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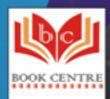
Saaima A. Warris

SIMPLE SCIENCE

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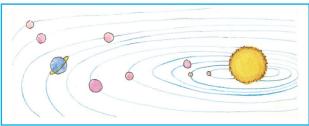
- 1. BODY, FOOD AND CLOTHES
- 2. HOUSES AND CLEANLINESS
- 3. ANIMALS AND BIRDS
- 4. TREES AND PLANTS
- 5. TRANSPOTATION
- 6. AIR AND WATER
- 7 SKY

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Unit 5

ROCKS, SOILS AND MINERALS

In this unit you will learn:

- The different kinds of rocks and how each one is formed.
- What are fossils and how are they formed?
- The different minerals that are found in rocks and their uses.
- Which rocks are used as building materials?
- How is petroleum formed and what is it used for?
- The method of formation of coal and its uses.

Study of rocks

You have already learnt that rocks are great masses of material that cover large areas of the earth. They are solid, physical and chemical units forming large portions of the earth's crust.



The smaller rocks are only pieces, broken from large rock masses that may extend for many miles. Such pieces are called samples. By studying them, we can find out how these rocks were formed and in what ways they differ in their structure and composition.

You must have read about the **astronauts** bringing back samples of **Moon rocks**. These were for the scientists on the earth to study and find out what materials the rocks on the moon are made of — whether they are like those on the earth or not.

Kinds of rocks

Rocks differ in the method of their formation (origin), their degree of hardness, texture, colour and in their chemical composition. The scientists who study rocks are called geologists.

According to the method of their formation, rocks are divided into three classes:

- a. Sedimentary
- b. Igneous
- c. Metamorphic
- a. Sedimentary rocks are formed from deposits of sediment.

Water, wind and ice carry away pieces of rocks, mud, pebbles, gravel and sand. They deposit them elsewhere. These deposits are in layers. As most materials pile up on top, the pressure of the upper layers hardens the lower layers which form into rocks.

Sedimentary rocks are mostly formed from the materials brought down by the streams which form into rivers and eventually flow into the sea. Small animals and plants that drift down, along with the water, also get buried in these rocks. In course of time, they form fossils.

Some sedimentary rocks are formed from materials precipitated from a solution in water. These are called **chemical sedimentary rocks** like *limestone* and *dolomite*.

Types of sedimentary rocks

- Conglomerate: This is a coarse-grained rock formed from gravel, stones, pebbles and even boulders which have solidified. In this rock, stones and pebbles are cemented together to form a hard mass which can resist weathering.
- Sandstone: This consists of grains of quartz and sand cemented together.
 Some kinds of sandstone are porous.
- Shale: This is made up of clay that has become rock, mainly due to pressure.
 It consists of parallel layers which readily split into flat pieces.
- Limestone: This is a fine-grained, fairly soft rock made up largely of the mineral calcite. It may also contain pieces of animal shells.

Things to remember



- 1. Rocks are great masses of material that cover large areas of the earth.
- 2. Rocks are of three kinds: sedimentary, igneous and metamorphic.
- 3. Sedimentary rocks are formed from deposits of sediment.
- 4. Igneous rocks are formed from molten rock material.
- Metamorphic rocks are formed by the action of heat and pressure on sedimentary or igneous rocks.
- 6. Fossils are the remains of plants and animals that got buried in the rocks.
- 7. Rocks contain minerals.
- 8. Certain rocks and stones are useful as building materials.
- 9. Certain minerals are useful as nutrients for plants.
- 10. Metals are used for making wires, coins, utensils and ornaments.
- 11. Petroleum is formed from the remains of organisms. It is a useful fuel.
- 12. Coal is formed from vegetable matter. It is used both at home and in industry.

Things to tell

L.



Wri	te short answers to these questions:
1.	How are sedimentary rocks formed?
2.	Name the important minerals found in rocks.
3.	What are metals used for?
4.	What are metamorphic rocks? Give two examples.
5.	From where do we get coal?
6.	Explain how petroleum is formed.
7.	What are fossils? Mention how they are formed.

	8.	8. Write down the names of the three main classes of rocks.				
	9. Why did the astronauts bring back samples of moon rocks?					
	٥.	willy u	iid tiile	astronauts bring back	samples of moon i	OCKS:
	10. What are igneous rocks? Explain how they are formed.					
II.	. (a) Match column A with column B in the following:					
				Column A	Column B	
				Slate	utensils	
				Stone	coin	
				Silver	statue	
				Diamond	blackboard	
				Copper	ear-ring	
	(b)					
				Column A	Column B	
				Conglomerate	igneous	
				Slate	sedimentary	
				Granite	metamorphic	
				Limestone	igneous	
				Marble	sedimentary	
				Pumice	metamorphic	
	III. EIII in the blacks with a dable words					
	I. Fill in the blanks with suitable words.					
1.						
2.	P					
2	on sedimentary rocks.					
3.						
4.	Rocks contain					
5.	Petroleum is formed from the remains of					
6.	Certain minerals are useful as for plants.					

7. Coal is formed from matter.

8. is used for making statues.

9. Minerals are mostly found in the form of

IV.	(a)	a) Give two examples of igneous rocks.			
		(i)	(ii)		
	(b)	Give two uses of petrol.			
		(i)	(ii)		
	(c)	Name two metals used for making coins.			
		(i)	(ii)		
(d) Give two examples of precious stones.			ıs stones.		
		(i)	(ii)		
	(e)	Name two rocks used for making buildings.			
		(i)	(ii)		

Things to do



- Collect pictures of ten things made of the metals and paste them in your scrapbook.
- 2. Collect pictures of the following for your scrapbook:
 - (i) Two engines that use diesel oil instead of coal or petrol.
 - (ii) Two engines that use electricity as a source of fuel.
 - (iii) A jet plane.
- 3. Do you know which fuel is used in a jet plane?

.....

New words:

samples : small parts taken from something to show what the whole is like.

geologists : the scientists who study rocks.

fossils : the remains of plants or animals found embedded in the rocks.

magma : the hot liquid mineral mass that comes from deep inside the earth.