

Lesson 1

Water Water Everywhere



EXPERIMENT

Liquid to solid, liquid to vapour

AIM

The purpose of this experiment is to help pupils understand that low temperatures are required for freezing and that water expands when it is frozen.

YOU WILL NEED

- A small clear, rigid plastic bottle that will stand in your freezer
- Water
- A small piece of tin foil to cover top of bottle
- Access to a freezer

METHOD

- 1 Fill the bottle to the brim with water.
- 2 Make a loose-fitting cap with tin foil.
- 3 Put the bottle in the freezer and leave it until the water is frozen solid.
- 4 When you look at it again, you will see that the ice has pushed up the cap.

RESULTS

When you examine the bottle after coming out of the freezer, you will see that the ice has pushed up the cap. This happens because frozen water (ice) takes up more space than liquid water. Give pupils examples of where this happens in real world e.g. pipes bursting in the winter.