

EPA ENVIRONMENTAL EDUCATION

WHERE DOES YOUR WATER COME FROM?

GRADE LEVEL: 4 - 8

BACKGROUND: Every day, the average American uses about 50 gallons of water for drinking, bathing, cooking, and maintenance. Most people, however, are unaware of the source of their water. In the United States, about 88 percent of the population is supplied by community water supply systems. The other 12 percent is supplied by non-community means, such as campgrounds, resorts, and private wells. Sixty-four percent of public water systems use surface water as their source, the other 36 percent use groundwater from wells. The aesthetic properties of the drinking water from these public systems is often affected by the source of the water. Ground water often has a slightly metallic taste, and may contain high amounts of minerals. Surface waters, on the other hand, usually have a musty taste and look cloudy. Treatment techniques aim to produce a water that is: safe for human consumption; appealing and good tasting to the consumer; and conforms with applicable State and Federal regulations at the lowest possible cost.

NOTE: This test should follow a class discussion on the possible sources of water for the community.

OBJECTIVE: This taste test will illustrate the differences between groundwater and surface water, highlight some of the common contaminants in natural water, and encourage student thought on the sources of drinking water.

MATERIALS NEEDED:

1 gallon of distilled water
1 gallon of tap water (identify the source)
1 gallon of mineral water (or private well water, if available)
1 gallon of filtered tap water
Cups for the class

PROCEDURE:

1. Mark a set of 4 cups for each student. Label each cup 1 through 4 and fill them with the different types of water. Make sure that similarly labeled cups contain the same type of water.
2. Indicate on the board the different types of water present in the four cups. Have the students work together in groups to try to identify different tastes, smells, and appearances in the water. Have each group write down their observations on each water sample, and identify which cup has which type of water.
3. After everyone has completed their observations, have the students mark their guesses on the board. Ask the students what types of impurities they would expect to find in the different types of water, and if their senses confirmed their intuitions. Record these observations on the board.
4. Reveal to the students which samples contained which type of water. Discuss with the students their

observations and what other impurities might be found in these waters. Also discuss the source of water for the community. If anyone in the class lives in a location supplied by a private well, ask him/her to describe the water at their home, and how it compares to other water he/she drinks in the community.

FOLLOW-UP QUESTIONS:

1. What are some possible sources of water in your community?
2. Which type of water tasted best? Why?
3. Which type of water would you consider safer to drink, groundwater from a spring, or surface water from a stream?