



EarthCircles

Water at Work

LESSON 7: A DROP TO DRINK

OVERVIEW:

Concept: Our water sources are valued for different reasons by the general population, commercial interests, and for cultural and spiritual purposes. How we access our water supply affects what water costs and how long the supply lasts.

Lesson At A Glance:

Materials

Preparation

Background

LESSON PLAN:

Opening circle

Activity: Kids investigate the tradeoffs involved in our use of bottled water.

Discussion

Principles in Practice

Story

Closing Circle



Materials:

For introduction:

- Quart (liter) bottle of water
- 4, 8oz glasses
- 4 quarters, 4 pennies, and a dollar bill
- Blue food coloring

For posters:

- Colored markers or crayons
- Poster board, oak tag, or similar paper
- Push pins for posting

Book: *One Well: The Story of Water on Earth* by Rochelle Struss

Preparation:

Set up a circle of chairs for Opening Circle.

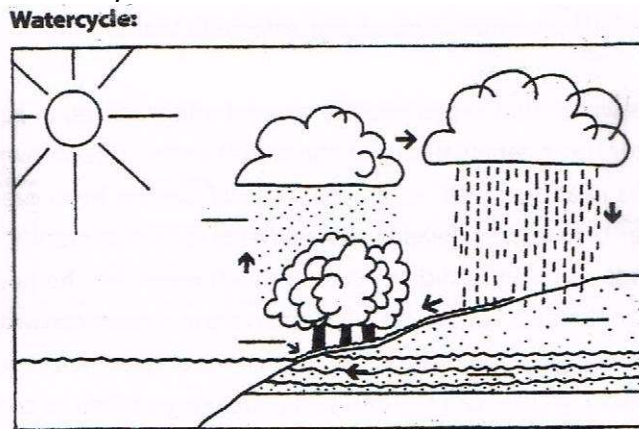
For the introduction:

Fill the quart (liter) bottle with water and tint the water blue to make it more visible.

- Place a small table in the center of the circle of chairs.
- Put the bottle of water and four empty 8 ounce glasses on the table.
- Have the dollar bill, 4 quarters and 4 pennies available in your pocket or nearby.

For the water cycle activity:

- Sketch the water cycle on the chalkboard unlabeled.



- <http://www.youtube.com/watch?v=xMk202IAphc> to access the video clip.

Background:

It is so easy to take our water supply for granted! A turn of the tap gives us an instant flow, cold or hot, as we desire. In recent years bottled water has made it possible, even fashionable, to carry water with us so we always have a drop to drink wherever we are. But at what cost?

The price of water in a bottle is significantly more expensive than tap water. According to the Massachusetts Water Resource Authority (MWRA), an 8 ounce glass of tap water costs about 1 cent. A quart (liter) of bottled water (four eight ounce glasses) costs from 1-8 dollars, depending on the brand and where you buy it. Check it out at the supermarket! Is it worth it? Many people drink bottled water out of concern for their health. Actually, a public water supply is tested and treated in compliance with government regulations to control disease organisms and chemical contamination. Bottled water is not so regulated.

Are we fooled by advertising into believing that bottled water is better for our health? As a matter of hard fact, some bottled water comes right from the tap. The economic cost goes beyond the price of the bottle of water. Bottled water is a commercial enterprise, in competition with public water supplies. The profit motive is at odds with public interest.

Historically, access to a clean water supply has been considered a human right. In many countries people have to secure their own water supply, walking miles to get water and carry it back to their homes. In developed countries such as ours, a public water system operates as a public service with minimal cost to the consumers. Federal and State regulations, with required testing and inspections, insure the quality of water from the tap.



Along with the economic factors, there are critical environmental aspects to this use of water.

A major concern is the impact of water bottling plants on groundwater supplies. In the U.S. approximately half of the water supply comes from groundwater through wells and irrigation systems. Many towns have well fields that tap into groundwater for their local supply. In recent years bottling companies have been trying to buy rights to the groundwater from towns with well fields. The towns are concerned that the groundwater source would be overused and eventually disappear. Such access to the aquifer affects the neighboring town's water supply, too. The concept of **safe yield** states that water cannot be withdrawn from a resource faster than nature can replace it without finally exhausting the resource. If a bottling plant proposes to withdraw 500,000 gallons of water per day, it is like adding 7,500 people to the population that depends on the supply. When water levels go down in reservoirs on the surface of the land, it is easy to observe and take action to conserve water. With groundwater, it is much more difficult to monitor water levels. A well going dry may be the first sign of trouble.

Another environmental concern is the huge number of plastic bottles going into landfills. The bottles can be recycled, but people often don't bother. Also, it takes energy, water, and other resources to make something new with the recycled plastic. In the town of Concord, MA, the people voted to ban single serve bottled water for sale in stores and restaurants. They were

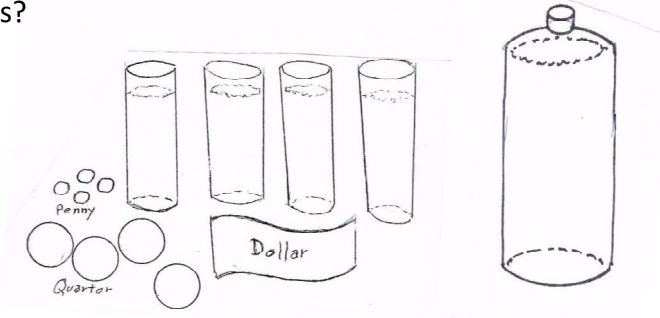
concerned about the thousands of empty bottles going into the landfill every day. Of course people could buy bottled water in the next town. Many people disagree with the ban.



Water has spiritual value in different cultures around the world. For example, the Christian rite of baptism is meant to cleanse the soul and symbolizes a new beginning in life. In India the Ganges River is perceived as a sacred resource filled with flowing holy water that brings good fortune to bathers.

LESSON PLAN:

Opening Circle: With everyone seated in a circle, exchange greetings and note who is present. Kids will be curious about the water setup. Ask how many of their families drink bottled water instead of tap water. Do they think this is a good thing? If so, why? What do they need to know to compare the two sources?



Demonstration:

Hold the dollar bill up beside the bottle and point out that many people pay a dollar or more for water in a bottle such as this.

- Do the Kids know people who do this?
- Why do people buy bottled water?
- Is bottled water worth the cost? If so, why?

Now place the four pennies by the four glasses. Explain that on average this is how much it costs for a glass of tap water.

Next pour the bottled water into the four glasses. How much does a glass of this water cost? (25 cents) Place the quarters next to the glasses.

Discussion:

- Why do Kids think people pay so much for bottled water?
- Do they express health concerns?

Tell the Kids that by Federal law tap water quality is monitored and water is treated to insure that it is safe and healthy. Bottled water is not so regulated.

- Do Kids think this is fair?
- Which of our UU principles would help us decide whether or not to use bottled water?
- What factors besides cost would affect our decision?

Tell the Kids about the ban on single serve bottled water in Concord, MA.

- How do the Kids feel about this?
- Why do they think people voted for this ban? (number of bottles going to the landfill?)

Discussion:

- Where in the cycle does our drinking water come from? (Surface water in reservoirs and groundwater from wells.)
- What would happen to our water supply if a water bottling company bought rights to “our” groundwater?
- Are there limits to how many cities and towns can get their water supply from a regional reservoir?

Who Owns the Water?

Ask Kids what happens in a reservoir or an aquifer when there is a drought. Can they describe connections between rain and snow melt and the level of water in a water supply such as a reservoir? In groundwater? Describe the concept of *safe yield* (See background.) Ask how people know when a water supply is running low. (With a reservoir people can observe the lower water level. With ground water people may not know until the well runs dry.)

Tell the Kids about bottled water companies that want to buy rights to groundwater in towns that use wells for their public water supply. Do Kids think this is a good thing for a town to do?

Discussion:

- What would happen to that town’s water supply if the bottling company bought the rights to their groundwater and then started withdrawing more than the safe yield?
- Who has the greater right to the water: The people in the town, or the company who bought the rights?
- Who “owns” the water?
- Should anyone “own” the water supply?
- What about water that is used for spiritual purposes? Can that be owned?
- How do people use water for religious, spiritual, or health practices? (Baptism, Ganges River, hot or cold water compresses, ice on aching joints).
- Is there anything you do with water or in water that is special to you? That makes you feel especially good? (Swimming, Drinking cold water or a hot day, warm bath--?)
- How about here at our church? Are there any special occasions when we use water?

In discussion note the relevance of our Sixth and Seventh Principles to this problem. Do Kids think concern about who owns the water is justified? Why or why not?

Ask the Kids to make posters to inform the Congregation about this issue, or compose a rap song about the water supply.

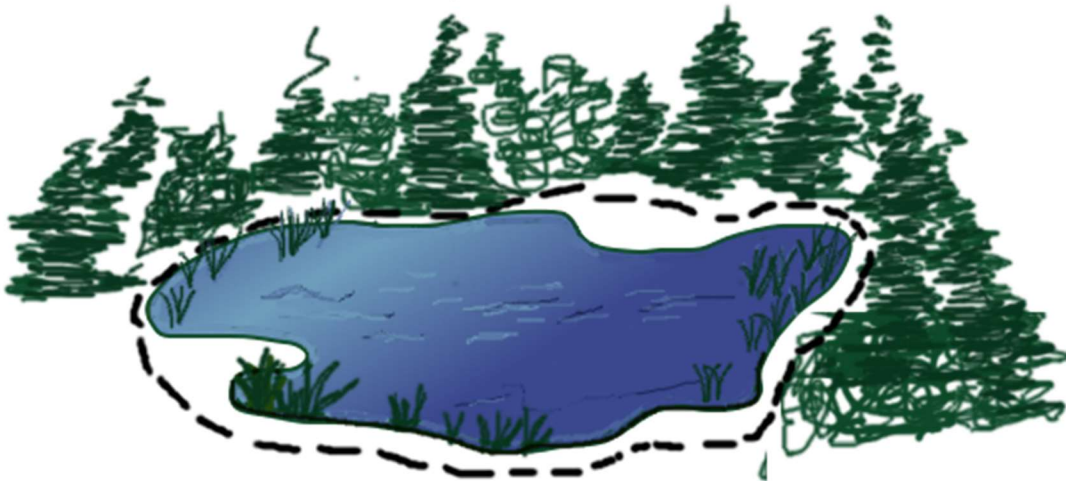
Read this story of Fawn Lake aloud while Kids work on their posters.

The Story of Fawn Lake:

Fawn Lake and the woods around it are a lovely conservation area in Bedford, Massachusetts, but there has not always been a pond there. Originally there were three springs that were believed to have special healing powers and perhaps were even considered sacred. Local stories talked of Native Americans who made long treks just to drink from those springs hundreds of years ago.

In the mid 1600's the European settlers divided up the land around the springs and settled there. Stories of the water's healing power continued, and a high mineral content was found. In 1835 the owner of the land noticed that cows that drank from the springs "gave better milk". This led to the establishment of the Springs Hotel in 1856. The hotel attracted wealthy Bostonians and New Yorkers who came to enjoy the healing powers of the water.

Sometime before 1875 a pond was dug and a dam created to establish "Springs Pond", which is now called Fawn Lake. A little later, in the 1880's a pharmaceutical company was added to the site. The company bottled concoctions made from the water and sold them for medicinal purposes. These concoctions were sold until the mid 1930's.



After World War II many changes affected the pond and the land around it. Much of the land near the pond was developed for housing for a growing population in the town. The town then depended on well fields for its water supply and no longer used the pond for this purpose. Some land right around the pond was designated conservation area. A trail for hiking was constructed around the pond. Today it is a favorite recreation area.

Discussion:

Is the story like a bottling plant accessing a water supply? If so, how?

- People who built the hotel sold spaces for people to come and enjoy the fresh water that was once free to anyone willing to make the trek.
- The Pharmaceutical Company took the special water and sold it. It was no longer free.

Principles in Practice:

- What Principles are you practicing when you drink tap water vs. bottled water, or when you conserve water?
- Were Principles violated when the Springs were converted to private property and the land later sold for a hotel?
- How can we live our values when precious natural resources are being bought and sold?
- Can we make a difference by conserving water and not buying bottled water?

Story: If time permits, read aloud from the book: *Earth, Fire, Water, and Air* by Mary Hoffman and Jane Ray. This book includes many mentions of cultural and religious uses of water over the ages.

Closing Circle:

Invite all to listen while the closing words are read. Ask Kids to repeat the words together.

“Water flows from high in the Mountains
Water runs deep in the Earth
Miraculously, water comes to us,
And sustains all life.”

Thich Nhat Hanh, *Earth Prayers*

