



Soil is the uppermost layer of the Earth in which plants and trees grow. It is also the home for many burrowing animals.



FORMATION OF SOIL

Soil is formed by the breaking up of different types of rocks. We know that the Earth is made up of different kinds of rocks. These rocks broke into small pieces due to the action of the Sun, wind and rain. These small pieces further broke into smaller pieces. They were carried away by running water and wind. They rubbed against each other till they become tiny particles. These tiny particles form soil.



Size and Colour of Soil

Soils differ in size of their particles.

Different kinds of soil differ in colour. The colour of the soil depends upon the rock from which it is formed. The colour of the soil may be white, black, red or brown.

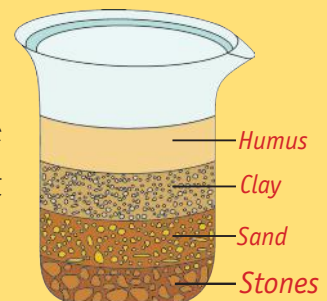
Activity : 1

What does the soil contain ?

Take some soil from playground. Put it into a beaker. Fill the beaker with water. Shake it well. Allow it to stand for about thirty minutes. Look at the beaker carefully.

What do you observe ?

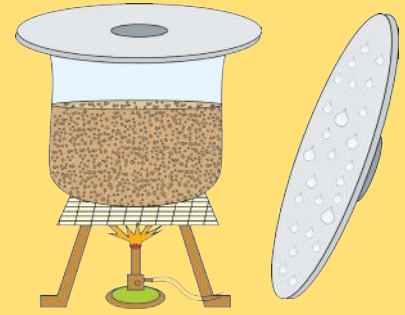
You will see that the largest particles called stones have settled down at the bottom. The particles of sand are seen above the stones. The clay settles down as the top layer. Parts of rotten leaves and dead animals float on the water. This is called humus. Thus, soil contains stones, sand, clay and humus.



Activity : 2

Soil contains moisture.

Take some soil from the roadside. Put it into a beaker. Cover it with a lid. Heat the beaker slowly on a burner. Open the lid. What do you see ? You will see tiny drops of water on the lid. It proves that soil contains moisture.

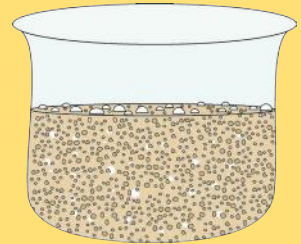


Activity : 3

Soil contains air.

Take some soil in a beaker. Pour water over it.

What do you see ? You will see bubbles coming up. Where do these bubbles come from? These bubbles come from the soil because the soil has air in it. It proves that soil contains air.



KINDS OF SOIL

There are four main kinds of soil : **gravel**, **sand**, **clay** and **loam**.

Gravel : It has very large particles which do not hold any water between them. They hold a lot of air.

Sand : It has smaller particles than gravel. It is found on the beach or in a desert. When water is poured on sand, it sinks quickly. However, some water stays in the spaces between the sand particles.



Clay : It is made of very fine particles. These particles stick together. This soil is used to make pots and toys. Clay is found in ponds and river-beds. It can hold a lot of water but very little air.

Loam : It is a mixture of clay and sand. This is the best kind of soil for the plants. It can hold enough water and air. It also contains a lot of humus. Humus makes the soil fertile.



SOIL AND CROPS

Different types of plants grow in different types of soil. But all of them grow better when we add **manure** to the soil.

A manure of cow dung and decaying leaves has a lot of **humus** which makes the soil rich and fertile.



Animals Homes in the Soil

There are many tiny animals that live in the soil. Rabbits and mice make their burrows and holes inside the soil. Snake, slug, earthworm, ant, centipede, beetle and snail too give them company.

In winter, soil remains warm compared to the ice-cold surface. Animals like snakes, some types of insects and frogs hibernate into their holes under the ground. Similarly, when it is very hot during daytime, animals go under the soil to keep themselves moist (slightly wet) and cool.

Know the Keywords :

Particles : Extremely small pieces.

Poured : Rain heavily.

Manure : Animal excrement used as a fertilizer.

Point to Remember

- Soil is formed by the breaking up of rocks.
- Soil contains moisture and air.
- Humus makes the soil fertile.
- Loam is the best kind of soil for plants.
- Soil particles contain water and have air between them.

EXERCISE TIME

A. Multiple choice questions (MCQs).

Tick (✓) the correct option :

1. Soil is formed by breaking up of _____.

a. wood

b. rocks

c. soil

2. Humus makes the _____ fertile.

a. plant

b. tree

c. soil

3. _____ is the best soil for plants.

a. Sand

b. Loam

c. Black

B. Fill in the blanks :

1. _____ is the uppermost layer of the Earth.

2. Soil is formed by the breaking up of _____.

3. _____ is used to make pots and toys.

4. _____ is the best kind of soil for the plants.

5. _____ makes the soil fertile.

C. Write 'T' for true and 'F' for false statements :

1. It took only a few years to make soil.

2. Soil does not contain air.

3. Gravel particles can hold a lot of air.

4. Clay is made of very fine particles.

5. Loam can hold enough water and air.

D. Define the main kinds of soils :

1. _____

2. _____

3. _____

4. _____

E. Answer the following questions :

1. What is soil ?
2. How do rocks become soil ?
3. What is soil made up of ?
4. How can you show that clay retains more water than sand?
5. What is loam ?



Creative Work

- What do these pictures say ? The first letter of each picture will help you.



- Make toys for yourself. Be careful not to break them !
 Take some clayey soil. Mix the soil with just enough water.
 Shape it into any toy of your choice. Dry it out in the sun. Now paint it
 with bright colours. You can make as many toys as you want.