

Class IX

Geography, Lesson - 1

A. Answer the following questions:-

1. Why is the earth a unique planet?

Ans. Earth is the only planet in our solar system that has a large amount of liquid water. About 74% of the surface of Earth is covered by liquid or frozen water. Because of this, people sometimes call it the blue planet. Because of its water, Earth is home to millions of species of plants and animals.

2. Why the earth is called the blue planet?

Ans. Earth is the only planet in our solar system that has a large amount of liquid water. About 74% of the surface of Earth is covered by liquid or frozen water. Because of this, people sometimes call it the blue planet. Because of its water, Earth is home to millions of species of plants and animals.

3. What is the surface of the earth made up of?

Ans. The rocky surface layer of Earth, called the crust, is made up of mostly oxygen, silicon, aluminum, iron, calcium, sodium, potassium and magnesium.

4. Name a planet that cannot support life. Give reasons for your answer.

Ans. The planets which cannot support life are all the planets from the solar system except earth. That are mercury, Venus, mars, Jupiter, Saturn, etc. these planets cannot support life because they didn't have the climatic conditions and other things like earth.

[Note:-I am giving you two planets near and far from the sun, you can write anyone.]

Mercury:-Intense changes in temperature from day to night make it impossible for life as we know it to flourish on Mercury. Although it is the closest planet to the Sun, Mercury isn't the hottest in the solar system. Venus's dense atmosphere causes a greenhouse effect, resulting in higher temperatures.

Uranus:-As an ice giant, Uranus doesn't have a true surface. The planet is mostly swirling fluids. While a spacecraft would have nowhere to land on Uranus, it wouldn't be able to fly through its atmosphere unscathed either. The extreme pressures and temperatures would destroy a metal spacecraft.

POINT TO REMEMBER- Venus is a terrestrial planet and is sometimes called Earth's "sister planet" because of their similar size, mass, proximity to the Sun, and bulk composition. It is radically different from Earth in other respects.

5. State three factors that have made life possible on the planet earth.

Ans. i. The atmospheric blanket around the earth protects it from ultra-violet and other deadly sun rays. The mixture of gases in the atmosphere is suited to growth and survival of life.

ii. Plants, through the process of photosynthesis take away carbon dioxide from atmosphere and make oxygen available for animals to breathe.

iii. Oceans play a great supportive role. They cover three-fourths of earth's surface and are responsible for operation of hydrological cycle which makes water on land surface available.

6. Name the various realms of the earth.

Ans. There are four realms of earth:-lithosphere, hydrosphere, biosphere and atmosphere.

i. Lithosphere: the outer most solid layer of the earth that is composed of rocks and soil is known as lithosphere.it is also called the crust of the earth.

ii. Hydrosphere: the hydrosphere contains all the water bodies in the world that cover about 71 per cent of the earth's surface.

iii. Biosphere: the biosphere is the narrow zone where the lithosphere, the hydrosphere and the atmosphere come in contact with one another. This realm contains all the living organisms found on the earth.

iv. Atmosphere: the atmosphere surrounds the earth as a layer containing a mixture of gases.it is held by the gravitational force of the earth.

7. Why is the shape of the earth described as an oblate spheroid?

Ans. The amount of flattening depends on the density and the balance of gravitational force and centrifugal force. In other words, the Earth is a spheroid because it rotates. Gas giants like Jupiter and Saturn are flattened by rotation more than the Earth.

8. Give two proofs about the shape of the earth.

Ans. [There are 6 proofs on page no.13. You can write any two.]

9. What is the significance of the atmosphere on earth as compared to other planets?

Ans. Our planet's atmosphere is completely different from the other planets of our solar system. The generation of life in our planet was also caused due to the preferable atmosphere of our planet. Our atmosphere contains different gases, including the oxygen which is necessary for our respiration.

10. List the conditions favourable to life on earth.

Ans. i. Water:-Necessary for all.

ii. Temperature:-Most of the planet is above 0°C, so water in organisms does not freeze. ...

iii. Gases:-The appropriate mix of gases are needed such as CO₂ for photosynthesis, oxygen for respiration and nitrogen for protein synthesis.

iv. Light and solar radiation.

B. Explain the following terms.

1. Terrestrial planets:-A terrestrial planet, telluric planet, or rocky planet is a planet that is composed primarily of silicate rocks or metals. Within the Solar System, the terrestrial planets are the inner planets closest to the Sun, i.e. Mercury, Venus, Earth, and Mars.

2. Oxygen cycle:-The oxygen cycle is the biogeochemical transitions of oxygen atoms between different oxidation states in ions, oxides, and molecules through redox reactions within and between the spheres/reservoirs of the planet Earth.

3. Unique planet:-Being the only one of its kind as the earth is only planet is unique in our solar system.

4. Water cycle:-The water cycle, also known as the hydrologic cycle or the hydrological cycle, describes the continuous movement of water on, above and below the surface of the Earth.

5. Biosphere:-The regions of the surface and atmosphere of the earth or another planet occupied by living organisms.

6. Environment:-The surroundings or conditions in which a person, animal, or plant lives or operates.

7. Atmosphere:-The atmosphere of Earth is the layer of gases, commonly known as air that surrounds the planet Earth and is retained by Earth's gravity.

C. Give reasons for the following:-

1. Because of its water, Earth is home to millions of species of plants and animals. The things that live on Earth have changed its surface greatly. For example, early cyanobacteria changed the air and gave it oxygen. The living part of Earth's surface is called the "biosphere".

2. Gravity anomalies, differences in the earth's gravity field due to variations in the mass distribution, create the geoid.

3. Because the earth provides them with all the necessities of life other than some such as sunlight. So human beings live only on earth.

D. Tick mark the correct answer:-

1. Earth's orbit lies between:-

i. Venus and mars

2. The amount of oxygen in earth's atmosphere is:-

ii. 21%

3. Earth's biosphere is also called:-

i. ecosystem

4. The average distance of earth from the sun is:-

i. 150 million km

5. Earth completes its one revolution around the sun in:-

ii. 365 and 1/4 days (365 days and 6 hours.)

E. Diagrams:-

i. Fig. 1.3

ii. Fig. 1.16