# What is soil made of?

KS2 Ages 7-11 ⏰ 2 min read

When you dig a hole in your garden, you might think you're just moving dirt around. But that handful of **1** you're holding is actually one of the most complex and busy places on Earth. It's a mixture of four main ingredients that work together like a perfectly balanced recipe.

## The Rocky Foundation

About half of soil is made up of tiny pieces of rock and minerals. These fragments started as massive boulders millions of years ago, but wind, rain, ice, and time slowly broke them down into smaller and smaller pieces. Some particles are so tiny you'd need a microscope to see them — these are called **1**. Others are bigger, like **1** grains that feel gritty between your fingers. In between are medium-sized particles called **1**.

Think of soil like a chocolate chip cookie recipe. The rock particles are your flour — they give the soil its basic structure and hold everything else together, just like flour holds a cookie together.

## The Rotting Buffet

The second key ingredient is **1** — basically, anything that was once alive and is now decomposing. Dead leaves, fallen branches, expired worms, and even tiny bits of old roots all break down slowly in the soil. This decomposing material is like nature's compost bin, and it's absolutely vital. As it rots, it releases nutrients that plants desperately need to grow, like nitrogen and phosphorus.

## The Breathing Spaces

Here's where it gets interesting: about a quarter of healthy soil is actually empty space filled with air. These **1** between soil particles aren't useless gaps — they're highways for air and water to move through the soil. Plant roots need to breathe oxygen just like you do, and these air pockets make that possible.

The final quarter of soil is water, which dissolves nutrients and carries them to plant roots. This soil water is like a underground delivery service, constantly moving

dissolved minerals and nutrients around.

## The Invisible Workforce

But soil isn't just a lifeless mixture. It's absolutely teeming with living creatures — billions of bacteria, fungi, insects, and worms in every handful. These tiny workers are constantly breaking down organic matter, recycling nutrients, and creating the perfect conditions for plants to thrive. Without them, nothing would grow, and life as we know it simply wouldn't exist.


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