

Soil is the loose, powdery dirt in which plants grow. It is made of tiny pieces of rock and decayed plant and animal materials. All rock can be broken down into pieces in time. The crumbling and wearing away of rock is called weathering. Weathering happens in many ways. Glaciers push big piles of rocks ahead of them and grind others out as they move. Chemicals in water will dissolve and wear away some kinds of rocks. Temperature changes help break rock into smaller pieces. Water gets into the cracks of rocks, where it freezes and makes more cracks. Even plant roots cause rocks to break. Sometimes the seeds of trees fall into the cracks of rocks. The seeds sprout, and the growing roots help split the rock. The wind blows sand against rocks and helps crumble them. Weathering is the start of making soil. The fine rock particles must then have humus added. Humus comes from the decayed bodies of plants and animals. Bacteria helps dead bodies become a part of the soil. Topsoil is the richest layer of soil is at the top. It has the most humus. Subsoil is underneath and has mostly bits of rock. Bedrock is the layer under the subsoil.

1) Which of the following helps add humus to the soil?

- A) water
- B) temperature
- C) wind
- D) bacteria

2) What conclusion can be drawn about a plant that begins to grow in the crack of a rock?

- A) The wind will soon blow the seeds from that plant into the cracks of nearby rocks.
- B) The plant will soon become humus.
- C) The plant will have short roots.
- D) The plant will weather that rock.

3) Context clues help the reader know that *decayed* means ---

- A) worn
- B) developed
- C) rotted
- D) germinated

4) According to the text, which of the following is the correct order of soil layers from the top?

- A) topsoil, bedrock, subsoil
- B) bedrock, subsoil, topsoil
- C) topsoil, subsoil, bedrock
- D) humus, topsoil, subsoil

The pie-chart shows the percentage of the four basic components of soils.

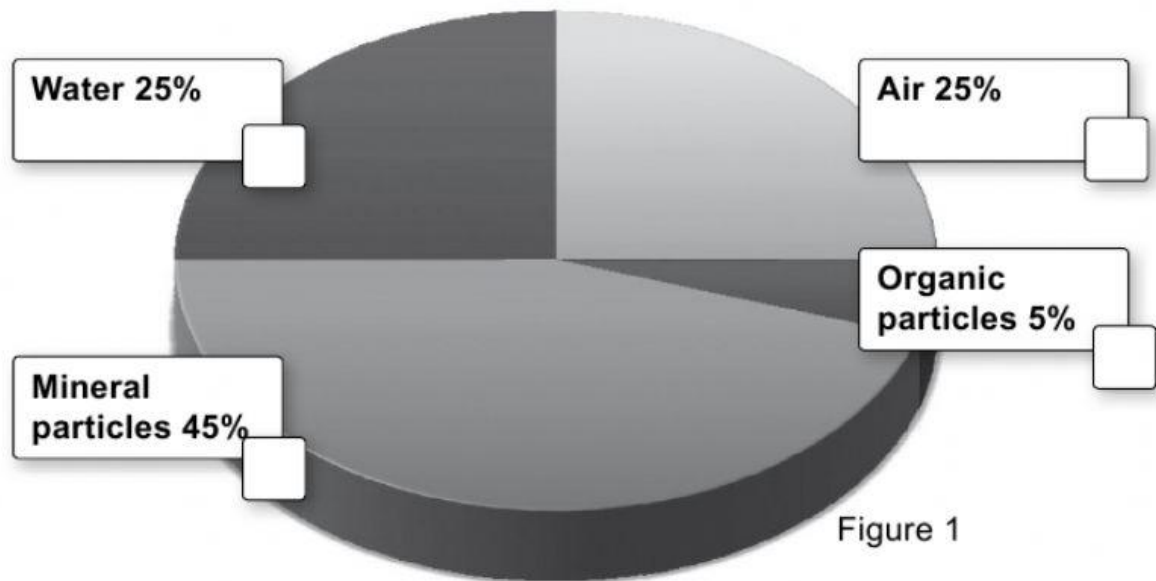


Figure 1

Most soils contain four basic components: mineral particles, water, air, and organic matter. Organic matter can be further sub-divided into humus, roots, and living organisms. The values given above are for an average soil.

Put the additional information to the component where they belong to.

It is essential for both animal and plant life in the soil. Nutrients are carried in a solution which enables plants to obtain them via the root system.

A

A good soil requires spaces. Without these the soil becomes stagnant and compacted. Soil micro-organisms and plant roots both require an adequate supply of it.

C

It is a mixture of living, dead and decomposing animal and vegetable materials. Humus forms from this process and helps to bind the particles together to form a crumb structure.

These form the non-living skeleton of the soil. They are derived from the parent material by weathering.

Label the soil layers. Then, match them with their descriptions.

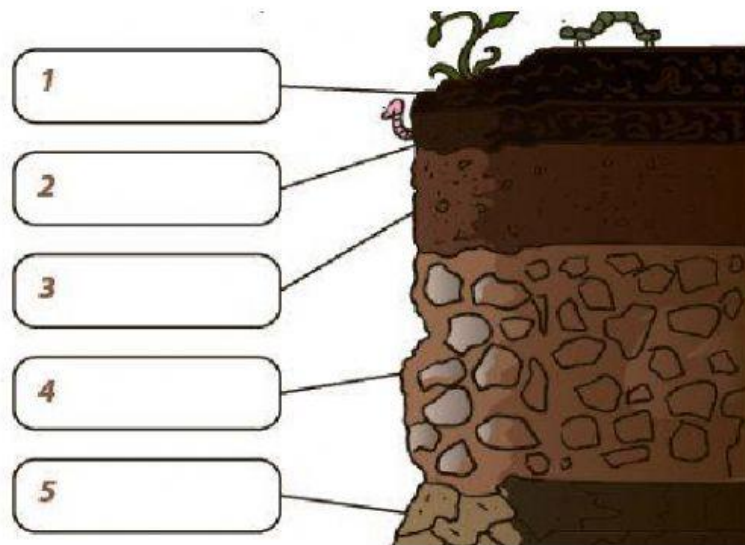
Humus

Bedrock

Subsoil

Topsoil

Parent Material



Humus

Bedrock

Subsoil

Topsoil

Parent Material

	This layer is a variable mixture of small particles such as sand, silt and clay, with some percentage of organic matter.
	This layer is composed of solid unweathered rock that lies beneath the loose surface deposits of soil.
	This layer is composed of unconsolidated mineral or organic material from which the true soil develops.
	This layer has the highest concentration of organic matter and microorganisms and is where most of the Earth's biological soil activity occurs.
	It is the dark organic matter in soil that is formed by the decomposition of plant and animal matter. This layer is rich in nutrients and retains moisture in the soil.