

## Observe water transport in plants

**Subject(s):** Environment, Science & Technology

**Grade(s):** 2–3

**Key Stage:** 1

**Learning intention(s):**

Students will understand how water moves through a plant by observing how dye-stained water travels up the plant stem and causes the leaves to change colour.

**Mapping to curriculum:**

**Science**

- SIS102 Participate in guided investigations
- SIS103 Use non-standard measurements to collect data and make simple statements/generalisations based on the information
- SSIS104 Talk about observations and share ideas in a variety of ways
- ST101 Recognise that science involves being curious, making observations, and asking questions about familiar objects and events

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## Lesson Instructions

**Materials required**

- Leaves
- Scissors
- Clear cups
- Water
- Red food colouring
- Observation sheet

## Steps

1. Go outside and collect a variety of leaves.
2. Cut the bottom of each leaf stem and place the leaves in a clear cup filled one-third with water.
3. Add red food colouring to the water. Make the water a dark red to make it easier to see any changes in the leaves.
4. Look closely at the leaves and write down what you see on Day 1.
5. Keep observing the leaves for the next two days. Record your observations each day on your observation sheet.



Source: <https://growinghealthykids.co.uk/how-to-make-compost-in-a-bottle/>



Source: <https://buggyandbuddy.com/wp-content/uploads/2014/03/round-in-red.jpg>

## What You Should Notice

You are likely see the red colour slowly move up through the leaf. This happens because the coloured water is traveling through the leaf's xylem tubes, which transport water and minerals throughout the plant.



Source: <https://buggyandbuddy.com/wp-content/uploads/2014/03/3-close.png>

## Extension Activity

Make leaf prints or rubbings to compare shapes and patterns:

<https://www.youtube.com/watch?v=ZendMjhVoMI>

**Water Transport in Plants  
Observation Sheet**

**Name:**

**Day 1**

**Day 2**

**Day 3**