

NAME: _____



Activity One



Writing a Short Report

Where Does Your Water Come From?

Find out where the fresh water for your home comes from. You may have water piped into your home by a city water company, or you may have your own well.

If you get water from a water company, you can begin by contacting them. Look on a water bill or in the phone book to see if they have a web site or give them a call. Try to find out if you can visit the sources of the water that is delivered to your house. They may be wells or a reservoir.

If you get water from a well, find out how deep it is, how the water is pumped out, and anything else that helps you understand how your home system works.

In your report, try to answer these questions:

- Where does your water come from?
- How much do you use each month?
- Are you using more or less than in the past?
- Is your water use sustainable?
- Could your water supply be threatened by a drought?

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Activity Two



Visit a Greenhouse

Find a greenhouse in your area. You might be able to find one by looking in the telephone directory for flower growers, nurseries, or greenhouses. Call and ask if you may visit the greenhouse and if you may go inside.

When you go, take a thermometer and compare the temperature outside the greenhouse to the temperature inside. Try to find someone at the greenhouse who would like to answer some questions.

Try to find out:

- The average temperature in the greenhouse and whether it is different in summer and winter.
- How the temperature is controlled.
- How the plants are watered and how the watering is controlled.
- What kind of plants grow in the greenhouse that would not grow outside.

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Activity Three



A Short Report

on Unsustainable Pumping from Aquifers

Prepare a report on aquifers that are being pumped out faster than they are being replenished by water from the surface. You may either report on unsustainable use as a world-wide problem or focus on a particular country or aquifer.

Some countries that are pumping unsustainable amounts of water from their aquifers are: the United States, Mexico, China, and India. If you study aquifers in the United States, pay special attention to the Ogallala aquifer (also called the High Plains aquifer).

In your report try to answer some or all of these questions:

How serious is the depletion?

How many years of water are left?

Is anything being done to solve the problem?

Has depletion caused a water shortage yet?

Have crop yields been affected?

Has the ground level started to sink?

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Activity Four



Harvest Rainwater

Learn about harvesting rainwater by harvesting some of your own. In this activity you will harvest rainwater from your own roof. You will have to live in a house that has rain gutters on the edges of down sloping roofs and down spouts that could be led into a collection container. You might also have a flat-topped roof with a drain leading to the ground. If your roof will not work for this project, you may be able to find another roof that will work.

This is what you will need:

1. A tape measure.
2. Something to measure gallons of water.
3. A large container to store water.
4. A plastic sleeve to carry water from a downspout to the large container. (You can get these at hardware stores. They are used to direct water from the downspout to a storm drain.)
5. A rain gauge.

This is what you will do:

1. Measure the dimensions of your roof and calculate its area. If the roof is sloping, measure the area of the flat ground under it.
2. Calculate how many gallons of rain would fall on your roof for each inch of rainfall.
3. Connect one end of the plastic sleeve to the downspout and put the other in the collection container. (Note: You may want to just harvest water from that section or roof that has the most convenient downspout.)
4. Wait for it to rain.
5. Measure the gallons of water you collected.
6. Record the inches of rainfall as shown by your rain gauge.
7. Calculate how many gallons of rain should have fallen on your roof.
8. Compare the calculated volume of rainwater to the volume you collected.

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Activity Five

A Short Report on Melting Ice Caps

The Arctic Ocean is the ocean that surrounds the North Pole. The Antarctic Ocean is the ocean that surrounds the continent of Antarctica where the South Pole is located. Both of these areas, called the polar ice caps, are mostly covered in snow and ice. This snow and ice holds most of Earth's fresh water.

As global temperatures increase, the polar ice caps are melting and shrinking. Write a short report on ice cap shrinkage that includes the causes of ice cap shrinkage, how fast the ice caps are shrinking, and the effects on sea levels and arctic animal habitat. You can find information by searching libraries and the Internet for "arctic shrinkage," "arctic change," "climate of the arctic," "arctic climate impact assessment," "Greenland ice sheet," and "world wildlife foundation's international arctic programme."

In your report, try to answer these questions:

- When will the Arctic Ocean be completely ice-free in the summer?
- When was the Arctic Ocean last ice free in the summer?
- How will melting arctic ice change ocean levels?
- How will melting arctic ice affect arctic animals like polar bears and penguins?
- How will melting arctic ice affect water supplies?

In your report, also include maps that show how the area covered by arctic ice has changed.

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Activity Six



Write a Report on a Plan to Give More People Safe Water

At Earth Summit 2002, governments approved a plan to reduce by half the number of people in the world who do not have access to safe water and also reduce by half the number of people who do not have basic sanitation. Find out if this plan is meeting its goals and write a short report on what you find.

You can get information by searching the library and Internet for “WHO” (World Health Organization), “GWSSAR” (Global Water Supply and Sanitation Assessment 2000 Report), and “water resources.”

Try to answer these questions in your report:

- Is the plan meeting its goals?
- How many people do not have reasonable access to safe drinking water today?
- What is “reasonable access?”
- How many people do not have basic sanitation today?
- What is “basic sanitation?”
- Where are the problems of unsafe water and poor sanitation worst?