

The Value of Water: A Water Conservation Lesson

Materials for educator: 1 apple, 1 knife, small cutting board

Time: 1.5 hours

Grades: 8th-12th

- Introduction: Depending where you live, you may experience water as an abundant resource that you don't think about very much because it flows out of your faucets and doesn't run out. Nevertheless, water is a finite resource that all of life depends on. In this lesson we'll take a deeper look at water issues around the world and then think about our own water use.
- Teacher does "earth as an apple" activity to help students conceptualize the finite amount of available freshwater on earth
<https://www.youtube.com/watch?v=S8cD4M9Ayq4>
 - First have students make a prediction about what percentage of the apple will represent the freshwater available on earth.
 - Have students reflect on the results: How close was their prediction? How do they feel after this depiction of how limited freshwater is?
 - Does anyone know where their drinking water comes from? (Teacher research this ahead of time)
- Watch the *Water Crisis* episode of "Explained" (18 mins)
<https://www.youtube.com/watch?v=C65iqOSCZOY>
 - Reflection & discussion questions for students:
 - What stood out to you?
 - Do you or your family have personal experience with water scarcity?
 - What do you think about water costing more and products being priced according to the amount of water used? What are some pros and cons?
 - What do you think we should we do to protect fresh water?
- Invite students to take a closer look at their relationships with water. Ask students to share:
 - What's a body of water that is special to you? Why is it special?
 - What do you know about where your drinking water come from? Have you thought about this before? (Class or teacher can look up source based on location/water utility.)
 - In the U.S. each person **directly** uses 100 gallons of water/day on average. That's a lot and the second highest level of consumption in the world!
 - What are the direct ways you use water versus the indirect ways? (Washing hands = direct vs. the water it takes to grow the wheat in your bread = indirect)

- Teacher introduces concept of virtual water: the amount of water used to produce products we consume (everything from food to clothing). We aren't just using our own water, the goods we import affects the water cycles in other countries.
- Water audit
 - Ask each student to take 10 minutes do complete an online water audit to get a sense of how much water they use daily (they can calculate per person or per household) <https://www.watercalculator.org/wfc2/q/household/>
 - Ask students to spend an additional 5-10 minutes reading the tips associated with their results.
 - Reflect on results in small groups
 - Ask students to share what they can do to reduce your water consumption. Is it easier to reduce direct or virtual water use?
- How does measurable water conservation happen?
 - What are examples of personal changes? (Taking shorter showers or collecting water in rain barrel to water your garden.)
 - What are some examples of structural changes/changes at a larger scale?
 - One example is businesses such as farms, sports stadiums and golf courses can use non-potable water, such as [recycled water](#) (treated and recycled wastewater) to irrigate, instead of drinking quality water.
- Have students share their top takeaways and action steps for water conservation