

NAME: \_\_\_\_\_



# Activity One



## Writing a Short Report Salt Lakes

**Write a report on salt lakes. Your report should include two parts.**

In the first part tell about the things all salt lakes have in common:

- What makes salt lakes salty?
- How does water come into salt lakes and how does it leave?
- Identify five of the largest salt lakes and tell where they are located.
- Which major salt lake is saltiest?
- Which is the largest salt lake?
- How will climate change affect salt lakes? Explain why.

For the second part of the report choose one salt lake and answer these questions about it.

- How large is it?
- How deep is it?
- How salty is it?
- What plants and animals live in it?
- Is it growing or shrinking?
- Does it have any unusual characteristics?

NAME: \_\_\_\_\_



## Activity Two



### Project

### How Climate Change Will Change Maps

This a project in which you will show how climate change could change maps.

Find a map of the ocean coast nearest to where you live. The map should include at least 100 miles of coastline and several large coastal cities. Now find a topographical map of the area. You can look in the atlas section of a library or search the internet using the name of the area you chose and the word "topographical" or "topo."

Now find out how far sea level would rise if all the ice on Antarctica melted. This information is in the book "Ocean Water Resources."

Make a copy of the topographical map and draw a line to represent the new shoreline that would result from melted Antarctic ice. Match your new shoreline to the line on the topographical map that is the same as the sea level rise that would be caused by melted Antarctic ice.

Try to estimate how many square miles of land would be flooded.

Which cities would be flooded? Which inland cities would become seaports?

NAME: \_\_\_\_\_



# Activity Three



## Write a Report

### Thermal Vent Ecosystems

Write a report on the unusual marine food webs that surround hydrothermal vents on the ocean floor. Hydrothermal vents are similar to geysers and hot springs on land. You can find information on these vents by searching the library and internet for: "hydrothermal vent" and "thermal vent." Next try adding the words "ecosystem" and "food web" to each of these terms. You can also try "chemosynthesis" and "giant tube worms."

Focus your report on the organisms of the food web rather than the cause of the vents. Your report should try to answer these questions:

- What causes hydrothermal vents, and where are they located?
- What is the basic difference between the food webs surrounding hydrothermal vents and all other food webs?
- What is chemosynthetic?
- What is the energy source for these food webs?
- Which organisms are the producers in these food webs?
- Which organisms are the consumers in these food webs?

NAME: \_\_\_\_\_



# Activity Four

## Project and Report Sustainable Fishing

Study sustainable fishing by visiting places where fish are sold, meeting the people who sell them, and (if possible) the people who catch them.

First read about sustainable fishing, overfishing, underfishing, and endangered species of commercial fish. Also look for information about the Marine Stewardship Council.

### Visit any of these places that are near your home:

- A fish market or supermarket that sells fish
  - Look for labels that indicate that a kind of fish is harvested sustainably.
  - Ask the market manager if he/she knows which fish he/she sells are sustainably fished.
  - Ask the manager which fish are from fish farms and which are wild fish.
- A fishing boat harbor
  - Ask the people who catch the fish what they know about sustainable fishing.
  - Ask the people who buy the fish what they know about sustainable fishing.
- A fish farm
  - Ask what kind of fish they raise.
  - Ask what they feed the fish.
  - Ask if the fish they raise are endangered in the wild.

Write a short report on sustainable fishing and overfishing. Include a list of sustainably harvested fish and a list of fish that are overfished. Explain how individuals can help prevent overfishing by changing their diets.

NAME: \_\_\_\_\_



# Activity Five



## Project and Report Dead Zones

For this project, you will need a large world map you can draw on and some colored pencils or markers.

Begin by searching the library and internet for “dead zones.” Find the location and extent of marine dead zones. Use one color to mark the dead zones around the world. Use another color to show the parts of the ocean that were once dead zones and have now come back to life. You can find more information by searching for “United Nations Environment Program” and “NASA and dead zones.” The second source shows satellite images of dead zones.

### Write a short report that answers these questions:

- What is a dead zone?
- What causes dead zones?
- What is missing from dead zones that makes it impossible for fish to live there?
- Which dead zones are getting worse?
- What can be done to restore dead zones to life?

NAME: \_\_\_\_\_



## Activity Six

### Project and Report Minerals in Sea Water

Sea water contains many different materials in a wide range of concentrations. These materials are mostly present in the form of ions.

**Begin by searching for information on “sea salt,” “ocean minerals,” and “ions.” Make a list of the different materials dissolved in ocean water and the amount of each material. Display this information in two ways:**

- Create a table that lists each material and its concentration.
- Create a graphic organizer that shows the amount of each material.

**Write a short report that answers each of these questions:**

- What is an ion?
- Which two ions are present in sea water in the greatest concentration?
- What is sodium chloride, how is it used, how is it removed from sea water?
- What is magnesium, how is it used, how is it removed from sea water?