Soil

Pick up soil from a garden. Keep it on a white sheet of paper. Examine its colour. Feel it with your fingers. Does it feel smooth or rough? Separate out the different things that are present in it – there may be parts of plants and animals as well as small stones. Examine the particles of soil under a magnifying glass – can you see them clearly or are they too small to be separately seen? Pick up soil from other places – a playground, seashore or shore of a river if there is one near your house etc, and examine them in the same way.

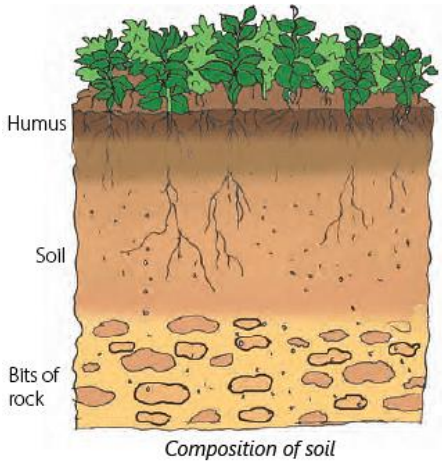
Soil Formation

Soil formation

Soil is the upper layer of earth on which the plants grow. How does the soil form? Long ago the land was mostly solid rock. The action of sun, rain, wind and changing weather conditions over millions of years weakened the rocks. Eventually these rocks broke up into small pieces. These pieces further broke down to form tiny grains of soil.

What Does Soil Contain

Most soil is made up of the following main parts –



Composition of soil

Tiny bits of rock obtained from the breaking down of rocks.

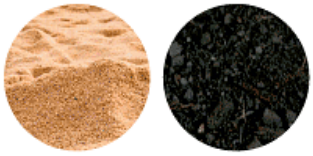
Rotted plant and animal parts called humus, which makes the soil fertile and is very good for growing plants. It provides nutrients to the soil. It is dark brown in colour. Normally, the darker the soil, the more humus it contains.

Water is trapped in the empty spaces between the soil particles, also known as pore spaces.

This water is used by the plants.

Air is also trapped between the soil particles.

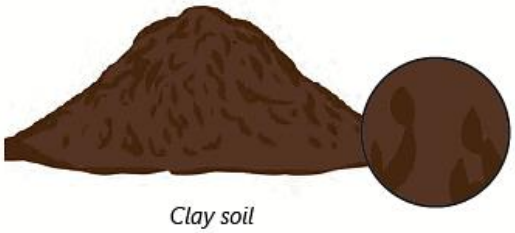
Types Of Soil



Soils found in different places are different. This is because they are made from different kinds of rocks. Some kinds of rocks break into very small pieces. Others break into larger pieces. The colour of soil depends on the minerals present in the rocks.


Sandy soil

Sandy soil is rough and and yellow in colour. The sand particles are large and individual particles can easily be seen. It is found in deserts and on seashores. Water quickly flows out through the spaces between the bits of sand. Sandy soil cannot hold much water and therefore, it is often dry. Not many plants can grow in it.

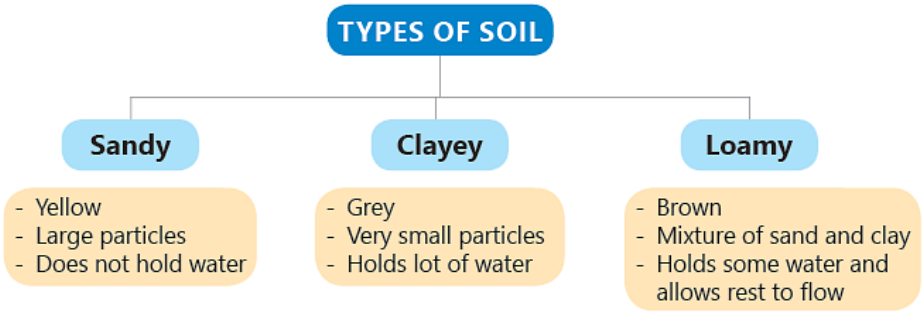


Clay soil

Clay soil is grey in colour. It made up of very small particles and therefore feels smooth. The pore spaces are very small and so water cannot easily flow out through clay soil. It holds a lot of water and remains wet and sticky. There is no air between the particles either. Clay soil is also not good for plants. Clay is used for making pots and toys.

Loamy soil

Loamy soil is brown in colour. It is a mixture of sand and clay. Its particles are smaller than sandy soil. It contains a lot of humus and is the best type of soil for growing plants. Loamy soil is usually found in forests, gardens and parks. The pore spaces in loamy soil are smaller than sandy. It allows some water to flow through while holding back the rest. Therefore it is often damp.



Soil Layers

Importance Of Soil

Soil is important for all living things.

- Plants take water and minerals from the soil to grow and make food. Humans and all other animals depend on the food made by plants.
- Some animals such as ants or earthworms make their home in the soil.
- Almost everything that we use in our homes comes from soil or from plants that grow in the soil. We depend on the soil for metals, clothes, petrol, furniture and a number of other things around us

Crops And Soil

Different plants need different types of soil to grow. Some need sandy soil, others need clay soil. Most plants grow well in loam. All plants grow well if manure is added to the soil. Manure contains a lot of humus which makes the soil fertile.

A crop plant is any cultivated plant that is grown on a large scale commercially.

Crop plant

Fertilisers

Rice grows well in clayey soil, bajra grows in sandy soil and sugarcane grows best on loamy soil.

Addition of fertilisers and manure makes the soil rich and fertile resulting in a greater crop yield.