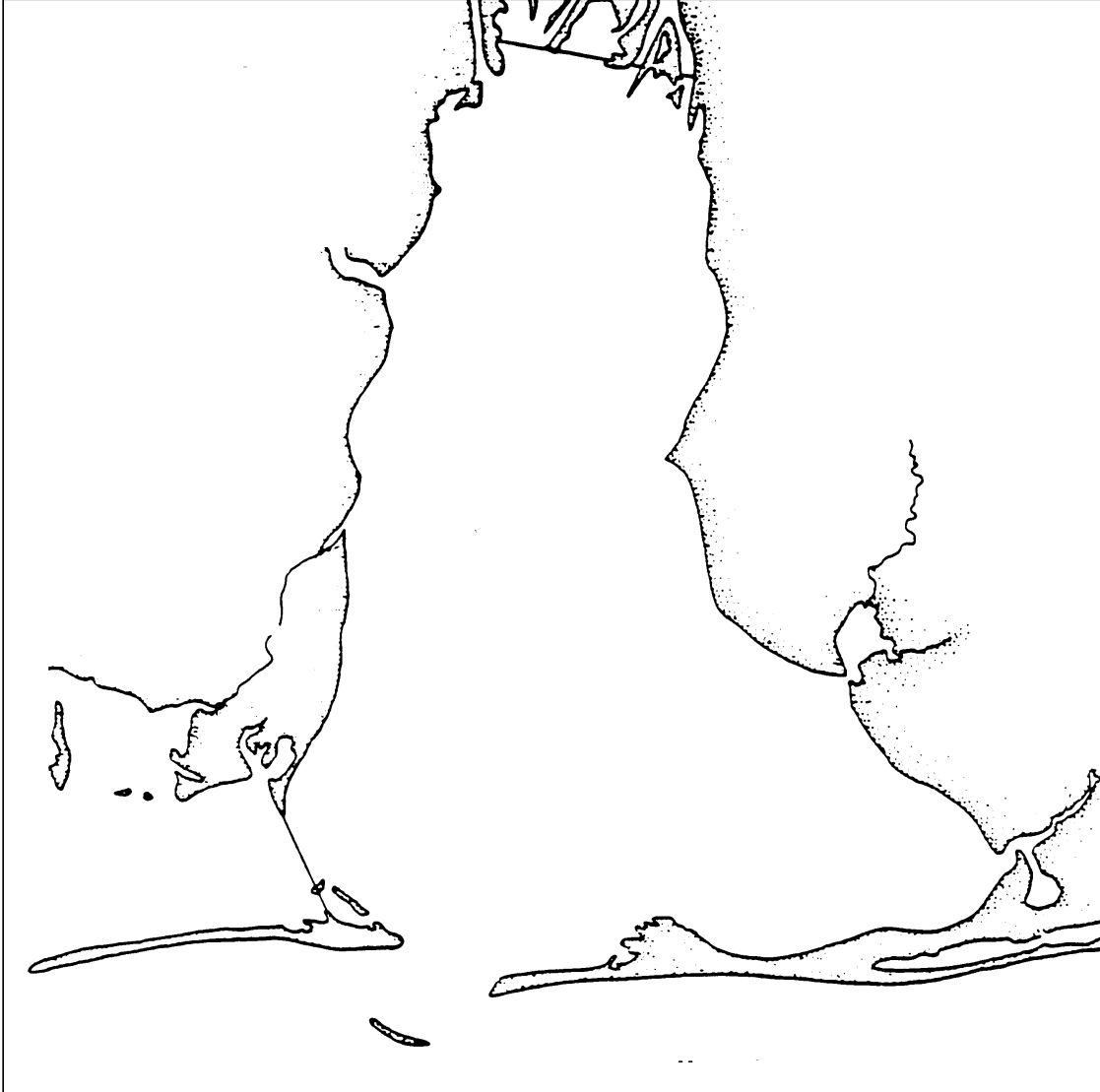


To be done before your visit to the Alabama Aquarium

9th – 12th Grade Activity

Name: _____

MAP OF MOBILE BAY



Using the map of Mobile Bay above, label the following areas around Mobile Bay:

South	East	West	North
Dauphin Island	Gulf of Mexico	Bon Secour Bay	Mobile
Mobile Bay	Dog River	Fowl River	Ship Channel
Mississippi Sound	Middle Bay Lighthouse		Fort Morgan Peninsula

Draw a circle around the Mobile-Tensaw Delta area.

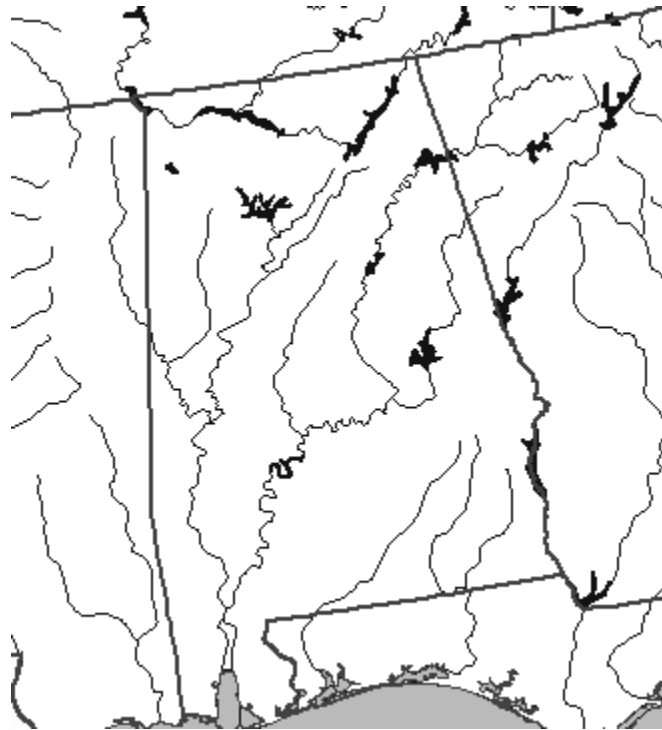
To be done before your visit to the Alabama Aquarium

MOBILE BAY WATERSHED

A watershed is an area of land that drains to a particular body of water. Watersheds are complex systems of rivers, lakes, streams, groundwater, and wetlands that eventually drain into the same body of water.

Using the map provided (www.nationalatlas.gov), begin at Mobile Bay, and trace the rivers and streams that are connected to the bay. Draw a line to encompass these rivers and streams, being careful not to cross rivers that don't connect to the bay. This will outline the watershed of Mobile Bay. Shade the area.

Do you live in the Mobile Bay watershed? _____



Water from more than two-thirds of the state of Alabama, and parts of Mississippi, Tennessee, and Georgia eventually flows into Mobile Bay, which drains into the Gulf of Mexico. Upstream activities in a watershed can impact downstream water quality. If your town is within the large Mobile Bay watershed, your activities that affect a creek in your neighborhood or a river in your town can affect the Mobile Bay estuary and the Gulf of Mexico many miles away.

To be done at the Alabama Aquarium

9th – 12th Grade Activity

Name: _____

The Alabama Aquarium exhibits plants and animals of Alabama's coastal ecosystems. An estuary is a place where freshwater from land mixes with saltwater from the ocean. Your visit will take you from the freshwater Mobile-Tensaw River Delta to the salty waters of the Gulf of Mexico.

This worksheet is organized by the galleries you will find while touring the Aquarium. Answers may be found by reading the panels, observing the tanks, and talking with docents and staff.

Entrance

1. Describe how our continent looked different 75 million years ago, during the late Cretaceous Period, when mosasaurs lived on earth. _____

Mobile-Tensaw River Delta

1. How big is the Mobile-Tensaw Delta (measured in acres)? _____
2. Name two photosynthetic, carnivorous organisms in this gallery. _____
_____ They can be found in what ecosystem? _____
What are two threats to this ecosystem? _____
3. What are invasive species? _____

To be done at the Alabama Aquarium

Mobile Bay Estuary

1. How does the present-day coastline of Alabama differ from its coastline of 15,000 years ago? _____
Why was it different? _____

2. What bivalve animal provides important habitat for many others? _____
How do these animals feed? _____

3. Explain a problem caused by hard, man-made structures, such as bulkheads.

What might be a better solution? _____

To be done at the Alabama Aquarium

Dauphin Island

1. Name two important benefits of barrier islands to mainland coastal areas. _____

2. Below is a cross section of a barrier island. Label the following habitats:

beach dune maritime forest salt marsh



For each habitat, label one plant or one animal found there. Explain why the sand dunes can be a harsh environment for plants and animals. Give at least three examples. Explain at least three adaptations that allow some plants and animals to survive these challenges.

Northern Gulf of Mexico

1. Name four types of structures that have been sunk off the Alabama coast to create artificial reefs. _____

Why have people created these artificial reefs? _____

2. **Exploration:** What value is there to exploring the oceans?

1. **ARCOS Weather Stations:** Record current weather conditions at the Dauphin Island station.

Air Temperature	_____	Wind Speed	_____
Water Temperature	_____	Wind Direction	_____
Dissolved Oxygen mg/L	_____	Salinity	_____

* Don't forget to include units of measure.

Would the amount of dissolved oxygen usually increase, decrease, or stay the same with increased depth through the water column? *Hint: you will not find the answer written on a sign; you will have to think about it.* _____
_____ Some of the contributing factors are listed below. Give brief explanations of how they relate to water depth and dissolved oxygen.

Pressure: _____

Air-water interface: _____

Temperature: _____

Photosynthesis: _____

Living Marsh Boardwalk

The Living Marsh Boardwalk is located outside the Aquarium. This area was once the site of a septic tank used by the Air Force. In 1993, the Dauphin Island Sea Lab removed the sewage-septic tank and rebuilt the marsh. Use the panels and audio kiosks on the boardwalk and your own observations to answer the following questions.

1. Plants that live in salt-water environments have means of resisting the harmful effects of salt. Name two of these techniques. _____

2. On average, how deep is Mobile Bay? _____ How long is Mobile Bay? _____ How wide is Mobile Bay? _____
3. How real is the threat of an oil spill from the rigs you see just offshore? _____

4. Compare the form and function of the existing Aquarium parking lot to a hypothetical, typical, paved parking lot in the same place. _____

Invertebrate Trail

On the Invertebrate Trail, locate animals that represent the phylum Arthropoda (which means "jointed legs"). Use a crayon (or pencil) to make a rubbing of one of these animals.