

Development Education Activity: Water

How much of the world's water is drinkable?



You will need:

- A one-litre container of water, e.g. a clear plastic 1-litre water bottle
- A measuring jug showing millilitres
- Two smaller bowls, preferably glass
- An eye dropper (optional)
- Salt (optional)

Introduction:

Discuss where our drinking water comes from and how does it get to us. A globe or a map will show us that 70% of the world's surface is covered with water.

Methodology:

- Measure out 1 litre of water (1,000 ml). Tell the students that this represents all of the water on the Earth. Ask them to estimate how much of this is freshwater, and listen to a number of guesses.
- The answer is just 3%, represented by 30 ml of the water in the bottle.
- Pour 30 ml of water into the measuring jug to represent the world's freshwater. The rest is salt water - you can add salt to the big container for effect if you wish and put it away.
- Pour the 30 ml of freshwater into a glass bowl.
- Discuss how much of this the students think is frozen – at the poles, or in ice or snow? Take some examples. (Answer - about 80%, or 24 ml.)
- Pour 24 ml of the 30 ml into the measuring jug and then into another glass bowl to represent the frozen water.
- The remaining 6 ml of water in the bowl (around 0.6% of the total) represents non-frozen freshwater.
- Ask your students if they think all of the remaining water is available, or is some of it trapped? (Answer: 75% or 4.5 ml of the remaining 6 ml of water is underground.)
- Pour approximately 4.5 ml – about three quarters of the 6 ml – into another bowl. You are left with just 1.5 ml of water.
- Then discuss what percentage of the world's remaining freshwater is drinkable, i.e. not polluted or otherwise unavailable for use? Would it be 25% of this? Or 50%? Take some estimates.
- Then, take the dish, and using the eyedropper (the tip of your finger is just as good), remove a single drop of water (0.003 ml) from the dish and drop it into someone's hand. This represents clean, fresh surface water (from lakes, streams and accessible reservoirs) which is drinkable. This is approximately 0.00003% of the total!
- Think back to the estimates we made for drinkable water at the beginning of the exercise!

Concluding activities:

- Discuss whether there is enough water available for the current population.
- Discuss water distribution on earth.
- Discuss what we can do to keep from wasting water.