# 3. Life on Earth



## 3.1 Formation of the earth

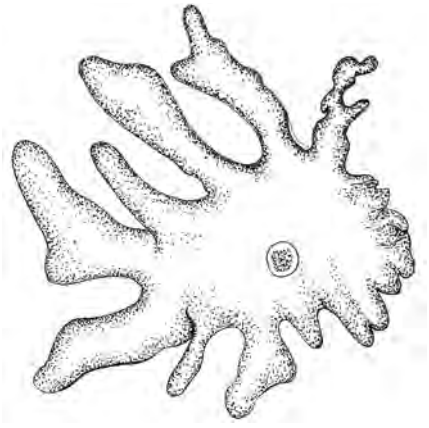
There are some questions we all wonder about. For example, how did the earth on which we live come to be? When did that happen? Was it always the way we see it today or has it undergone changes? If it has changed, what exactly are those changes?

The earth

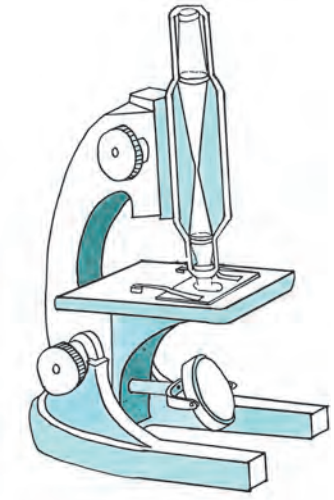
On the basis of scientific research, it is now believed that around 4.5 billion years ago, an enormous cloud of very hot gases and dust spinning at a great speed was formed in space. Its circular motion and great speed caused it to divide into several portions thus creating the sun and the planets which revolve around the sun. The names of these planets are: 1. Mercury 2. Venus 3. Earth 4. Mars 5. Jupiter 6. Saturn 7. Uranus and 8. Neptune.

## 3.2 Beginning of life on the earth

Among these planets, the earth is the only planet where life is known to exist. After the formation of the earth, it took about 80 crore years for its surface to cool down and for water bodies to be formed on it. It is believed that various kinds of unicellular organisms or living things first appeared in water. They are known as 'protozoa'. Gradually, multicellular living things developed from these unicellular ones. The protozoa are so tiny that they cannot be seen with the naked eye. We need a microscope to see them.



A unicellular organism seen through a microscope



A microscope

## 3.3 The animal world on the earth

The living world on the earth consists of plants and animals. Here we shall take into account the animal world. The following are some of the main characteristics of animals :

1. Animals breathe.
2. Animals move in order to get food or for other purposes.
3. Animals of some species lay eggs and their young ones are born out of eggs. Animals of some other species give birth to their young ones.

The animal world

## Exercises

**1. Answer each question in one sentence.**

(a) What instrument do we need to see a unicellular organism?

(b) Where did the protozoa appear first?

**2. Answer the following in brief.**

(a) How were the sun and the planets in our solar system created?

(b) Write any two characteristics of animals.

**3. Find the names of the planets in the box below.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| M | E | R | C | U | R | Y | J |
| M | A | V | S | R | M | A | U |
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| U | S | A | T | S | R | N | E |
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| N | E | P | T | U | N | E | O |

**4. Arrange the events given below in chronological order.**

(a) Water bodies appeared on the earth's surface.

(b) The sun and the planets revolving around it were created.

(c) Protozoa appeared in water.

(d) An enormous cloud of hot gases and dust was formed in space.

### Activity

Make a model of the solar system using balls of different sizes.

### Project

Visit a zoo or make a list of animals which are seen in your neighbourhood and note their characteristics.

### Do you know this?

Some scientists feel that there is a possibility of life on Mars. However, no evidence regarding this has been found so far. Like our earth, Mars too has volcanoes, valleys, and deserts. It also has polar regions covered with ice sheets. 95% of its atmosphere contains carbon dioxide. It also has oxygen in very small quantities, as also other gases and water. Hence, it was thought that life may exist on Mars. The soil on Mars is found to contain some components that are essential for the growth of plants. More research is being carried out in the light of all these facts. However, the existence of water in its liquid form is essential for life to exist. It is true that the polar regions of Mars are covered with ice but there is no liquid water.

The idea of a 'Man from Mars' has become popular through literature and cinema but scientific research has not confirmed it.

India launched a spacecraft 'Mangalyaan' to Mars on 5th November 2013 and the mission was successfully accomplished on 24 September 2014. This is a historic event.

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