

# How Much Water Do We Really Have?

## Lesson plan for senior classes

**WALT:** What proportion of the earth's water is available for human use.

**LO:** To enable the children to gain an understanding, through use of visual supports, of the proportion of the Earth's water that is available for human consumption.

### Resources:

Two 2-litre bottles full of water

Measuring cups (for measuring amounts ranging from 50 ml to 14.5 ml)

Food coloring (dark colour preferable)

Five clear containers (to hold water ranging in volume from 2L to 0.5 ml)

### Introduction:

Lead children in a discussion on the Earth's water. Brainstorm any facts that they know about the Earth's water, e.g. how much of the planet is underwater, rainfall, etc. Children invited to guess what proportion of the Earth's water is useable for human consumption. Remind them to be aware of salt v. freshwater. Have them record their estimate/setting on a class estimate and record it on the board. Fill the first 2L bottle with water and food colouring. Invite a child to the top of the room. Explain that the 2L bottle represents all the water in the world. Have the child pour what they consider the correct proportion of water that would represent the amount of usable water into the clear plastic container. When they have finished, ask the class for opinions. Is it too much? Too little? Adjust until the class is broadly in agreement and set aside.

### Main body:

Tell the children that they will now see the correct representation of water on Earth that is actually available for human consumption. Prepare the 2L bottle with water and food colouring as before.

1-Pour 1.95L of it into the largest of the clear containers and label it as 'salt water'.

2-Show them how little water is left. This 50ml is all the available fresh water in the world. Do they think this is all available for us to use? Why/not?

3-Pour 35 ml of this water into another container and label it 'ice caps'. This water is frozen (for now) and as such is unavailable to us.

4-Pour 14.5ml into another container and label it 'air and soil'. This water is either suspended in the atmosphere, in the soil, or trapped deep under the ground, and as such is unavailable to us.

5-Hold up the 0.5ml of water left (a few drops at this stage). This represents the proportion of water available to all of us on Earth for use.

### Conclusion:

Discuss findings. Were the children surprised? Why/not? Has this changed their feelings towards the importance of water conservation?

**Activity:**

4<sup>th</sup>/5<sup>th</sup> classes: Have children create an infographic communicating the information. Show examples of good infographics to support.

5<sup>th</sup>/6<sup>th</sup> classes: Have children write up the demonstration, including measurements.

EXTENSION: Have children convert the data to percentages of the Earth's water.

**Assessment:**

Self-assessment: Have children compare and contrast their estimates and their knowledge at end of lesson

Teacher assessment: Examination of work

**Linkage:**

Maths-data, measures, percentages

Art-Graphic design