Aquatic Foods

In this activity you will keep track of the seafood or things you eat that grow in the sea. Fish, crab, and shrimp are easy to spot. Others are harder, like algae in ice cream! Write down what you eat and circle those items that come from the sea.

Day 1
Breakfast
Lunch
Dinner
Snack

Day 2
Breakfast
Lunch
Dinner
Snack

Day 3
Breakfast
Lunch
Dinner
Snack

Day 4
Breakfast
Lunch
Dinner
Snack

Day 5
Breakfast
Lunch
Dinner
Snack

Day 6
Breakfast
Lunch
Dinner
Snack

Day 7
Breakfast
Lunch
Dinner
Snack

Bird Sightings Guide

Every time you go to the beach or an estuary area you see many birds. How many coastal birds have you seen? Do you know their names, where they live, and what they eat? Pelicans are large birds. You probably also see small birds such as terns and sandpipers. Each bird depends on the Gulf in many ways for its survival. In this activity you will record the birds you see and when you see them. Look for as many different birds as you can. Keep a list of your sightings each time you go to a coastal area. Try to see a new bird each time.

1. Check out a book from your media center on shore or estuary birds. There may even be special book on birds of the Gulf Coast.

2. Study the ones you have not seen so you will recognize then when you see them.

3. Create a chart similar to the one below for each bird you see. If you can draw a picture or copy one to include that would be great!

Common name - Pelican

Scientific name - Pelicanus occidentalis (underline or italicize genus and species)

Size - 42-54 " very large and heavy bodied

Habitat - coastal waters, beaches, estuaries

Foodfish - dives into water from air and scoops fish

Range - Southern California to Baja, North Carolina to Texas

Cartography

Cartographers are people who make maps. They look at areas and then draw maps to help people make decisions about land use and travel. There are many things to think about when making a map. You have to think about elevation (height of the land), the features of the land such as rivers, ponds, wetlands, forests, and distances. In this activity you will make a map of a wetland area near you. You will survey the area and then fill in information and features. Other people can use your map to find out about the wetland!

1. Find a wetland area near where you live. Go out and walk around it. Make sure you notice the elevation of the land. Also look at the trees, plants, and water.

2. Using an unlined piece of paper draw the outer edges of the wetland area. Make sure you show north, south, east, and west. Do this by drawing a small circle in a corner with each direction.

3. Fill in the water areas next. The water may cover the whole area. Try to figure out which direction the water flows. Show that on your map.

4. Fill in the large trees next. Then fill in the smaller plants.

5. Be sure to include any animals homes such as beaver or muskrat homes.

6. When you get home transfer your sketch to another piece of paper. Color the different features. Include a scale (how far things are) for your map.

7. Congratulations! You are a cartographer!

Catfish Pond

You are a farmer and have decided to use some of your land to build a catfish pond. Before you begin, you will have to find out many things about how to build the pond and keep the catfish healthy. There are several places you can call or go to get information: school media center, 4-H office, County Extension Office, or a Resource Conservation and Development Office. Contact one of these and find out the following information.

1. Are any special permits needed? County? State? Environmental?

2.How deep and how wide does it need to be?

3.How many fish can live in the pond?

4.When can fish be put into the pond?

5.What is the temperature range that is safe for catfish?

6.What kind of food do the fish eat?

7.How long until you can harvest the catfish?

8.Can you put plants in the pond?

9.Do catfish get any diseases? What do you do if they get sick?

10.What special things do you have to do to keep the pond clean?

Constructed Wetlands

People can plant wetland plants in areas where the water is dirty. These special plants can help clean the water and make it safer for the environment. These areas are called Constructed Wetlands. Areas that do not have water treatment plants can use constructed wetlands to help clean their water.
Find out about constructed wetlands and all the special things these plants can do. You will be amazed!

1. Ask your media specialist to help you research constructed wetlands. If you have access to the Internet, do a search for constructed wetlands.

2. Read the information and write a short report on constructed wetlands. Be sure to include information such as:

what they are
what plants are used
where are they used the most
how long it takes to set on up
how long they will last
other things you think of

3. Draw a diagram of a constructed wetland. Be sure to include the plants and show the direction the water flows. Show the size of the constructed wetland.

4. Find out if there are any constructed wetlands in your area. You may be able to talk with someone on the phone who can give you information. Call a local sewage or water treatment plant. Ask if they know where any constructed wetlands are in the area. Visit one, if possible.

5. Write up a short report of what you found out.

Dams in Alabama

Dams are built on rivers for many reasons. Some help control flooding, provide electric power, or provide drinking water. In this activity you will research the dams in Alabama and draw each one on a map.

1. Find out how many dams have been built in Alabama and where they are.

2. Draw a map of Alabama with the rivers and mark where each dam is located.

3. For each dam find out the following information

When it was built

How large it is (how much water, how much land it covers)

Purpose of dam

How much water flows through the dam (This may change at different times of year.)

Draw a Pond

In this activity you will locate a pond and draw it to scale. This means you will use graph paper to draw a big pond on a small piece of paper. Each square on the paper will be a certain measurement. For example,

1 square = 1 foot or
1 square = 5 feet or
1 square = 10 feet

The larger the pond, the more feet each square will be. This is how people make maps.

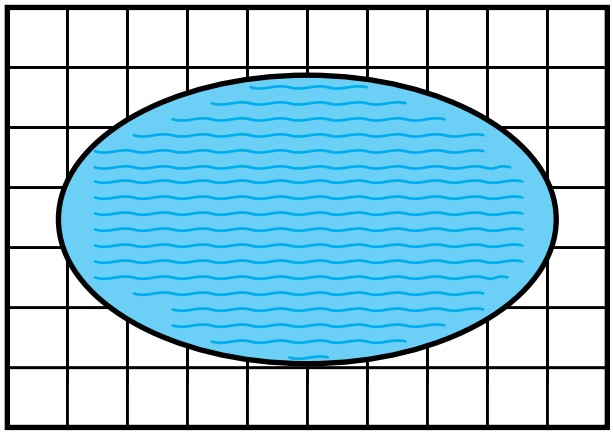
1. Get a couple pieces of graph paper and locate a pond in your area.

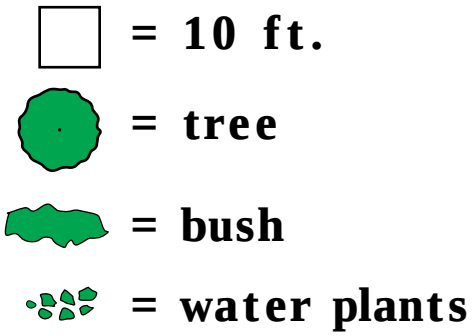
2. Using a tape measure, first measure length and then width of the pond.

3. Decide the scale you will use based on pond size and number of squares on your graph paper.

4. Draw the pond as if you were above it looking down. See the example. You may want to draw in trees and plants.

5. Remember, others should be able to identify the pond by your drawing. Make sure your measurements and drawing are correct.





Endangered Species

There are many animals that live in wetlands. Wetlands provide food and shelter for animals both large and small. It is a safe area for them. Your mission here is to find out what animals in your wetland areas are endangered. Endangered animals are animals that may become extinct if they are not protected. We must be careful to protect the habitats of wetland animals.

You'll need some good research skills here. See if you can find out about all the animals that are endangered.

1. Go to your media center and look for books on wetlands or look up wetlands on the Internet. Also go to the US Fish and Wildlife Service site - www.fws.gov to learn more.

2. Find the areas near where you live. You may have to start with your state. Look for the animals that live there.

3. Make a list of the endangered animals. Make a list of the different kinds of animals such as:

insects
fish
reptiles
amphibians
birds
mammals

4. Find out if there are any animals that are extinct from your area or state.

5. Suggest ways people can help these animals survive and not become extinct.

Fishing for Dollars

The purpose of this activity is to find out about commercial fishing in the Gulf. You will survey several people who fish for a living and count your answers to get totals for each question. With this information you will be able to write a short report or give an oral report about what you found out. You may want to do this with a partner and combine your findings. Let your teacher or parents see your questions before you begin your survey.

1. Write down 8 - 10 questions to ask people about commercial fishing. You may want to ask questions such as --
 How often do you go fishing?
 Where do you go fishing?
 What do you usually catch?
 Where do you sell the fish you catch?

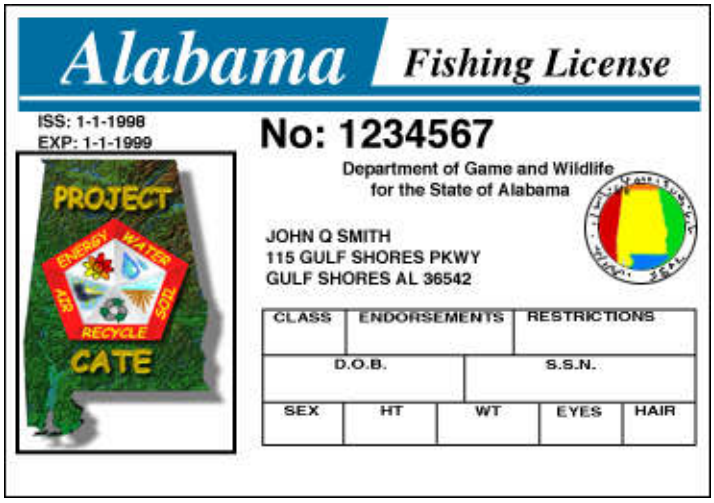
2. Leave a space or a blank for each question so you can write the answer.

3. After you have interviewed several people, take a blank form and write the answers you got for each question under that question. Suppose you asked the question, "Where do you go fishing?" and four people said, "On Mobile Bay." And three people said they catch red snapper. If more than one person said the same thing record it this way and it will be easy to total.

• • • • On Mobile Bay
 • • • Red Snapper

4. After you have all your data from the surveys, write up a short report or give an oral report to the class on what you found out about commercial fishing in our area.

Fishing Licenses



In order to fish in the Gulf and estuary areas, you need a saltwater fishing license. In freshwater areas, you will need a freshwater license. These are available in many places throughout the state.

1. Call a local fishing supply or bait store and ask:

   How much does a license costs?
   How long does it last?
   How old do you need to be to have one?
   What happens if you fish without one?

2. Research how much money is collected yearly by the sale of saltwater and freshwater fishing licenses. Also find out where the money goes- what organizations receive the money people pay for licenses.

Fishing Survey

You have been hired by a local fishing magazine, "Go Fish." Your assignment is to find out what bait people are using to catch different fish. When you collect your information, write a short story for the magazine.

1. Begin your survey by setting up a chart to collect the data. For example:
Fish:Speckled trout
Bait: live shrimp
Location: close to shore
Time of Year: Winter

2. Call a bait store or fishing camp or talk with people who are fishing. Ask what they are catching and what they are using for bait. List this information on your chart.

3. Always begin your interview this way:

"Hi, my name is _____. I am doing a survey about fishing. May I please ask you some questions?"

Be sure to thank the person for talking with you.

4. Fill in the data on your chart. Use the chart to write a short magazine story about fishing in your area. If you can, draw some pictures to make the article interesting.

How Much Water?

Have you ever watered a plant and the water just ran right through it? And then sometimes you water a plant and it does not drip? Different soils hold different amounts of water. Some soak it up, some let it run right through. Wetland soil can hold a lot of water. The water that goes into wetlands is released slowly.

In this activity you will be a soil detective. You will collect different types of soil and time how long it takes for water to go through the soil.

1. You will need the following materials:
5 or 6 medium size flower pots. Make sure they are all the same size with the same size holes in the bottom.
watch with second hand or a stopwatch
measuring cup
water

2. Fill each pot with a different kind of soil from different places. Places to collect samples can be the following:
your front yard
near a river, stream, or pond
in a forest under trees
in a wetland area
on a beach

3. Put each in a flower pot and pack it down well. Label each pot with the type of soil it contains. Leave a space to record time beside the type of soil.

4. Pour the same amount of water into each cup. As soon as you being pouring the water, begin timing. Stop timing when all the water has dripped out of the pot. Record each time on a sheet of paper

5. What did you find out? Which one holds water the best? Which one holds water the least?

Laws

Wetlands are very important areas. They provide homes for animals. They help with flood control and cleaning water. In the past, people thought wetlands were useless areas. Many wetlands were filled in or used as dumps. People did not understand that wetlands were special areas. Sometimes, laws have to be made to keep people from harming areas.

There have been many laws and regulations passed to protect wetlands. Your state is covered by some of these.

In this activity you will find out about the laws that protect wetlands in your area. There is a lot to find out!

1. Call or write some of the agencies listed below and ask them for information about wetlands laws and regulations. You can find their numbers and addresses in your phone book.

Environmental Protection Agency
US Fish and Wildlife Service
Army Corps of Engineers
Natural Resources Conservation Services
State and local departments of
natural resources
game and fish
water resources
environmental quality
health
conservation

2. Summarize the laws and regulations. Write a short report or give an oral report to your class about what you found out.

Pond Fish

You are a wildlife biologist who studies fish. You have been hired by a local park to identify the fish in the park's four ponds.

What the park needs is a very good set of pictures of fish so people can learn about pond fish.

Your job is to research the local pond fish, draw them, and give a little information about each one.

Your book will be used to teach people about pond fish. They are counting on you to do a good job.

1. Locate a book of freshwater fish. Find out which ones are in your area.

2. For each fish include at least the following:

Drawing of the fish

Size

Food it eats

Habitat (bottom, shore, etc.)

Range

Pond Plants

You are a botanist (a person who studies plants). You have decided to start a collection of pond plants to use to teach others about what grows in and around ponds. You will need a leaf from each plant you find in a pond area. You will press the leaves until they dry then mount them in a book. Also, write the name of each plant.

1. To make the leaf press - Collect at least 10 pieces of heavy cardboard the size of a piece of notebook paper. Get something heavy (brick, book) to use as a weight.

2. Collect a leaf from each plant in and around the pond. Put each in a plastic bag and label it with the name if you know it and include where and when it was collected.

3. Flatten the leaves out on the cardboard which has been covered with a llayer of newspaper. This will soak up some of the moisture in the leaves. Put as many as will fit on each piece.

4. When you get a piece of cardboard filled, put another piece of cardboard on top. Fill that layer with leaves. Keep going until you have placed all the lleaves.

5. Put the weight on top and wait several days for the leaves to dry.

6. When leaves are dry, put each in a book using tape or glue. Label each with the common and scientific names. Also, include where and when each was collected.

River Model

You are on an exploration team and your job is to make a relief map of your state showing the major rivers. A relief map is one that is not flat. It shows the high and low places on the land. This is called the elevation of the land. Your map will be made from paper mache' and you can paint it when done.

1. Get a map of your state showing the elevation and rivers and also get a road map.

2. Glue or nail the roadmap to a piece of heavy cardboard or wood. This will give you a good outline of your state to use. Mark where mountains, hills, and rivers are.

3. To make the paper mache' get newspaper and liquid starch.

    a. Cut the paper in 1 inch strips about 6 inches long.

    b. Dip the paper in the starch and squeeze off extra starch with your fingers.

    c. Place paper mache' on map where hills or mountain are. Layer it until you get it as high as you want it. Don't make it too gooey with starch - just enough to stick.

    d. Wait until it dries to paint. Paint the flat land green, mountains and hills brown, and rivers and lakes blue.

Rivers of the World

There are thousands of rivers throughout the world. There are short, wide, fast, or slow ones. They flow north, south, east, or west. They are all part of the hydrologic cycle on Earth. Rivers take water from the land to the oceans. In this activity you will research the rivers of the world and find out where they are. You will also find out how much water flows in them. It would be hard to find out about every river, so research the ones you find most interesting.

1. Look up rivers in the school media center or on the Internet. Pick out 10 - 15 rivers to research.

2. Locate the major rivers of each continent.

3.For each river, find out at least the following information. You may want to use a chart to collect the information.

River
Location
Length
Flow (N, S, E, W)
Amount of Flow
Other Info

4. Draw a map of the world and label each river.

Saltwater Fishing Regulations

Some fish have a limit placed on them. Fishers can only catch a certain amount and a certain size. This is to make sure that the baby fish will be able to grow up and replace the stock.

Sometimes there is a lot of debate about fishing limits. The fishers want to be able to catch a lot fish. Some people like boat captains make their living taking people out to fish.

Groups that regulate the limits want to make sure the fish population does not get so low that fish become endangered. Alabama has specific fishing limits and seasons. Find out what they are for fish caught in the Gulf. The main recreational fish caught in Alabama are:

Inshore fish	Offshore fish	Big game fish
Blackfish	Amberjack	Blue Marlin
Bluefish	Barracuda	Dolphin
Drum	Bonita	Sailfish
Flounder	Jack Crevalle	Tuna
Gafftopsail Catfish	Gray Triggerfish	Wahoo
Ladyfish	Grouper	White Marlin
Pompano	King Mackerel	
Sheepshead	Ling	
Spanish Mackerel	Red Snapper	
Speckled Trout	Shark	
White Trout	Tarpon	
	Vermillion Snapper	

1. Call the Marine Resources Division (look under state government in the phone book) and ask for a listing or a brochure of fishing regulations.

The Big Catch

The purpose of this activity is to find out some information about recreational fishing. You will survey several people and count your answers to get totals for each question. With this information you will be able to write a short report or give an oral report about what you found out. You may want to do this with a partner and combine your findings. Let your teacher or parents see your questions before you begin your survey.

1. Write down 8 - 10 questions to ask your friends and family about fishing. You may want to ask questions such as --
How often do you go fishing?
Where do you go fishing?
What do you usually catch?
2. Leave a space or a blank for each question so you can write the answer.

3. After you have interviewed several people, take a blank form and write the answers you got for each question under that question. Suppose you asked the question, " Where do you go fishing?" and four people said, "On a dock." And two people said they go fishing on the weekends. If more than one person said the same thing record it this way and it will be easy to total.
• • • • On a dock
• • On the weekend

4. After you have all your data from the surveys, write up a short report or give an oral report to the class on what you found out about fishing.

Wetlands Photo Essay

In this activity you will show activities in a wetland by taking photographs. Your photographs can show people, locations, or situations. Your photographs will describe things that happen in wetlands and what wetlands look like. You can take photographs of plants and animals. There is a lot going on in a wetland so this should be a fun task!

1. Visit a wetland in your area and observe the plants and animals that live there.

2. Plan out the photographs you will take. You can do this by listing the ones you think will tell your story about wetlands.

3. For each photograph you take, list the date, time, and location. It is also important to write three or four sentences about what is in the picture. Good photographers keep very good notes about the pictures they capture on film.

4. When you get your photographs developed put each one on a sheet of paper. Under the photograph write what it is about using your notes from number 3 above.

5. Put your photographs in a notebook or folder. Give it a title. Make sure to include your name on the title page.

6. Share your wetland photo essay with your family and friends. They will enjoy seeing your book.

Would you eat that?

People in other countries eat a variety of sea food and things that come from salt water. Did you know that some people love to eat sea urchins? How about a tempting meal of fried squid? Several cultures eat raw fish - sashimi. What about crocodiles?
Use your media center or Internet to research the seafood eaten and enjoyed by other cultures around the world. Find out what they eat, how they prepare it, and what the nutritional value is.

1. You may begin your research by looking up specific foods or specific countries.

2. Make a chart similar to the following. Add other items if you find some interesting information. Try to find some really unusual things!

Food	Country
1. Puffer fish	Japan
2.	
3.	
4.	
5.	
6.	

How prepared	Nutritional	Value
1. raw,	fried	high in ???
2.		
3.		
4.		
5.		
6.		

Cost
1. Very expensive
2.
3.
4.
5.
6.