Water is a Limited Resource
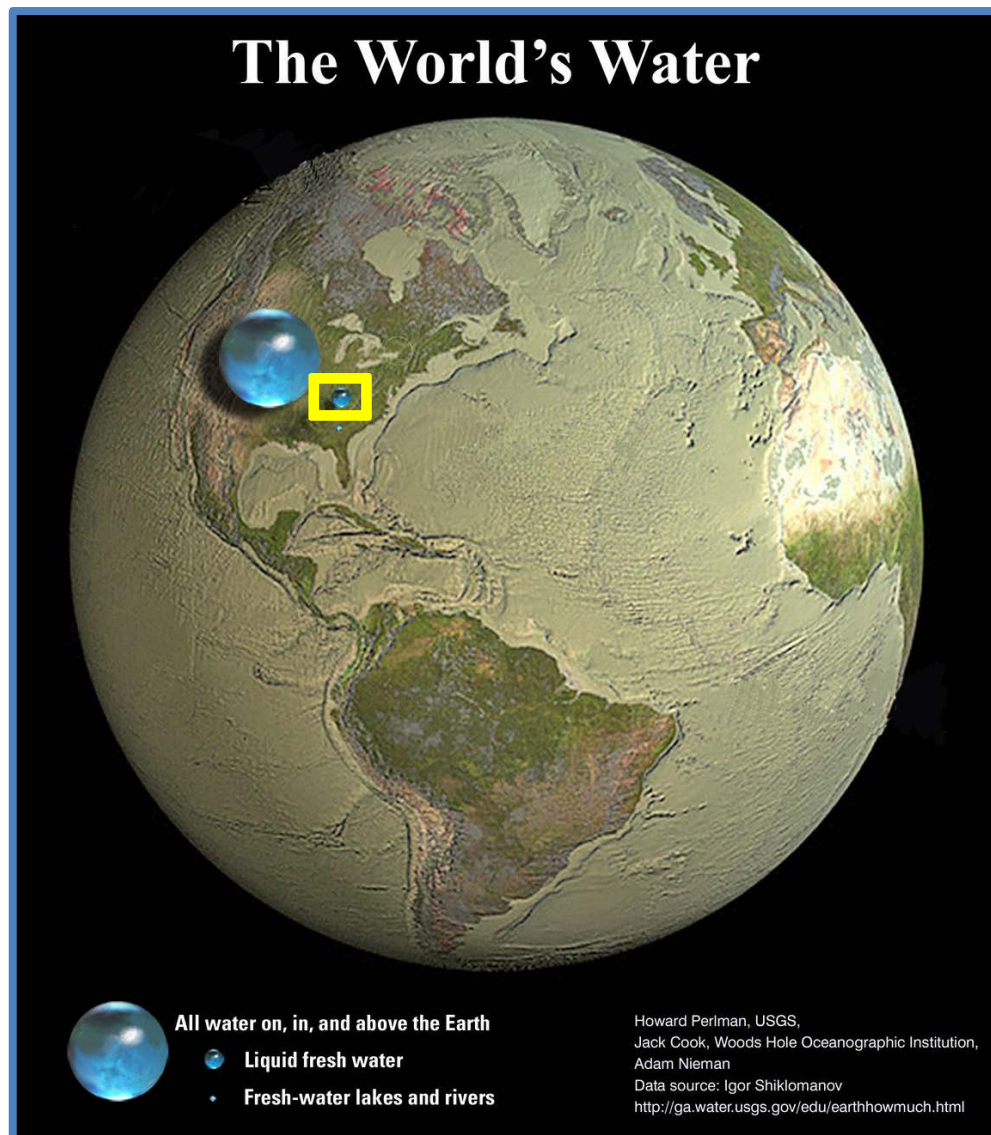
Hanford Mills Museum Activity Guide
Recommended for Grades 4-5

Courtesy of NASA

Water on Earth

The World's Water

All water on, in, and above the Earth

- Liquid fresh water
- Fresh-water lakes and rivers

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Jack Cook, Woods Hole Oceanographic Institution,
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Data source: Igor Shiklomanov
http://ga.water.usgs.gov/edu/earthhowmuch.html
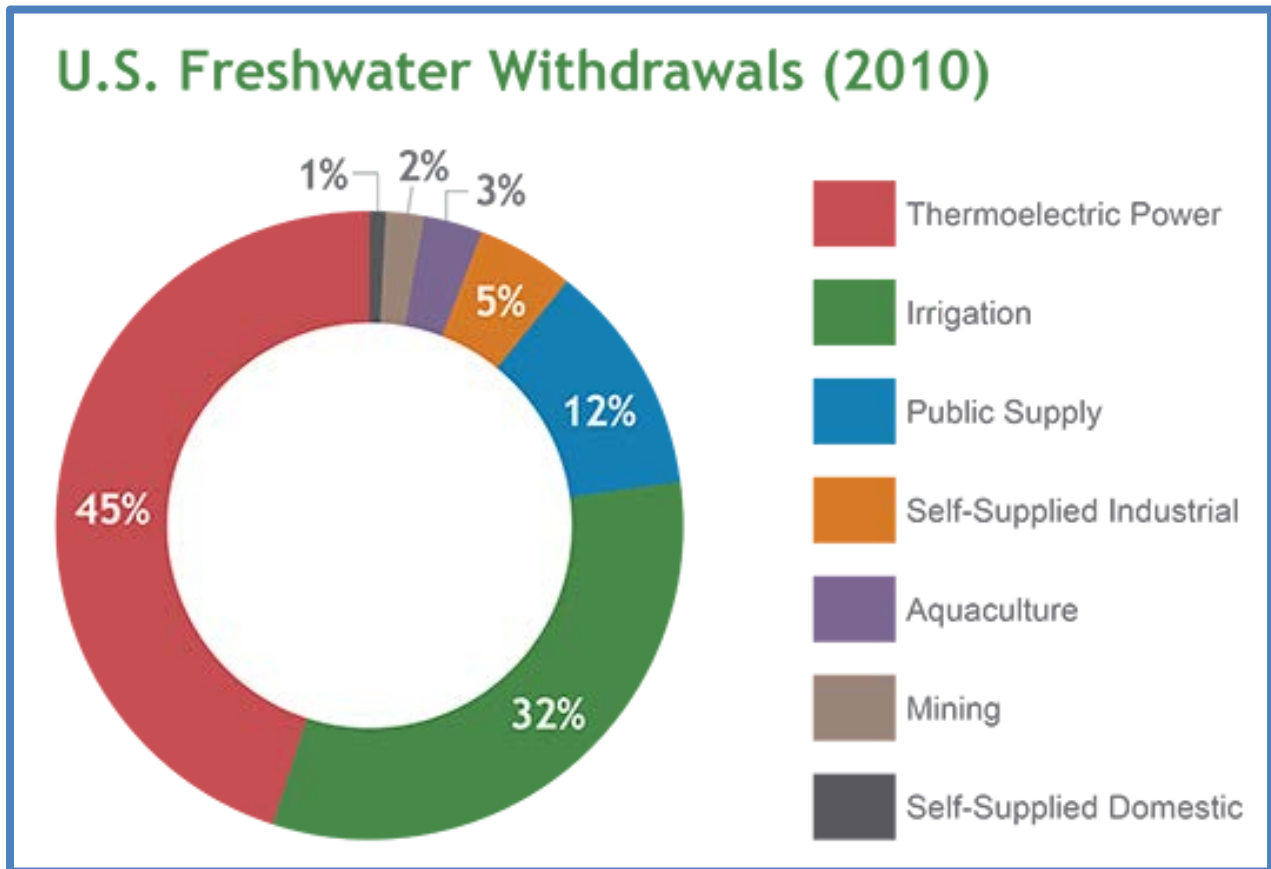
The boxed dot is all of the freshwater there is on Earth. Courtesy of USGS

Between the oceans, glaciers, lakes, and rivers, over 70% of the Earth is covered in water. But not all of that water is usable. Almost all of the earth's water is salt water (97.5%), which people cannot drink. Another 2% of the water is in glaciers at the North and South Pole, or other places that are hard to get to. That leaves only .5% of all water on the entire planet that is easy for us to drink.

How Do People Use Water?

U.S. Freshwater Withdrawals (2010)

1% 2% 3%

5%

12%

45%

32%

- Thermoelectric Power
- Irrigation
- Public Supply
- Self-Supplied Industrial
- Aquaculture
- Mining
- Self-Supplied Domestic

Courtesy of EPA

One of the most important things people use water for is drinking! But water is important for so much more than that. Farmers use water feed their animals and water their crops. Power plants and factories use water to make power and their products. Even schools use water to make sure there are enough bathrooms and drinking fountains for everyone! Just about everything people do involves water. Drinking and water people used from faucets and dinks only make up a small portion of water use.

What are Some Ways People can Save Water?

For people living in New York, water is usually pretty easy to find. The water in the state is also high quality, thanks to the efforts of people across the state, and the protection of the forest and watersheds that help to filter the water. But, that does not mean we can use water in a wastefully. Because there is only a certain amount of water in the world, what is here gets reused. When people waste water, or use more than they need, that water gets taken away from people who do need it. It needs to be cleaned which costs money and impacts the environment. Thankfully, there are many easy ways to reduce water use, including:

- Turning the water off when you brush your teeth
- Taking more showers and fewer baths
- Taking shorter showers. (5-10 minutes instead of 15-20 minutes)
- Use dirty or non-drinkable water to feed plants
- Use a bucket of water instead of a hose when you are washing a car or bike.

By cutting down on just these items, you could save over 40 gallons, or over 300 pounds!

Activity

How Much Water Did You Use Today?

Materials: A large glass or picture of water, 4 different sized sponges, an empty glass or bucket to collect water, paper towels.

Step 1: Fill up the glass with water and mark the water line with tape

Step 2: Think about how you use water every day. Start with the smallest sponge which represents brushing your teeth for two minutes with the water on. If you brush your teeth once a day, only dip it once and drain it into the bucket (step 3). If you brush twice, do it twice.

Step 3: Squeeze as much water out of the sponge as you can into the bowl.

Step 4: Repeat step 2 for each of the other sponges. The second largest one represents a five minute shower. If you took one, dunk and squeeze once for a 5 minute shower, twice for a 10 minute shower, and so on. The third biggest represents a bath, and the final sponge represents washing your bike or car with a hose. Place the sponges on a paper towel when finished. If you used any of these, go ahead and dip!

Step 5: With another piece of tape, mark the water level of the first glass. That was how much water you used today.

Step 6: Fill the glass back up to the starting point. This time, we are going to see what happens when we try to use less water. So, for brushing your teeth, we are going to say you only left it on for a couple of seconds to wet your brush. All you need to do this time is to dip the sponge and lightly squeeze it into the bucket. Same goes for the medium, large, and largest sponges. If you did take a shower, maybe you took a shorter one instead of a bath. There are lots of ways to save water.

Step 7: Mark the new water level with a second line of tape. Were you able to save water? Every little bit counts!

Bibliography

Environmental Protection Agency. "How We Use Water". Accessed
    4/17/20. https://www.epa.gov/watersense/how-we-use-water.

United States Geological Survey. "How Much Water Do You Use at
    Home?". Accessed 4/17/20. https://water.usgs.gov/edu/activity-
    percapita.html