A DROP IN THE BUCKET - Teacher Copy

Activity:

1. The 1,000 ml represents all water on Earth. Where is most of the water found on the planet?

   Hint: It is nearly 97% of Earth's water!

Label The Ocean = 97% of Earth's water - draw image of ocean

- 97%*1,000 = 970 ml
- How much left? How can you calculate?
- 3%*1,000 or 1,000-970 or other?
- Remaining water = 30 ml
- Remove 30 ml from 1,000 ml.
- Shake salt into water remaining in 1,000 ml container and label 'salt water'

2. The remaining 3% is the amount of fresh water on Earth. Where do you think most of the fresh water is found on Earth?

   Hint: 80% of fresh water on Earth is in this state of matter.

Frozen Fresh Water = 2.4% of Earth's Water - draw image.

- 80%*30 ml = 24 ml.
- How much left? How can you calculate?
- 20%*30 ml or 30 ml – 24 ml = 6 ml
- Remove 6 ml = non-frozen fresh water.
- Set aside remaining 24 ml and label as frozen fresh water.

3. Unfortunately, 75% of Earth's liquid fresh water is still inaccessible for human use! Where do you think this might be located?

   Hint: Take a breath, think deep, up high and look below the plants outside.

Label Liquid Fresh Water = 0.6% of Earth's Water

- 75%*6 ml= 4.5 ml
- Before you draw image: 95% of this water is too deep underground to easily access, in other living things, the soil and the atmosphere.
- How much left? How can you calculate?
- 25%*6ml or 6 ml – 4.5 ml = 1.5 ml (@ 0.6%) left represents Earth's unfrozen, fresh water flowing at any given time over Earth's surface – i.e., lakes, streams, human water systems.

4. Unfortunately, even most of this surface water – 98% - is not safe or unavailable for humans to use for drinking or growing food.

   Why do you think this might be?

Liquid, Potable Fresh Water = 0.003% of Earth's Water

- 98%*1.5 ml= 1.47 ml
- Before you draw image: Some of this water is polluted or too salty but most of it is in large bodies of water humans have not yet found the capacity to take – 21% of this water is in Great Lakes & another 22% in Lake Biakal!
- How much left? How can you calculate?
- Use an pipette or tip of a pencil to remove 1 drop. Let the drop fall on the table, in a cup or on a plate. This represents the amount of water on Earth that humans can drink = 0.003% tsp*0.005 = 0.0015 tsp/48 tsp = 0.00003% or 0.003%!