Root hairs and water: answers and notes

What your child practised: explaining that plants take in water from the soil through their roots, using tiny root hairs (Year 3 science: how water is transported in plants).

Page 1 · Warm up

Plants take in water through their **roots**.

Page 2 · Try it together

The sponge soaks up water and the wet part climbs a little way up (often 1 to 3 cm). The lid soaks up none. Like a root covered in root hairs, the sponge has lots of tiny places for water to go in.

Page 2 · A. Label the plant

1 **leaf** · 2 **stem** · 3 **root** · 4 **root hair**

Page 3 · B. True or false

false · **true** · **false** · **true**

Page 3 · C. Fill the gaps

soil · **root hairs** · **roots** · **more**

Page 3 · D. The weed

Without its root hairs, the weed has far fewer places to take in water, so it gets less water until new root hairs grow. It may droop for a while.

Challenge: No, Sam isn't right. Plants take in water through their **roots**, using root hairs in the soil. If he only sprays the leaves, the soil dries out and the plant will droop (wilt). He should water the soil.

Watch out for

- **"Plants drink through their leaves or flowers."** A very common idea, because we see rain landing on leaves. Ask: "Where does the rain go after it lands?" (It drips down and soaks into the soil, where the roots take it in.)
- **Thinking root hairs are big.** They are tiny, finer than a hair on your head. The fuzzy look of fine roots comes from thousands of them.
- **Forgetting the other job of roots:** they also hold the plant firmly in the ground.

Going further (5 minutes, no paper)

- **Root hunt:** next time you pull up a weed, shake off the soil gently and look for the fine, fuzzy roots.
- **Watering check:** let your child water a plant at home, and ask them to explain where the water needs to go and why.
- **In the game:** Chapter 2, The Stem Highway, follows the water up the stem to the leaves.