Water is Used and Used!

(30 minute activity)

Objectives

Students will be able to:
1) List how water is used in their community
2) Describe water-saving conservation measures

Materials

Per table:
- ❑ 1 gallon carboy with spigot (sun tea container will work)
  - 3750 *ml* of water for 5 students
  - 3000 *ml* of water for 4 students
  - 2250 *ml* of water for 3 students
  - 1500 *ml* of water for 2 students
- ❑ 5 small containers with red and blue *ml* markings
  - red 5 *ml*, 40 *ml,* 100 *ml,* 200 *ml*
  - blue 4*ml*, 38 *ml*, 80 *ml*, 160 *ml*
- ❑ 5 one-quart bowls

Background

We unconsciously turn on the tap many times per day. How much water do we really use? Precious water will be available for people and wildlife needs if we all share. Wildlife naturally conserves. It is up to us to do the same so our wild neighbors will survive even during drought years. Conservation is easily attained and begins with each person becoming aware of how much they use on a regular basis. This activity is a step toward that realization.

Procedure

1. On a board in front of the classroom**,** write the following headings: home, school, farm, grocery store, and computer business.

2. Ask students how much water each of these use in gallons daily. Tell them that 5 gallons of water is used with each flush of the toilet. Most people use at least 12 gallons of water per shower. It takes about 30 gallons of water to wash the dishes.

3. Give students an assignment to go home and calculate the amount of water used for their household needs. List findings and extrapolate what that means for the entire class, for the school, and for the whole community. Have them call a local utility company to find out what the local household average truly is.

4. With a new perspective from home, write down 3 guesses per heading.

Procedure *continued*

5. Ask how water is used at each of the locations. Write the following answers at the bottom of the list of guesses:
   Single family house — 250 gallons per day
   (compare to the utility company s amount)
   Elementary school — 2,100 gallons/day
   Grocery store — 5,000 gallons/day
   Farm — 100,000 gallons/day
   Computer business — 600,000 gallons/day
   Compare these numbers to actual amounts, if there is time for further research.

6. Discuss water uses for each heading.

7. At the tables...
   (This portion of the activity may be modified based on the water usage numbers the students list in the board activity. Adjust the amount of water in the carboy for the number of students and projected total usage. There should be just enough water in the carboy for the exercise. This way, if students are not precise, they will soon run out of water).

Station no more than 5 students at each table. Explain that they will simulate water usage in the activity.

The carboy at the end of the table is their reservoir. They may NOT tip it.

- ❑ Explain that 5 ml=250 gallons. Ask them to predict the amount of mls of water they will need to simulate the usage of a household.
- ❑ Give them time to work through the figures.
- ❑ To simulate use, they will have to use the small measuring containers with red marks to fill up the quart bowls to the amount needed.
- ❑ They may not share water with others.
- ❑ Once water is removed from the reservoir, it may not be put back in.
- ❑ Groups using too much water become Water Hogs.
- ❑ Was everyone able to meet the daily demand without tipping the reservoir?
- ❑ Thinking back on the water usage information on the board, how can each student cut water consumption, so the reservoir is not depleted?
- ❑ Try the experiment again with the small containers with blue marks.

Wrap Up

Discuss the importance of conserving water and the fact that it is a recycled, finite resource. Predict the amount of water used by community resources.

Assessment

Ask students to list five ways water can be conserved in their daily lives.

Extensions

- ❑ Have students monitor water usage at school. For example, how may flushes occur during a certain period of time, how long the water runs at the cafeteria, how many showers are taken at the gym, the amount of water needed for watering plants in the schoolyard, etc.

- ❑ Divide students into research groups and brainstorm local businesses they would like to learn more about. Ask them to predict the water consumption. Then learn how close the predictions are by interviewing, conducting site studies, and calling the utility companies. Local agriculturists might be included, especially for a comparison of the different water delivery systems. To calculate water usage: amount of water per hour x the amount of hours per day the irrigation system is being used x the number of days per month.

This activity was adapted for Kids in the Creek with permission from the Vancouver Water Resources Education Center, Vancouver, WA (360.696.8478)