

Activity 5 - WE-LAB - From the Sky to Your Cup

Activity Description/Overview

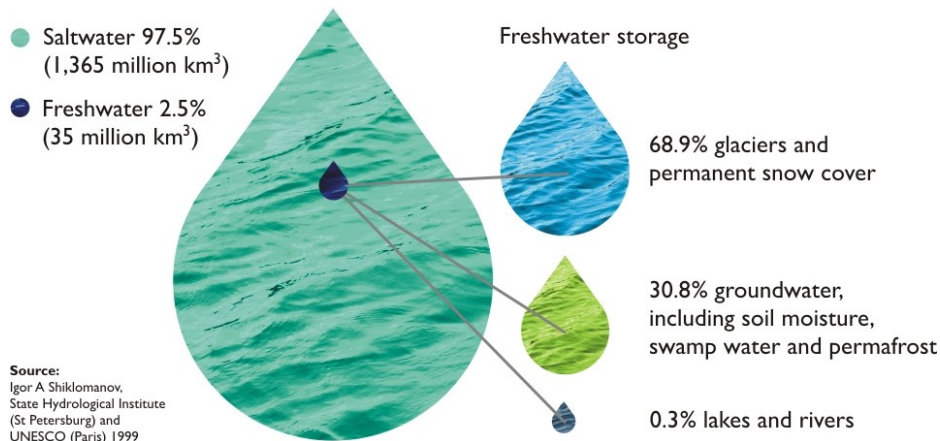
Less than 1% of all the water on Earth is useable freshwater for human consumption, and it is only naturally replenished by rain and snow. But how does water get from the sky to your cup? Furthermore, how do we purify water to make it safe for drinking? Methods of water purification include physical processes (filtration, sedimentation, and distillation); biological processes (slow sand filters, biologically active carbon); and chemical processes (flocculation, chlorination, electromagnetic radiation like UV light). In this activity students will experiment with solar distillation and explore other ways in which water is purified.

Research

This activity has two parts: an experiment with solar distillation and then further research on other methods of water purification. Begin by having students research and discuss the importance of clean water, as well as where it comes from and how we get it. Then look into the various methods of purifying the water to make it acceptable for human consumption. How is energy involved in the various purification processes? In part one, solar energy and the hydrological cycle itself is used to make clean water from dirty water.

A World of Salt

Global saltwater and freshwater estimates



Take Action

Part 1: After researching various ways in which humans get their fresh drinking water, complete this activity and solar distillation experiment: <http://www.peacecorps.gov/wws/lesson-plans/building-solar-still/>

- Watch this video to see how Peace Corps Volunteers use solar distillation to help bring freshwater to Cape Verde: <http://www.peacecorps.gov/wws/videos/sol-soul/>
- Answer the questions in steps 1-6 on Day 1 as well as questions 1-4 on Day 2 of the activity procedures.

Part 2: Research other methods in which water is purified and create a PowerPoint to present to the class. You can focus on the methods listed above or find other ways in which water is purified.

- Provide examples of where these methods are used
- Can waste water be purified by these methods too?

Results

Submit the following items to the program coordinator:

- Monthly challenge submission form describing how students researched water purification and experimented with solar distillation.
- Pictures or video of the experiment, students' reflections, and copies of the presentations.