

Soil Story

Use investigation evidence to explain what soil contains.

S6E5.h "Plan and carry out an investigation to provide evidence that soil is composed of layers of weathered rocks and decomposed organic material."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each planned action, circle each observation, and number the soil layers described in the passage. These details show how an investigation can provide evidence about what soil is made of.

Digging for Evidence

- ① At the edge of a school garden, a class noticed that soil near the surface looked darker than soil deeper down. The class planned an investigation instead of guessing. They chose one small undisturbed spot, asked permission to dig, and used a trowel to remove soil slowly. They planned to stop at each change in color or texture. For each section, they would record depth, color, particle size, moisture, and any visible plant or animal remains.
- ② The students placed samples from three depths on separate trays. The top sample was dark, crumbly, and held tiny pieces of decaying leaves and roots. The middle sample was lighter brown and had fewer roots. The deepest sample was pale and gritty, with sand, gravel, and small rock fragments. The class labeled every tray with its depth so that the samples would not be mixed. They also wrote observations before discussing a conclusion.
- ③ The class used the differences among samples as evidence. Dark material and decaying plant pieces near the surface showed that organic material had become part of the soil. Sand, gravel, and rock fragments lower down showed weathered rock material. The distinct changes from one depth to another supported the idea that soil has layers. To make their investigation fair, students used the same trowel, observed the same size area, and recorded evidence carefully.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What did the class plan to record for each soil section? Name three details.

2 Which observations showed that the top soil sample contained decomposed organic material?

3 What evidence in the deepest sample showed weathered rock material?

4 How did comparing samples from different depths help the class support the idea that soil has layers?

3 YOUR TURN

Your own words

Plan and carry out a soil investigation. Teacher provides three clean, approved samples collected from recorded depths at one site, gloves, trays, ruler/depth labels and a hand lens. No student digging is required. Write 5 to 7 sentences planning how to compare these depths using equal sample amounts and the same lens and lighting.

Then actually examine each sample. On extra paper make a three-row table: recorded depth; color and particle sizes; visible organic remains and rock fragments. Keep samples separate, avoid dust, and wash hands. Use two recorded observations to explain whether differences support layers containing weathered rock and decomposed organic material. If evidence is missing or inconclusive, say so rather than inventing it.

PART 1 • READ AND MARK

Underline each planned action, circle each observation, and number the soil layers described in the passage. These details show how an investigation can provide evidence about what soil is made of. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What did the class plan to record for each soil section? Name three details.	Any three: depth, color, particle size, moisture, and visible plant or animal remains.
2	Which observations showed that the top soil sample contained decomposed organic material?	The top sample was dark and crumbly and contained tiny pieces of decaying leaves and roots.
3	What evidence in the deepest sample showed weathered rock material?	The deepest sample was pale and gritty and contained sand, gravel, and small rock fragments.
4	How did comparing samples from different depths help the class support the idea that soil has layers?	The samples changed in color, texture, roots, organic material, and rock fragments at different depths. These distinct differences supported that the soil had layers.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Example plan: My question is whether the supplied depths have different materials. I will use gloves, labeled trays and a hand lens. I will compare equal amounts under the same light. I will record depth, color, particle sizes, organic remains and rock fragments. I will keep samples separate and use observations to test the claim.

Illustrative completed record: 2 cm: dark, fine crumbs with decaying leaf pieces; 8 cm: lighter grains with fewer visible organic remains; 15 cm: gritty particles and small rock fragments. The changing materials support layers at this sampled site, with organic remains near the surface and weathered rock material lower down. Actual records may differ; these observations do not establish that every soil has this same profile.

Retain correct source observations and layer explanations. Teacher collects and labels approved samples at actual recorded depths before class; use equal amounts and avoid contaminated sites or dust. Inspect the learner's actual three-depth observations and conclusion using at least two details. Accept no visible layers or uncertainty if supported by samples; no predetermined color sequence or forced confirmation. A plan alone is insufficient. A teacher-approved exposed profile may substitute if students actually record materials and depths with support.