

Water uptake in plants

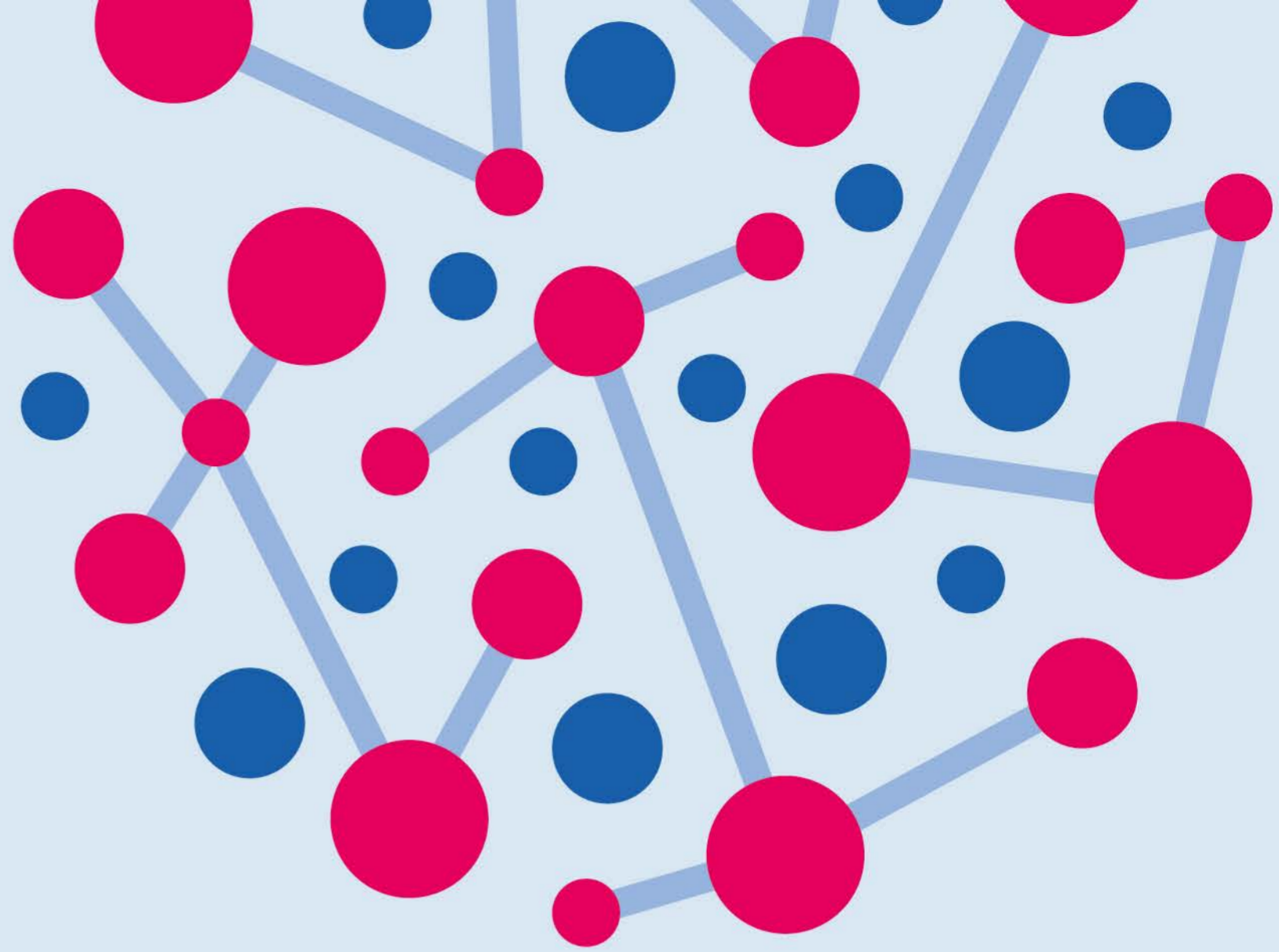
At-home science activity



You will need:

- Cuttings from a plant or a hedge, such as privet shoots
- A lamp that gives off heat
- Scissors
- Three glasses
- Water
- Vegetable oil





- 1. Remove leaves from the bottom of two privet shoots and ensure that both have the same number of leaves remaining.**
- 2. Fill three glasses with water and place the shoots inside two of the glasses.**
- 3. Make sure that the water levels are equal in the three glasses—adjust if necessary.**

4. Add a small amount of vegetable oil to each glass to form a layer on top of the water.

5. Place one of the glasses with shoots in front of an electric lamp.

6. Leave the glasses for 8 hours and then come back to compare the water levels. What do you notice?



- Both light and heat affect the rate at which water is drawn up a plant shoot.
- The plant shoots took up water for photosynthesis and to replace water lost through transpiration (the evaporation of water from plants, especially the leaves).
- The plant in front of the lamp got more light, which increased the rate of photosynthesis, plus more heat, which increased the evaporation of water from the leaves.
- The empty glass demonstrated that only the glasses with shoots in them lost water.

