



A Lot or a Little?

How much of Earth's water is drinkable?

Take a look at a globe or a map of Earth. Wow, that's a lot of water. In fact, the oceans cover 70 percent of our planet. So what's the big deal about conserving water? The key question is, What percentage of Earth's water is drinkable?

Make a prediction

What percentage of Earth's water is drinkable? Make a prediction and record it. I think _____ percent of Earth's water is drinkable.

Do the activity

Students are divided into five teams:

- > Total Water
- > Fresh Water
- > Unavailable Water
- > Unusable Water
- > Drinkable Water

Follow along and fill in your handout as each team does its part of the investigation in the order listed.

1. **Total Water** team: Make a label for the 20-liter container that reads *Total Water on Earth*. This container doesn't have to be filled with water—you can use your imagination.
2. **Fresh Water** team: Either remove 500 milliliters (1/2 liter) of water from the large container, or, if the large container is empty, fill a liter bottle half full with water. It's easier for the whole group to see if you put some blue food coloring in the water.

What does this water represent? Remember your team's name. Make a label for the bottle. What does your label say?

3. **Total Water** team: Now that the *Fresh Water* team has removed (or pretended to remove) the 500 milliliters from your container, that container no longer represents the total water on the planet.

After the fresh water has been removed, what is left? Think about and discuss it. You'll need to change the label on your 20-liter container—what will your new label say?

Everyone: Do you want to change your prediction for the percentage of Earth's total water that's drinkable? If so, change it to _____ percent.

MATERIALS

For the whole class

- > 20-liter container (such as a trash can, ten 2-liter bottles, or a 5-gallon water cooler bottle)
- > 1-liter container
- > 500-ml beakers
- > Pipette
- > Clear plastic cup
- > Six labels
- > Blue food coloring (optional)



4. **Unavailable Water** team: You'll need the beaker and the *Fresh Water* container. Pour 375 milliliters from the 500 milliliters (1/2 liter) of fresh water into the beaker.

What does the water in the beaker represent? Think about your team name and make your label. What does your label say?

Everyone: So, what do you think "unavailable water" means?

5. **Unusable Water** team: Using a pipette, remove 0.6 milliliters (5 drops!) from the *Fresh Water* liter bottle and put it in a plastic cup. Set it aside. This leaves 124.4 milliliters of the 125 milliliters of water remaining in the *Fresh Water* liter bottle.

What do you think the water remaining in the liter bottle represents? Think about your team name and make your label. What does your label say?

Everyone: So, what do you think "unusable water" means?

6. **Drinkable Water** team: The plastic cup set aside by the *Unusable Water* team belongs to your team.

How are you going to label this cup?

Everyone: Now, here's one more chance to change your prediction of the percentage of Earth's total water that's drinkable.

_____ percent

Interpret your results

1. What do the investigation results show about how we should use Earth's water?
