



The Water Cycle

Program Purpose:

The purpose of this program is to introduce students to the components and importance of the water cycle, and to demonstrate how groundwater moves using a model.

Program Length: 1 ½ hours

Age: Grades 3rd -8th

Maximum Number of Participants: 25

Outcomes/Goals:

After completion of this activity students should be able to:

- List 9 places on earth where water is found.
- Define the terms cycle and water cycle.
- Explain how energy from the sun powers the movement of water molecules through the water cycle.
- Be able to describe the five processes through which water molecules move through the water cycle.
- Explain how groundwater enters, moves through, and exits the soil.
- Identify four sources of pollution to groundwater.
- Describe 3 ways humans can conserve water.

Preparation:

Before the class arrives:

- Obtain the "Water Cycle" kit from the storage room and set up the "Incredible Journey" game in the exhibit room
- Set up the groundwater model. Make sure buckets are placed so that water can enter and leave the model.
- Have dyes and syringes on hand for use during the groundwater model demonstration.

Materials:

Dry erase board and markers

Water cycle poster

Nine "Incredible Journey" dice and posters, set up in stations

One "Incredible Journey" sheet per student

Box of pencils

Earth beach ball and Earth Jar

Groundwater Model and related materials:

- two lengths of rubber tubing connected with Y-junction
- two buckets
- electric water pump
- extra large jug of water

- wet erase marker
- 3 bottles of dye
- 3 syringes

Basic Outline:

- I. Introduction (5 min)
- II. The Water Cycle (15 min)
- III. Water Pictionary (5 min)
- IV. "The Incredible Journey" game (25 min)
- V. Earth Jar (5 min)
- VI. The Groundwater Model (25 min)
- VII. Review/Conclusion (5 min)

Introduction:

Write a favorite water quote or water fact up on the board before the class arrives (Appendix A). Introduce yourself to the class and if time allows have them tell you their name and a way they use water. Write these things up on the board

Say that it is obvious we depend on water for everyday use and without it we wouldn't survive. Explain that today they are going to learn about where all this water comes from that they use everyday and how it travels all over the Earth. They will play a game where they will "become" water molecules, and write a story about their journey through the water cycle. Finally, they will learn what groundwater is and how as humans we affect it.

The Water Cycle:

Ask the students what are the nine places where we can find water on the earth? (*Hand out the "Water Cycle" worksheet to the students along with pencils. They should draw whatever is up on the board, along with the terms that correlate*)

Have them help you draw these things up on the board.

Clouds, Glaciers, Rivers,
Plants, Groundwater, Soil,
Animals, Lakes & Oceans

Explain that water is constantly moving from place to place. This process is called a cycle. It may be helpful to use an analogy, like a bicycle, which has two wheels that go around and around.

- *A cycle is a process in which any material moves round a system.*

Tell the students that today we are going to talk about the water cycle.