How Plants Grow — Worksheet 2A

Name: _____ **Date:** _____

Plan and carry out an experiment to show how water is transported within plants. Use the equipment listed below.

Equipment

celery stick (with leaves on if available)
water
plastic container
food dye

Method

1. Pour some water into the container.
2. Add food dye to the water, a few drops at a time, until it is very brightly coloured.
3. Place the celery in the coloured water.
4. After a couple of hours, look carefully at your celery. You may need to cut into it to notice any changes.

Prediction *(What do you think will happen?)*

Diagram *(Draw and label a picture of your experiment once it is set up.)*

Observations *(What can you see? What do you notice happening?)*

Conclusion *(Why do you think this happened? What might happen if you leave the experiment running for longer?)*

How Plants Grow — Worksheet 2B

Name: _____ **Date:** _____

Plan and carry out an experiment to show how water is transported within plants. Use the equipment listed below.

Equipment

celery stick (with leaves on if available) | water

plastic container | food dye

Method *(How will you set up and carry out your experiment? You could write a numbered list.)*

Prediction *(What do you think will happen?)*

Diagram *(Draw and label a picture of your experiment once it is set up.)*

Observations *(What can you see? What do you notice happening?)*

Conclusion *(Why do you think this happened? What might happen if you leave the experiment running for longer?)*

How Plants Grow

Worksheet 2C

Name: _____ **Date:** _____

Plan and carry out an experiment to show how water is transported within plants. Use the equipment listed below.

Equipment

- celery stick (with leaves on if available)
- two plastic containers
- two different colours of food dye
- water
- knife or scissors

Method

1. Pour an equal amount of water into the two containers.
2. Add one colour of food dye to one of the containers, a few drops at a time, until the liquid is brightly coloured. Repeat, using a different colour of food dye in the other container.
3. Carefully cut up the centre of the celery stick, starting from the base. Stop when you are around half way up the stick of celery.
4. Carefully place one side of the cut celery in one container, and the other side in the other container.
5. Check on your experiment, looking for changes every couple of hours. If you leave it overnight you should notice some dramatic changes!

Prediction *(What do you think will happen?)*

Diagram *(Draw and label a picture of your experiment once it is set up.)*

Observations *(What can you see? What do you notice happening?)*

Conclusion *(Why do you think this happened? What might happen if you leave the experiment running for longer?)*

Plants take in water by a process called 'capillary action'. Water naturally climbs up very small spaces such as the tiny tubes in the roots and stems of plants. Follow the instructions below to see how this process can make water travel 'uphill'!

You will need:

- two glasses or clear beakers
- water
- food dye
- kitchen roll

Fill one of the glasses with water.

Add food dye to the water (roughly 1-2 teaspoons) until it is brightly coloured.

Take a piece of kitchen roll (2-3 squares in length) and gently twist it to make a 'rope'.

Use some old books or boxes to raise the empty glass. If you want the capillary action to happen more quickly, only raise the empty glass a few millimetres above the full glass.

Place either end of your kitchen roll 'rope' fully into each glass. The liquid will begin to rise up through the paper due to capillary action! What do you think will happen eventually?