

World-beneath-our-feet dessert

Materials needed

- Chocolate pudding
- Graham cracker or chocolate cookie crumbs
- Gummy worms
- Raisins and/or chocolate chips
- Shredded coconut (toasted or dyed green)
- Clear plastic cups
- Spoons

Objective

Introduce students to soil and the creatures that inhabit the soil.

Suggested grade levels

K-4

Alaska Content Standards

Science A 14a-b; A15;
Geography C1

Terms to Define

fertile
organisms
inorganic/organic
decompose
ecosystems
topsoil
subsoil
debris
minerals



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Introduction

We walk on the soil all the time, but do we ever think about what we are walking on? The soil has its own special ecosystem of plants and animals. Let's stop and look at the world beneath our feet.

Of course there is soil down there. But what is in it? Is it just dirt? No, there are many living things in the soil. Soil itself is inorganic — that means it isn't alive nor has it been alive. But soil also has organic organisms, dead and alive, that make it what it is. Without those dead organisms, soil would not be fertile. And if soil isn't fertile, it can't grow things.

What are some of the animals that live in the soil?

Possible answers: worms, insects, rodents.

These animals change the soil in many ways. When they burrow through the ground, they make holes — some tiny, some quite large. These holes aerate or add air to the soil. They also leave behind their droppings. These help fertilize the soil. When they die, their bodies decompose and add nutrients to the soil, too.

And many, many plants live in the soil, too. Plants take nutrients out of the soil to grow, but when they die, some of those nutrients go back into the soil. People change the soil, too. They add fertilizers to make things grow better. They move the soil around to build houses or plant fields.

The soil is its own special ecosystem. If we could watch underneath the ground we would see the tiny creatures changing the soil. If we were watching it on a TV screen, at the bottom would be the subsoil. There is little movement here, and little nutrition for plants. Trees have their roots in this layer. Above the subsoil is the topsoil, where there are tunnels for tiny bugs, worms and rodents. This layer has lots of minerals and food for plants. On the top, where there is lots of debris, all kinds of bugs skitter under the cover of the leaves. From this, the plants poke up toward the sky. Each layer is an important part of the world beneath our feet.

Directions

Remember: Have students wash their hands; check for food allergies.

In your cup, put down a thin layer of graham cracker crumbs for the subsoil. Next comes a healthy dollop of chocolate pudding. Add a gummy worm or two while the pudding is placed in the cup. Add the chocolate chips and/or raisins here, and on the next layer. Chocolate cookie crumbs go on top to represent the litter layer. You might want to mix these crumbs with a few graham cracker crumbs to make it really look like dirt. Top with the shredded coconut to represent plants.

Eat and enjoy.

Related activity: "Life Underground"

