

Water, Please!

Summary

Students use a globe and cups of water to illustrate the amount of water versus land on earth and the amount of fresh versus salt water available to plants and animals.

Materials

For the Teacher:

- Soft globe ball (purchase at a school supply store)
- 25 2' blue paper squares
- 15 2' brown paper squares
- 1 large plastic tub (large enough to hold 50 cups of water)
- 2 clear pint jars
- 1-cup measuring cup
- 1/2-cup measuring cup
- 3 paper water drops (see teacher pages)
- Water source

Background for Teachers

The Earth has three different available water sources. One source is useable fresh water which is suitable for drinking, hygiene, and home use, as well as plant and animal use. This water comes from reservoirs, streams, lakes, or underground water sources and is only one percent of the Earth's water. Another source is frozen, non-available, fresh water found in the polar caps and glaciers. This frozen water source is two percent of the Earth's water. The third source is salt water found in oceans, seas, and lakes and constitutes the majority, or 97, of the Earth's water. Salt water is not suitable for culinary, plant, or animal purposes.

Students need water education and facts regarding the limited supply of useable water. When students become aware that water is a precious commodity and there is not an endless supply, hopefully, they will not waste it. If first-grade students become aware of the need for using water while they are young, they will be more apt to use it sparingly and wisely as they mature. Thus, they may positively affect the future water supply by influencing family members and their societies to be more responsible water users.

Intended Learning Outcomes

1. Make observations and measurements. 2. Collect, record, and analyze data. 4. Recognize relevance of science. Take responsibility for ecological problems. 5. Construct a graph.

Instructional Procedures

1. Before the lesson begins, cut out the three paper water drops found with this activity. Consider laminating the drops. Place them under the tub on a desk near a water source.
2. To introduce the lesson, have the students work in pairs to think of ways they use water. Each student pair will select one of their water uses and charade while the rest of the class guesses what water usage they are dramatizing.
3. Have students stand in a circle and toss a soft globe ball from student to student. When a student catches the ball, he/she should look where his/her thumbs touch the globe and says "water" or "land." Have a volunteer place a blue square on the board or chart paper each time water is said, and a brown square each time land is said. When the activity is finished, the squares can be arranged in the form of a graph. There should be more blue squares than brown squares, showing that there is more

water than land on the earth. (Adapted from AIMS, 1996)

4. When the graph is complete, have the students sit in front of the graph and discuss why there are more blue squares than brown ones. Refer back to the globe. Ask, "What do you notice about our world?" Allow students to respond, then say, "It looks like there is a lot of water but some of it is not useable." Show the polar regions, oceans, rivers, and lakes. Explain that the water in the polar regions is frozen and the water in the oceans is full of salt. Only the fresh water in the lakes and rivers can be used for people and animals. Tell students they will now act out the world's water story.
5. Have students join hands to make a circle around the desk with the tub. Tell them they represent the world's water bodies and the tub is a reservoir which will hold the water they put into it. One student at a time will march to the water source, fill the 1-cup measuring cup and dump it into the tub. Students will count as the cups of water are tallied on the board. Continue until 50 cups have been dumped into the reservoir.
6. Have the students sit down in a circle. Choose "Miss or Mr. Ocean" to pull out the 1 paper water drop from underneath the water tub. Have the student read the message. Ask, "What does this statement mean?" Allow student responses. Refer to the globe again, have students point to the water sources and explain that the 50 cups they just dumped into the reservoir represents all the water in the world and most of it is salty ocean water.
7. Have a second and third student pretend they are Mr. Arctic and Miss Antarctica. Have each one take 1/2 cup water from the "reservoir" and dump it into one pint jar. Have Mr. Arctic pull out water drop 2 and have the Miss Antarctica read it. Ask students if they know what it means. Explain that 1 cup represents the amount of water in the polar regions. Students should realize if it is frozen, it can't be used.
8. Pick a student to find the last water drop. This person represents the fresh water source and could be referred to Mr./Miss Lake. Have the student read the message and pour 1/2 cup of water into the final pint jar. Ask students if they think 1/2 cup of water is enough for all the people, animals, and plants to use in the world. Discuss and guide students to realize that water is a precious resource we need to conserve.

Extensions

1. Brainstorm ideas for saving water in school and around the house. Have students work in pairs and create a "Save the Water" slogan and poster. Have students share their slogans and posters with the class.
2. Pass out pop bottles _ full of water. In groups of two, have students place a pin-pricked cup loosely into another cup. Have one student pour water into the top cup. Have the other student time the water dripping for 1 minute intervals up to 5 minutes. At the end of each time period have students mark on their cups how much water has dripped through the cup. When the 5 minutes is over, have students show the total amount of water that dripped from the top cup. Explain that they need to be "Water Police" (Barbara Novelli, AIMS 1996). When they see water being wasted, they need to stop the drips. Take a walk to the bathrooms and see if any water is dripping. Have students check their homes for water leaks. Brainstorm other ways people waste water and what they can do to prevent it.

The AIMS activities are adaptations and are used with permission.

Supporting Literature

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Authors

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