



THE VALUE OF SOIL

The hard rocky surface of Earth is covered with an amazing material. It is a layer of crushed rocks and **organic**, or nature-made, material called soil. Soil is only a thin layer but it is vital for life on our planet.

MOVING AROUND
Soil does not always stay in one place. Wind, water, and ice carry soil from one place to another. This is called **erosion**. Erosion is a natural process but humans can cause erosion, too. Without enough soil, an area can become empty of plant and animal life. This can mean the difference between humans having enough food to eat and starvation.

► Soil itself is made up of layers. Plants grow in topsoil, the uppermost layer.

SOIL AND FOOD

* Soil is home to millions of life forms. Many of them are tiny, such as **bacteria** and types of fungi, algae, and simple animals. This micro life is necessary to process **nutrients**, or food materials, in the soil and make them available for plants. All animals depend on plants, either by eating them directly or by feeding on plant-eaters. Plants are the beginning of all food chains or feeding networks.

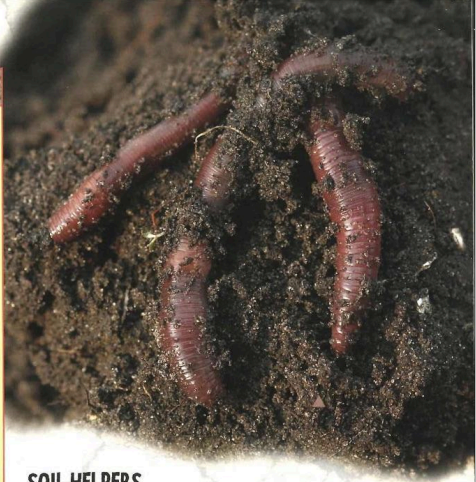


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► Earthworms in soil.

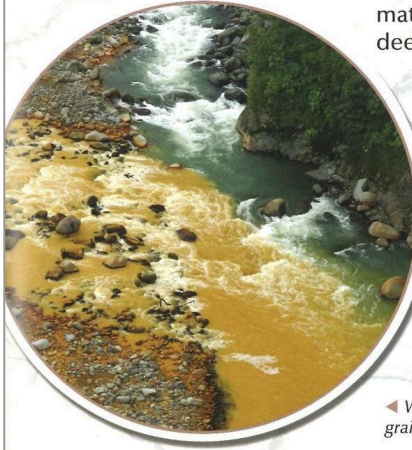
LIFE-FORMS APPEAR

* Mosses and lichens are usually the first **organisms**, or living things, to grow on a rocky surface. They attract micro life that decomposes, or breaks down, any living things that die. The organic material they create—known as **humus**—makes it possible for other plants to grow. The plants attract soil animals such as worms and insects. Their body wastes add to the organic material. Eventually a thick covering of soil forms.



SOIL HELPERS
Creatures that live under ground also help build up soil. Insects shred and tear apart dead leaves and stems. Earthworms and ants moving through the soil transport material from the surface down deep into the ground.

ON THE MOVE
Soil that is made mostly of sand or **silt** erodes more quickly than clay-rich soil. Particles of sand and silt are much bigger than those of clay. They are more easily blown or washed away. Sand dunes in the desert can be blown as much as 165 feet (50 m) in a day.



◀ Water flowing downhill carries with it grains of all sizes, shapes, and colors.

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