

What's in Soil? · Conversation & classroom guide

Learning with a grown-up · Ages 4–8 · Flexible participation

What could we find beneath a plant?

Learning aim: Name two soil components and distinguish the enlarged drawing from the real ground.

A five-minute conversation

Imagine looking through the ground instead of digging it up. Invite your child to find the plant's roots, a worm and a piece of old leaf. Soil contains mineral pieces and material from once-living things, as well as water, air and living organisms. The enlarged view helps us notice spaces between soil pieces. Some space holds water; some holds invisible air. Read one label at a time and let your child choose what to explore next.

Remember: Choose one comfortable way to notice or describe a detail. What do you already wonder about this picture?

Start here: Find a root and a worm, with a clue or description if helpful.

Explore further: Compare a living root, an old leaf piece and a mineral bit. What is different about them?

Which parts of the picture are alive?

Answer cue: The plant, including its roots, and the worm are living things. The old leaf fragments are no longer alive.

Where are air and water found in the enlarged view?

Answer cue: In spaces between soil pieces. They are not separate underground layers; air itself is invisible.

Is soil only tiny pieces of rock? What else can you find?

Answer cue: No. The picture also shows old plant material, roots and a worm, plus spaces holding water and air.

Keep the idea clear

This is a simplified cutaway, with an enlarged detail. Real soils vary and do not all contain the same amounts of each ingredient. Plants use sunlight to make food; soil is not food that roots eat.

Try: Make a view beneath the surface

Materials: The poster and an adult; optional paper and drawing materials. Describing or pointing is enough.

1. Look at the poster's surface and enlarged detail together.
2. Draw or describe a plant with roots below it; add old leaf pieces and spaces between soil pieces.
3. Explain which parts came from the picture and which details you imagined. No digging or collecting is needed.

What this can show: The drawing is a model. Air and water occupy spaces, not neat separate layers below the soil.

Return to it: Look back at your model after the Plant Parts lesson. What job could you add beside the roots?

What's in Soil? · In the classroom

A 20-minute classroom lesson

Prepare: Read the poster, answer cues and misconception note. Prepare only the materials named in the activity; keep a picture-only or described option available.

Words to explore

soil — A mixture that can include mineral pieces, material from once-living things, water, air and organisms.

model — A simplified way to show an idea.

3 min · Reconnect and wonder: What could we find beneath a plant? Invite an initial idea; record it without marking it right or wrong.

4 min · Look together: Find a root and a worm, with a clue or description if helpful. Introduce soil using the poster.

8 min · Investigate or represent: Use “Make a view beneath the surface.” Let pairs take turns noticing and recording, with adult help and the activity’s stated boundaries.

5 min · Explain and return: Ask the core check: What could we find beneath a plant? Accept pointing, words, signing or a drawing. If the learner is ready, offer this optional extension: Compare a living root, an old leaf piece and a mineral bit. What is different about them?

Understanding check: What could we find beneath a plant?

Answer guidance: The pictured soil contains mineral pieces, old leaf material, living roots and a worm, with air and water in spaces between pieces. The drawing is a model. Air and water occupy spaces, not neat separate layers below the soil.

Accept pointing, speech, signing, a drawing or adult dictation. Describe the illustration and use labels/position as well as color. Offer one contrast first, and use the extension when the learner is ready.

A response to keep

My idea or question

What I noticed (date/time if useful)

What I think now / my next question

<https://kiddos.ai/learn/learning-with-gina-and-ollie/whats-in-soil>

Related story: How Does It Grow? — Follow Gina’s seed-to-snack question, then return to the plant observations.

Our discovery record

Use words, marks, a drawing or an adult's notes. Keep this page with you; nothing needs to be uploaded.

Date / time (if useful): _____

My question or idea

What I noticed

What I think now

What I want to explore next

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