

Make water pure

Concept—Wasting water is a waste of energy



Caution:
Supervision
required

CURRICULUM LINK:

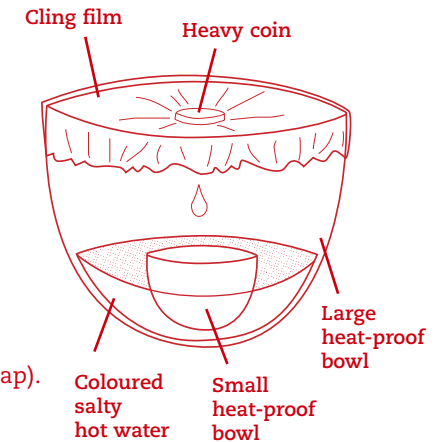
Geography Curriculum and Science Curriculum—Environmental Awareness and Care strand

Experiment—Caution: boiling water, assistance required!

You will need:

1. Large heat-proof bowl
2. Salt
3. Food colouring
4. Cling film
5. Small heat-proof bowl
6. Heavy coin

1. Carefully pour about 2cm of boiling water into the large bowl.
2. Stir in 3 tablespoons of salt and some food colouring.
3. Stand the smaller bowl into the bowl of boiling water.
4. Cover the large bowl with the cling film.
5. Place the coin in the middle of the cling film (if the cling film can't hold it you may need to use stronger plastic wrap).
6. After a couple of hours some water will have collected in the smaller bowl.



The water collected in the smaller bowl should be clear and not salty. You have distilled pure water from the salty coloured water in the bigger bowl. The water vapour from the boiling salty water rises up to the plastic cover, it cools, condenses and forms water droplets, which run into the smaller bowl. This process is called distillation.

Many countries don't have a ready supply of clean water—it can take a lot of energy to make clean drinking water. In this experiment we needed energy to heat the water in the large bowl. Rain is also made in a type of distillation process: the energy of the sun causes water to evaporate. The warm water vapour rises and meets colder air and condenses to form clouds. When the water droplets in the clouds get too heavy they fall as rain. (See the water cycle experiment on p. 38).

