Plants and Water

Age 8 + years

Plants take in water through their roots and lose it through their leaves. A tree can move 100 litres of water in a day. Carry out these two simple experiments to investigate water movement in plants - find out how water moves around a plant and where the water goes.

How does the water move around?

You will need: Jar or glass of water, stick of celery, food colouring (red or blue), straw (ideally two with different widths)

1. Pour 1cm of water into the glass or jar, add a teaspoon of food colouring and mix.
2. Cut the end off the celery and straight away put it into the jar with the cut end in the water. Look at the celery each day to see where the blue water goes – how long does it take to reach the top of the celery?
3. Add the straws to the jar too – the water rises up the celery and straws using capillary action and the smaller the tube the higher the water rises, test this to see what happens with the straws.

Tip

If you don't have a straw use an empty tube from and old biro.

Once you have finished the experiment, cut the celery and you will be able to see the xylem (tiny tubes in a stem that the water travels up).

Where does the water go?

You will need: A plant, plastic bag, elastic band/hair bobble or string

1. Put a plastic bag over one or a few green leaves on a plant and tie it firmly around the stem using an elastic band.
2. After about 6 hours is there any water on the inside of the bag?

Water passes out throughout the leaf (from stomata – tiny pores on lower surface of the leaf) and appears as droplets of condensation inside the bag. This is called transpiration.

Find out what the water which does not get transpired, is used for by the plant.