SI-E-B6 reviewing and asking questions about the results of investigations.

Physical Science

A. Properties of Objects and Materials

- PS-E-A4 describing the properties of the different states of matter and identifying the conditions that cause matter to change states.

Earth and Space Science

A. Properties of Earth Materials

- ESS-E-A3 investigating, observing, and describing how water changes from one form to another and interacts with the atmosphere.

B. Objects in the Sky

- ESS-E-A2 understanding that the sun, a star, is a source of heat and light energy and identifying the effects upon the Earth.

Social Studies

GEOGRAPHY: Physical and Cultural Systems

A. The World in Spatial Terms

- G-1A-E1 identifying and describing the characteristics and uses of geographic representations, such as various types of maps, globes, graphs, diagrams, photographs, and satellite-produced images;
- G-1A-E2 locating and interpreting geographic features and places on maps and globes;

B. Places and Regions

- G-1B-E1 describing and comparing the physical characteristics of places, including land forms, bodies of water, soils, vegetation, and climate;
- G-1B-E3 describing how the physical and human characteristics of places change over time;
- G-1B-E4 defining and differentiating regions by using physical characteristics, such as climate and land forms, and by using human characteristics, such as economic activity and language;

D. Environment and Society

- G-1D-E1 identifying and explaining ways in which people depend upon and modify the physical environment;
- G-1D-E2 describing how humans adapt to variations in the physical environment;
- G-1D-E3 describing the locations, causes, and effects of natural disasters on the environment and society;
- G-1D-E4 describing the use, distribution, and importance of natural resources.

Mathematics

GEOMETRY

- G-1-E determining the relationships among shapes;
- G-2-E identifying, describing, comparing, constructing, and classifying two-dimensional and three-dimensional geometric shapes using a variety of materials;
- G-4-E drawing, constructing models, and comparing geometric shapes, with special attention to developing spatial sense;
- G-5-E identifying and drawing lines and angles and describing their relationships to each other and to the real world;
- G-6-E demonstrating the connection of geometry to the other strands and to real-life situations.



Grade Level Expectations K-4

Science as Inquiry

Abilities Necessary to do Scientific Inquiry

K 1 2 3 4

- | | | | | | |
|---|----|----|----|----|--|
| 1 | 1 | 1 | 1 | 1 | Ask questions about objects and events in the environment |
| 2 | 2 | 2 | 2 | 2 | Pose questions that can be answered by using students' own observations, scientific knowledge, and testable scientific investigations |
| 4 | 5 | 6 | 6 | 7 | Use the five senses to describe observations |
| 6 | 7 | 8 | 8 | 9 | Select and use developmentally appropriate equipment and tools (e.g., magnifying lenses, microscopes, graduated cylinders) and units of measurement to observe and collect data |
| 7 | 8 | 9 | 9 | 10 | Express data in a variety of ways by constructing illustrations, graphs, charts, tables, concept maps, and oral and written explanations as appropriate |
| 8 | 9 | 10 | 11 | 12 | Use a variety of appropriate formats to describe procedures and to express ideas about demonstrations or experiments (e.g., drawings, journals, reports, presentations, exhibitions, portfolios) |
| 9 | 10 | 11 | 12 | 13 | Identify and use appropriate safety procedures and equipment when conducting investigations (e.g., gloves, goggles, hair ties) |

Understanding Scientific Inquiry

K 1 2 3 4

- | | | |
|----|----|--|
| 13 | 14 | Identify questions that need to be explained through further inquiry |
| 14 | 15 | Distinguish between what is known and what is unknown in scientific investigations |
| | 20 | Determine whether further investigations are needed to draw valid conclusions |

Physical Science

Properties of Objects and Materials

K 1 2 3 4

- | | |
|----|--|
| 16 | Observe and describe common properties of solids, liquids, and gases |
| 17 | Sort and classify objects by their state of matter |
| 22 | Investigate and explain conditions under which matter changes physical states: heating, freezing, evaporating, condensing, boiling |

Earth and Space Science

Properties of Earth Materials

K 1 2 3 4

- | | |
|----|--|
| 37 | Illustrate how water changes from one form to another (e.g., freezing, melting, evaporating) |
| 39 | Design an experiment involving evaporation |
| 48 | Identify examples of the processes of a water cycle (e.g., evaporation, condensation, precipitation, collection of runoff) |
| 58 | Draw, label, and explain the components of a water cycle |

Mathematics

Geometry

K 1 2 3 4

- | | |
|-----|--|
| 16. | Name and identify basic shapes using concrete models (e.g., circles, squares, triangles, rectangles, rhombuses, balls, boxes, cans, cones) |
| 26. | Compare, contrast, name, and describe attributes (e.g., corner, side, straight, curved, number of sides) of shapes using concrete models [circle, rectangle (including square), rhombus, triangle] |
| 30. | Apply concepts of congruence, similarity, and symmetry in real-life situations |

