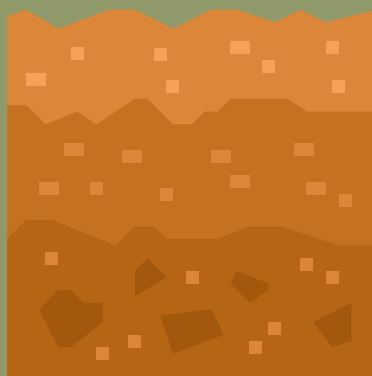
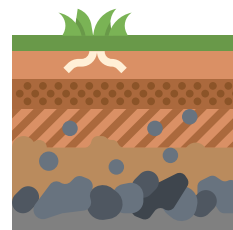


One teaspoon of soil contains more living organisms than there are people in the world.



1. Key Ideas

Soil is a generic term referring to the land on which we walk, build roads and houses, and grow our food.

However, soil is more than just a 'flat surface' - there are different types of soil, and a lot more happens underground than we may suspect.

We have a range of words to describe soil. In some countries, even nutrient-rich soil is called 'dirt'. Can you think of any other words for soil?

Most people grow food in soil. It is perfect for bringing nutrients and water to your plants.

What words would you use for soil which is good for growing vegetables? What words would you use for soil which isn't suited for growing vegetables?

2. Types of Soil

The word 'soil' is used to describe a section of the earth with particular qualities. Types of soil differ from each other depending on:

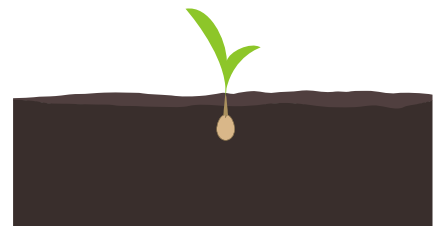
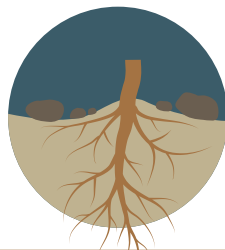
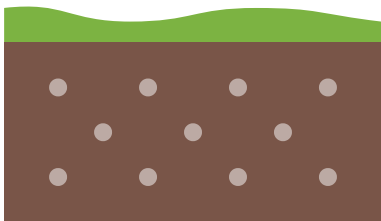
- what they contain (texture)
- How they are laid out (structure)
- where they are found (climate and location)

Soils can change over time depending on all these factors.

Soils can contain minerals (such as sand), organic matter (such as rotten leaves), gas, air and living organisms. The minerals are categorised into clay, silt, and sand. Often there's a mixture of 2 or 3 of these types of minerals - this mixture makes for a certain soil texture.

The first soil test to do is to pick up some topsoil from your garden and try to form a ball:

- Not holding together? You have a lot of sand in the soil.
- Holding together loosely as a ball, but you can't shape it into a sausage? It looks like there is silt in your soil.
- You easily shape a sausage out of the ball? Then you have a lot of clay



3. Growing in Different Soil Types

Soil types are affected by many factors. Whether your food will grow in a soil depends on more than just the soil texture - the amount of organic matter, and how much life there is in your soil is a lot more important.

It's important to mulch, regardless of the soil type you have and how you want to prepare it for growing:

- Sandy soil (water usually drains away quickly) - when you mulch, the organic matter you add to the top of the soil (don't dig it in!) helps retain moisture and harbour soil life. This is what your plants need.
- Silty soil (compacts easily and forms a crust if the weather becomes dry) - mulching helps stop the crust forming
- Clay soil (clumps together, leaving seeds either in dry clumps or little puddles. It also holds on to nutrients) - mulching helps fill the gaps in-between clumps and helps to release nutrients from the soil by harbouring soil life that releases these nutrients

4. Healthy Soil/ Exhausted Soil

The pH of a soil simply means how acidic it is. Soil releases most nutrients better in a neutral (pH=7) soil . Farmers sometimes add calcium carbonate (for example, fishbone meal) to soil to raise the pH to a suitable level.

plants need air in soil, so it shouldn't be compacted - avoiding walking on the soil helps prevent compaction. Soil life, such as worms, help turn the soil around and let air into the ground. Regular digging can destroy soil structure, making your life harder.

When some of the most important available nutrients are removed by plants, the soil needs to recover. Some plants take away more of a certain nutrient than others. Growing plants in a different part of your food garden every time, called rotating, helps ensure that your soil doesn't get too exhausted. Adding mulch, such as compost, helps top-up nutrients. Another option is green manure - this is when you grow specific plants to trap nutrients from the air.



5. Bare Soil

When soil is bare, it might look like it's at rest but if it's not been mulched or doesn't have a winter crop planted, some key nutrients will slowly leak away with the rain. Also, any soil life will have little shelter.

Keep soil topped with mulch and/or plants.

