

Surrounding Affects the Living Things



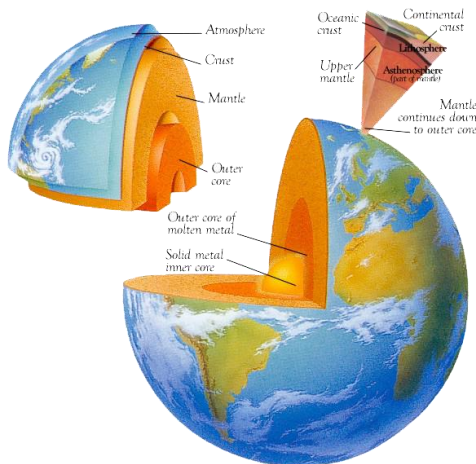
Surrounding Affects the Living Things

Our earth is the third planet and only one capable of supporting life in the solar system. The distance between the Sun and the Earth is about, 14, 95, 65, 1,39 km. It varies slightly during the year. The variation of distance between the Earth and Sun is due to the angle of the earth axis, relative to the Sun. There are various kinds of species living on the Earth. All living organisms require food to survive and they obtain food from plants and animals. Therefore, all living organism, directly or indirectly depend on plants. The natural resources such as plants, animals, minerals, water and air are of two types, renewable resources and non renewable resources. Renewable resources are replaced by natural process. The water cycle is an example of renewable resource. Oxygen is obtained from plants and called renewable resource. Other renewable resources are soil, solar energy, wind, etc. Non- renewable resources cannot be replaced by natural process and its reserve is decreased due to uses. None renewable resources are formed by physical and chemical reaction and it takes long time. The non renewable resources are, metals, coal, petroleum, natural gas, etc.

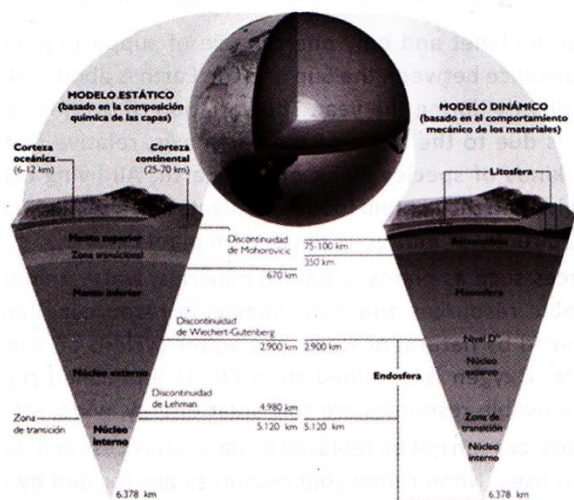


Structure of the Earth

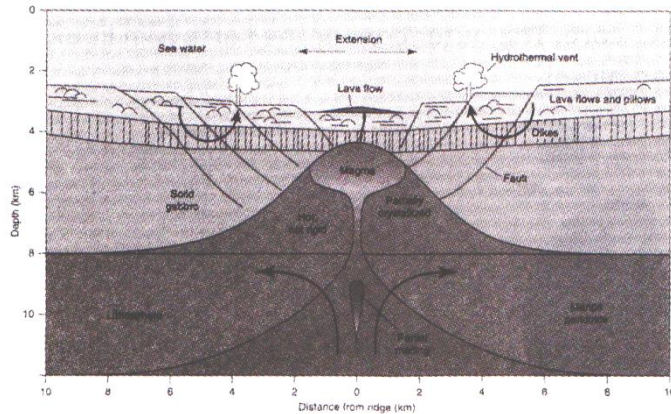
The internal and outer structure of the Earth is layered. Denser and heavier materials (iron and nickel) are present in the core. The layer between the inner core and mantle is outer core. The outer core of the Earth is in liquid form and is composed of iron and nickel.



Look at the following picture of the Inner layer of the Earth



The mantle layer of the earth is mainly composed of elements like, magnesium, iron, silicon and oxygen. Temperature of the mantle layer is about 3000°C Outer mantle of the Earth is thinner than the inner mantle. The upper layer (crust) is made up of rocks, which are again made up of amino silicates.



The outermost layer of the Earth is called crust. The average thickness of the continental crust is about 30 to 50/km and mostly contains granite. The average thickness of the oceanic crust is about 10 km and mostly contains basalt.

Continental crust is formed by the movement and colliding of the plates.

Commonly Asked QUESTIONS



The distance between the Sun and the Earth is slightly varied during the year. Which one of the following is the cause of the distance variation?

- (a) The earth is tilted
- (b) Rotation of the earth
- (c) Rotation of the other planet
- (d) All of these
- (e) None of these

Answer: (a)



Which one of the following is the most common cause of changing weather on the surface of the Earth?

- (a) Distance between the earth and the moon
- (b) Axial tilt
- (c) Rotation of the earth
- (d) Static state of the sun
- (e) None of these

Answer: (b)

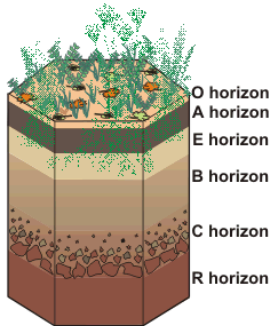


Soil Profile and Formation

Soil profile is the layer of soil on the surface of the Earth. The colour of the soil is dark brown. There are three soil profiles, namely. A, horizon, B horizon and C horizon. The upper layer of soil is called/A horizon or

top soil. A horizon provides nutrition to living organism. The layer below the A horizon, is B horizon. Horizon C is below the horizon B. Some part of minerals from horizon A is transported through horizon B to horizon C. There are various kinds of insects and bacteria that live on the soil and these are essential for plants. The organic matter (humus) is found in the soil. Soil profile looks different in the different part of the earth.

Look at the following picture of the soil profile



Formation of Soil

Soil is made up of rocks and minerals. Weathering is the most common cause for the formation of the soil. The rocks on the surface of the Earth are broken down into small pieces by the process of the weathering. On the basis of the size of the rocks found on the surface of the earth, soil is categorized into three types. These are sand, silt and clay.

Look at the following picture of the soil



Sand is the larger particle found in soil. It is easily available on the surface of the earth. Sandy soil contains very little humus and of low fertility. The size of the particle of the sandy soil is bigger than that of particle size of the other soil.

The size of the particle of the silt soil is smaller than sands soil and bigger than clayey soil. Silt soil can easily transported from one place to another through the movement of the air.

Look at the following picture of the silt soil



The particle size of the clayey soil is very small. The formation of clayey soil is the gradual chemical weathering of rocks.

Look at the following picture of the clayey soil



Commonly Asked

QUESTIONS



Which one of the following is the top most layer of the soil?

- (a) Horizon B
- (b) Horizon C
- (c) Horizon D
- (d) Horizon A
- (e) None of these

Answer: (d)



Which one of the following types of soil contains least amount of humus?

- (a) Sandy soil
- (b) Clayey soil
- (c) Loamy soil
- (d) All of these
- (e) None of these

Answer: (a)



Climate and Weather

Climate has a great effect on all the living organisms. Record of weather at a particular place is preserved for long period of time (30 years), which is known as the climate of that place. If observation of temperature of the particular place is high, we say that the climate is hot and if low temperature is recorded then climate is cold.

There are four types of climate in the world. These are polar climate, temperate climate, tropical climate and desert climate.

Polar region receives less amount of solar energy from the Sun, therefore, climate is cold in the polar region.

Look at the following picture of the polar region



The weather in the temperate climate is neither too hot in summer and nor too cold in winter.

Weather in the tropical climate is very hot. The rain fall is usually high in the tropical climate. Therefore, high humidity is recorded.

Weather in the desert climate is recorded very hot and dry. The rain fall in the desert is very little.

Weather affects the life of living organisms, which is dependent on the heat of the Sun. The hotness of the air depends on the strength of the solar radiation.

Air is heated by the solar radiation. Amount of water vapour present in the air is called humidity. Humidity of air is expressed in percentage. A humidity of 100% at a particular temperature means that air is saturated with water vapor. Rainfall is measured by an instrument called rain gauge and it is measured in millimeters.

Thermometer is used for the measurement of the temperature. The minimum and maximum temperature is recorded in a day.

Commonly Asked QUESTIONS



Which one of the following climate is very cold?

- (a) Polar climate
- (b) Temperate climate
- (c) Desert climate
- (d) Tropical climate
- (e) None of these

Answer: (a)



Maximum rain fall is recorded in which one of the following climate?

- (a) Tropical
- (b) Temperate
- (c) Polar climate
- (d) Desert climate
- (e) None of these

Answer: (a)



Adaptation of Animals in Different Climate

The presence of specific body features, which enable an animal or a plant to live in a particular habitat, is called adaptation. Migration of the birds protects them from extreme cold and hot climates. Siberian crane is a migratory birds, which come every year in India, during winter.

Look at the following picture of penguins and polar bears

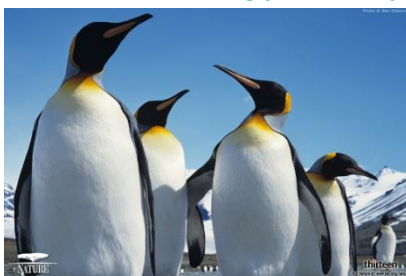


Fig. (1) Penguins



Fig (2) Polar bear

Penguins cannot fly but they can swim by their flippers. Penguins live in the extreme cold climate of south Polar Region. Thick skin of penguins and the layer of fat under their skin protect them from extreme cold weather. Penguins huddle together to keep themselves warm. They eat fishes. Polar bear is another animal who lives in polar region. Fur over the skin in the body of polar bears protect them from extreme cold. The layer of fats over the body protect them from temperature loss. They eat fish.

Commonly Asked QUESTIONS



Penguins live in the polar region. Which one of the following body features protect them from extreme cold?

- (a) Flipper
- (b) Denser fur over the skin
- (c) Layer of fat under the skin
- (d) All of these
- (e) None of these

Answer (c)



Which one of the following is true about the penguins?

- (a) They live in the desert place
- (b) They eat grasses
- (c) They live in polar region
- (d) All of these
- (e) None of these

Answer: (c)

Pollution

There are various polluting elements which are causing pollution in our environment. The most common causes of the land pollution is the dumping of waste materials. Polythene, plastic metals, glass etc. pollute the soil. The use of pesticides is also a major cause of soil pollution. Pesticides are the chemicals used for the protection of crops from harmful bacteria. Pesticides enter in the soil thereby polluting it. Fertilizers are also made from chemicals (acid and alkalis). The excess presence of chemicals in the soil is resulting in soil pollution. Acid rain also causes the soil pollution. Acid rain occurs due to the air pollution.

Look at the following picture of soil pollution



Commonly Asked QUESTIONS



Which one of the following is a major cause of soil pollution?

- (a) Excess use of fertilizers
- (b) Excess use of compost
- (c) Excess use of land for crops
- (d) All of these
- (e) None of these

Answer: (a)



Mixing of unwanted substances in the air is called?

- (a) Soil pollution
- (b) Land pollution
- (c) Air pollution
- (d) All of these
- (e) None of these

Answer: (c)

The Earth is the third planet and only one capable of supporting life in the solar system.

SUMMARY



- ❖ The Earth consists of three main layers, crust, mantle, and core.
- ❖ Weather in the tropical climate is very hot and therefore high humidity is recorded.
- ❖ Rainfall is measured by an instrument called rain gauge.
- ❖ The excessive use of fertilizers causes soil pollution.

Self Evaluation **TEST**



Duration
10 Minutes

-
1. Fill the blank with suitable word from the option given below. The average weather is taken over a long period of time is called ____ of that place.
- (a) Climate (b) Weather
(c) Observation of variation in temperature
(d) All of these (e) None of these
-
2. Read the given statements and choose the correct answer from the options.
- Statement 1:** Weather and climate are just the same.
Statement 2: Weather and climate are not same.
- (a) Statement 1 is true (b) Statement 2 is true
(c) Cannot defined (d) Both the statements are true
(e) None of these
-
3. Weather of a place is determined by which one of the following elements?
- (a) Wind speed (b) Humidity
(c) Temperature (d) All of these
(e) None of these
-
4. Which one of the following animals live in Polar Region?
- (a) Lions (b) Cows
(c) Wolves (d) Penguins
(e) None of these
-
5. Which one of the following animals do not live in polar region?
- (a) Anaconda (b) Penguin
(c) Polar bear (d) All of these
(e) None of these
-
6. Migration of birds protects them from non favorable seasons. Which one of the following birds migrate seasonally?
- (a) Siberian pigeon (b) Siberian crane
(c) Owls (d) All of these (e) None of these

7. Tropical region is best described by which one of the following options?

- (a) Hot and humid (b) Cold and humid
(c) Moderate temperature (d) All of these
(e) None of these
-

8. The camel is well adapted to live in:

- (a) Polar regions (b) Rain forest
(c) Desert (d) All of these
(e) None of these
-

9. Fill in the following blank with suitable word.

Tropical rainforests are found in..... Ghats and in India?

- (a) Eastern and Rajasthan (b) Western and Assam
(c) Eastern and Himachal Pradesh (d) All of these
(e) None of these
-

10. The different region of the earth receives different amount of heat from the sun. Which one of the following regions receives the maximum heat from the sun?

- (a) Polar region (b) Equator
(c) Sea region (d) All of these
(e) None of these
-

Answers – Self Evaluation Test

1. A	2. B	3. C	4. D	5. C	6. B	7. A	8. B	9. B	10. B
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