

B4 ACTIVITY 6: SIMULATING OCEAN CURRENTS

Background

This activity provides a visual image of ocean currents that occur because different areas of water in the oceans are different temperatures. Food colourings are used to create a drift path, so that students can observe the convection currents that are set up.

Equipment required:

- Shallow glass trough or clear lunch box
- Two different food colourings
- Supports for the trough
- Hot and cold tap water
- Beaker to fit snugly under trough (as in Figure 27)

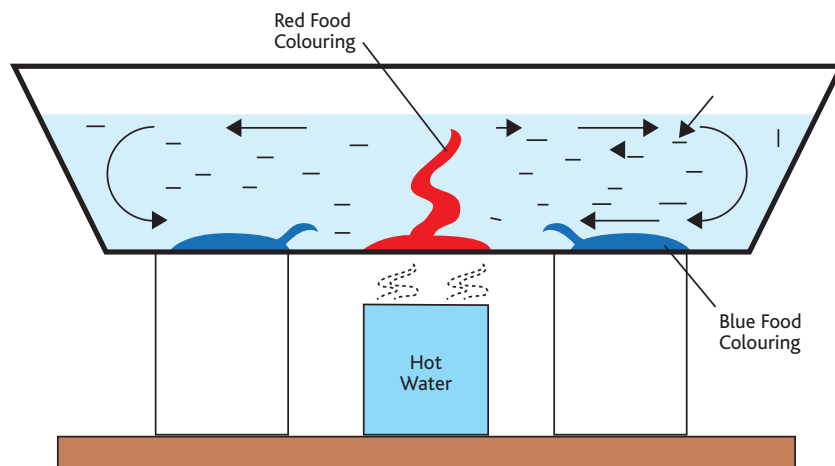


Figure 27

What to do:

1. Place the trough on supports.
2. Pour cold water into the trough until it is three-quarters full and allow the water to settle.
 - ② *Why is this settling important?*
3. Using a straw or long dropper, carefully place two drops of one of the food colourings at the bottom of the trough in the middle. This is shown as red food colouring in Figure 27.
4. Using a different straw carefully place two drops of the other food colouring at each of the two extreme ends of the container. This is shown as dark blue food colouring in Figure 27.
 - ② *What do you expect to happen when hot water is placed underneath the trough as in Figure 29?*
5. Place a beaker of hot water under trough just below the location of the first food colouring as shown in Figure 29.
 - ② *Are you surprised by what you observe?*
 - ② *Can you explain why this happened?*