Name _____ Date _____

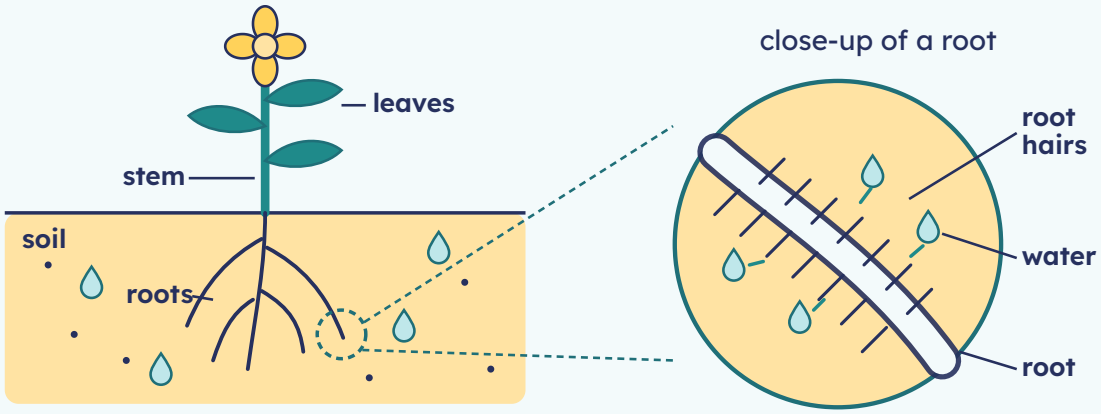
Root hairs and water

Plants take in water from the soil through their roots.

1 Learn



Plants can't pick up a cup! They take in water through their **roots**. Roots are covered in tiny **root hairs** that soak up water from the soil, a bit like a sponge.



Worked example: Leo waters his sunflower. How does the water get into the plant?

1. The water soaks down into the **soil**.
2. The tiny **root hairs** touch the wet soil and take in the water.
3. The water moves into the **roots**, ready to travel up the plant.

So the water goes in through the **roots**, not through the leaves or the flower.

Flip's tip: water the **soil**, not the leaves. Lots of tiny root hairs give the root more places to soak up water.

Warm up: fill the gap. Plants take in water through their _____.

Grown-ups: read Flip's words aloud and point to each part of the picture. If you have a plant or a weed with its roots showing, look at the fine, fuzzy roots together: those are where most water goes in.

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2 Try it together a child and a grown-up, about 10 minutes



Sponge root test

You need: a dry kitchen sponge, a smooth plastic lid or spoon, a saucer or plate, a little water and a ruler.

1. Pour a little water into the saucer, just enough to cover the bottom.
2. Stand the dry sponge on its end in the water. Stand the lid or spoon next to it.
3. Watch for 2 minutes. Does the water climb up the sponge? Does it climb up the lid?
4. Measure how high the wet part of the sponge goes. Write what you saw.

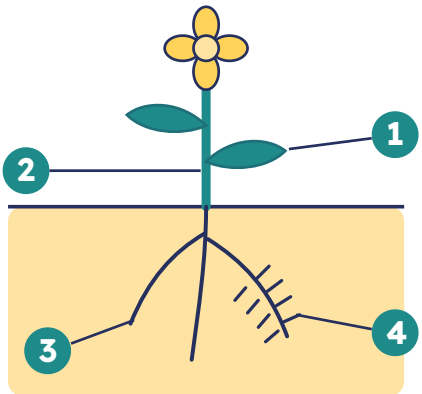
Thing	Did it soak up water? (yes or no)	How high? (cm)
Sponge		
Lid or spoon		

What I found out:

Grown-ups: the sponge is full of tiny gaps that pull water in, like a root covered in root hairs. The smooth lid has nowhere for water to go. Ask: "Which one is more like a root with lots of root hairs?"

3 Practise

A. Label the plant. Use the words in the box.



stem | root hair | leaf | root

1 _____

2 _____

3 _____

4 _____

Root hairs and water

Name _____ Date _____

B. True or false? Draw a ring round your answer.

Plants take in water through their flowers.	**true**	**false**
Root hairs soak up water from the soil.	**true**	**false**
Spraying the leaves is the best way to give a plant water.	**true**	**false**
Roots also hold the plant firmly in the ground.	**true**	**false**

C. Fill the gaps. Use the words in the box.

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

When it rains, water soaks into the _____ .

Tiny _____ take in the water.

The water moves into the _____ .

Lots of root hairs help a root take in _____ water.

D. Mia pulls up a weed roughly, and most of its tiny root hairs break off. She plants it again. Why might it struggle to get enough water?

Challenge

Sam says, "Plants drink through their leaves, so I'll spray the leaves and never water the soil." Is Sam right? What would you tell him?

I can… Tick when you can.

- ☐ say that plants take in water through their roots
- ☐ explain that tiny root hairs soak up water from the soil
- ☐ explain why we water the soil, not the leaves