

Chapter no. 6

Force

1. Choose and write the best option for each statement.

- a. i. elastic
- b. i. frictional
- c. ii. Forcemetre
- d. i. gravitational
- e. ii. Fulcrum
- f. ii. Flag pole

2. complete the correct map.

Deformation

Elastic	Inelastic
Definition When an applied force is removed from an object and its get back to its original shape is called elastic deformation.	When an applied force is removed from an object and it does not get back to its original shape , its called inelastic deformation.
Example sponge	Example metal

3. Answer the following questions.

a. i. force can change the direction of moving objects

force not only makes an object move fast or slow , it can also change the direction of the moving object .

ii. force can change the shape of the object.

Force can change the shape of some objects by stretching , squeezing , bending , twisting and compressing it.

iii. Force can change the motion of the object.

when a body is moving as a result of applying force , it means it is in motion. If the applied force is greater , the motion will be greater and the object moves faster . but if the applied force is smaller, the motion will be smaller and the object moves slower.

b. The invisible force of the Earth which attracts or pull everything down towards its center is called gravitational force. Example:

The force which opposes motion is called friction or frictional forces. Example:

c. contact forces are the forces operative between objects which are touching each other. For example , when you push a desk, you are touching the object. Frictional force is an example of contact force.

Non-contact forces are the forces that act over a distance. They do not have to be touching. Gravitational force is an example of non-contact forces. For contact forces , we use the terms pushes and pull . however , for non-contact forces it is better to talk about repulsion and attraction.

d. as the force acting on an object is increase , its acceleration is also increased and object moves faster. For example if you hit a ball , it will move forward , and when you hit it harder , it moves faster.

e. there is an invisible force of Earth which attracts or pulls everything down towards its center. This is why when you drop an object , it falls to the ground this force is called gravity or gravitational pull / force. This force also prevents us from falling off the planet Earth.

f. pulley helps us in daily life through elevators , wells , exercise equipment , theatre curtains , flagpoles and rock climbers.

Lever helps us in daily life through scissors, hockey sticks , sports equipment and golf clubs. See-saw is also an example of lever.

g. its difficult to walk on snow because there is very little friction between the bottoms of your shoes and snow. Friction is force that opposes motion. Its hard to get a good grip on snow than grass.

4. find and circle the six simple machines , also identify their types and write down in the space given.

Wheel and axel , lever , pulley

Chapter no. 7

Earth and its resources

1. Choose and write the best option for each.

- a. i. 71-29
- b. i. nitrogen , oxygen
- c. ii. Deforestation
- d. ii. Erosion
- e. i. animals and plants

2. Answer the following questions.

- a. **Water:** water exist's above and below the land surface in the form of oceans, rivers and lakes. Whereas it is also present in the air in the form of water vapors, land, soil, air, forest, minerals oil are important natural resources.

Air : the Earth is surrounded by a thin layer of air which is the mixture of gases, i.e. nitrogen , oxygen along with smaller amount of some gases.

Water is in abundance on Earth . the available water on the Earth is 97%, but unfortunately it is in the form of oceans and ice caps . Only a very small amount of fresh water around 3% for use.

- b. As the human population increases, the need for natural resources also increases. Human consume more and more natural resources which results in depletion.

- c. Most of water that we use comes from rivers. Rivers start at some high point like mountains and then join together to form a larger river or stream which runs into the oceans or lakes.

d. Impact of human activities on natural resources.

The only source of different resources is Earth , and these resources are limited. As the human population increases, the use of resources also increases. The competition for survival with other organisms for various natural resources gets harder. These resources are:

Land water

Land: humans cut down the trees to meet their needs for farming , buildings and roads. They also cut down the trees for wood and use them as fuel or building materials. The process in which human permanently destroy forests and woodlands is called deforestation.

water: human use water for many purposes ; for household use , to water fields and industries. As a result of these activities , water is being contaminated with different waste materials that include : household waste , industrial waste , chemicals from industrial process and smoke from burning fuels.

- e. All these wastes ultimately damage the Earth's resources. Therefore certain measures should be taken to conserve their resources.

Ways to conserve the natural resources.

Following are the some ways to conserve the natural resources:

1. Use of alternative power resources such as solar and wind energy.
2. Planting trees to prevent soil erosion.
3. Treating industrial waste before releasing it in the water bodies.
4. Use rain water for harvesting.
5. Recycle waste where possible.
6. Planting trees in compounds.

f. Earth's natural uses resources:

1. Soil : plants absorb vital nutrients from soil for growth and development.
2. Air : air helps in photosynthesis.
3. Forests : forests provide us shelter , water and food.
4. Minerals : minerals are used in wide range of application including construction , manufacturing , agriculture and energy supply.

5. Fossil fuels : fossil fuels are used to provide energy.

- g. Renewable energy resources :** renewable energy resources are the resources that will be replenish themselves to replace the portion used by people through natural process. The renewable energy resources are : Solar , wind , water and geothermal

Non-renewable energy resources:

Non-renewable energy resources are the resources that are limited in nature. These energy resources usually take a long time to replenish again . non-renewable resources are :

Coal , oil , natural gas → fossil fuels.

Chapter no. 8

Earth's water and climate

1. Choose and write the best option for each statement.

- a. iv. All of them
- b. I. evaporation
- c. Iii. Sleet
- d. Ii. Polar region
- e. Iii. There is no sun

2. Answers the following questions.

- a. Weather :** it is define as a state of the atmosphere of a particular place over a short period or time. It is very temporary condition.

Climate : climate is define as how the atmosphere behaves relativity over longer period of time.

Weather varies from minute to minute , hour to hour , day to day and season to season , whereas climate is the average of weather at a particular place over longer time.

- b.** In the morning , the sun is at a slanted position relative to the earth. Due to this, the distance between the Earth and the sun increases. The hotness of sunrays also decreases and we receive slanted rays of sun. As a result , we have pleasant weather.

- c. The heat of the sun plays an important role in the process of evaporation, i.e. the process of changing liquid into vapors . when there is more heat , the evaporation increases and vice-versa. That's why we see that the rate of evaporations more in summer as compared to winters.

When water evaporates , it add moisture to the air , and weather is said to be humid. If more water is added into the air , then there will be more humidity and vice-versa. So , it means that there is more humidity in the summers than winters.

When the humidity is high , the temperature will be generally high. This is because the water droplets in the air store a lot of heat and raise the temperature.

- d. The heat of the sun causes wind to blow. When the sunlight heats up the air , warm air which is lighter , rises up and creates a space. When this happens the cold air from the surroundings rushes to take up the space and the wind is produced.

- e. Weather depends upon following factors :

1. Temperature.

The area that received more sunlight are warmer and have higher temperature compared to the areas that receive lesser sunlight. .

2. Humidity :

When water evaporates , it add moisture to the air and weather is said to be humid.

3. Precipitation.

In this process, the clouds become filled with the water vapors , and become too heavy to hold water. The water then comes down in form of rain , snow , hail , sleet , dew , frost and fog.

- f. **Rain** : it is the liquid water that falls in the form of droplets.

Snow : the water in the air gets converted in to light weight flakes and falls in the form of snow.

Hail : the water in the air gets converted in to frozen ice pellets and falls in the form of solids.

Sleet : when the air containing some snow falls to the ground , it is called sleet.

Dew : when it is very cold , water vapors in the air condense and change from vapors to liquid.

Frost : when it is very cold , dew drops freeze into ice crystals called frost.

Fog : in winters , water vapors condense on dust particles and create fog. Fog is a cloud that touches the ground.

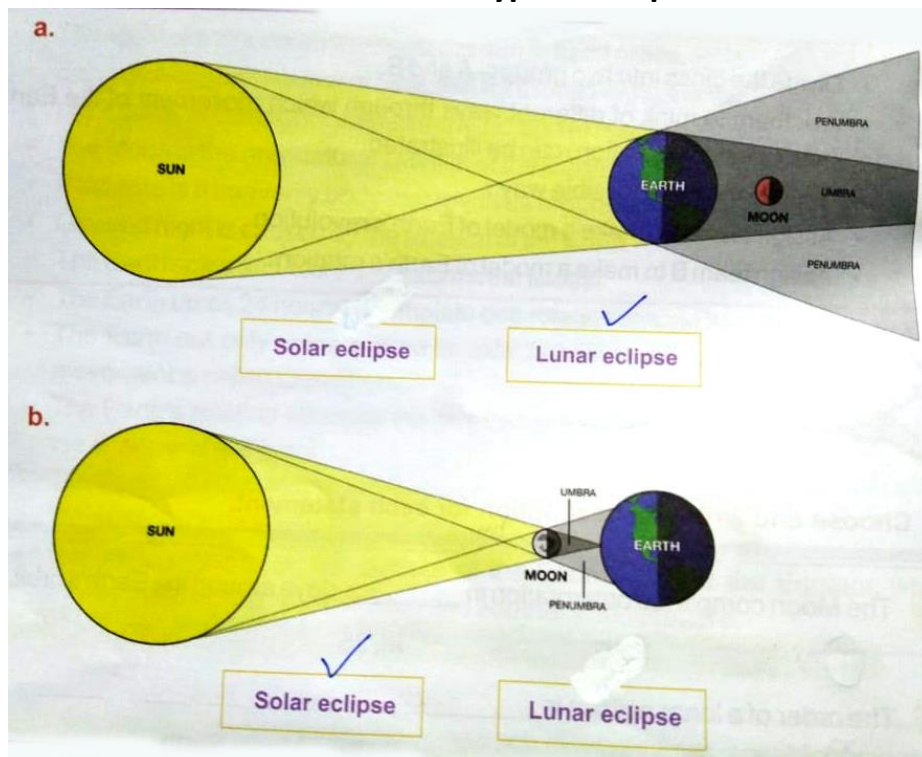
Chapter no. 9

Earth in the solar system

1. Choose and write the best option for each statement.

- a. i. 29
- b. i. sun , earth , moon
- c. i. rotation
- d. i. west , east
- e. i. 24
- f. ii. Rotation
- g. ii. 365

2. Guess and tick the correct type of eclipse.



3. Answers the following questions.

- a. There are many phases of moon because the sun lights different parts of the moon. As the moon revolve around the Earth that means the reason we see different phases of the moon here on the Earth is that we only see the parts of the moon that are being light up by the sun.
- b. **Lunar eclipse** : during their rotation, when the Earth phases between the sun and the moon, the Earth casts the shadow on the surface of the moon which creates different phases of the moon , and this phenomenon is called lunar eclipse.

Solar eclipse : a solar eclipse happen when the moon phases between the sun and the Earth blocking all or a portion of the sun. as the moon passes in front of the sun this prevents the light of sun from reaching the earth and gradually the sky grows darker.

Total and partial eclipse : A total solar eclipse is when the moon blocks out the sun completely and the sun appears totally dark , whereas if the moon only blocks out some part of the sun, then it is called partial or annular eclipse.

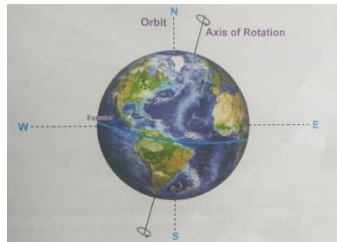
Rotation and revolution:

Day and night is caused by the rotation of the Earth. Spinning is an another word used for rotation, the earth spins around its axis. This spinning is called Earth's rotation. The Earth spins anti-clockwise from west to east. The Earth takes 24 hours to complete one rotation around its axis..

Whereas the Earth not only spins around its axis, but also orbits around the sun. this movement is called revolution. The Earth takes one year or 365 days for one complete revolution. The orbit of the Earth is not a perfect circle. It is a bit oval shaped.

- c. The equator is the imaginary line around the middle of the Earth at an equal distance from the north pole and the south pole.

- d. Day and night is caused by the rotation of the Earth. Spinning is another word used for rotation. The Earth spins around its axis. This spinning is called Earth's rotation. The Earth spins anti-clockwise from west to east. The Earth takes 24 hours to complete one rotation around its axis.



- e. Due to the orbit movement of the Earth and its tilted position, we get four seasons. When the northern hemisphere is tilted closest towards the sun, it has high temperature days, i.e. the summer season. At the same time, the southern hemisphere is tilted farthest away from the sun and it has cold temperature days, i.e. the winter season. As the year progresses, the Earth's tilt changes to where the northern hemisphere is pointing away from the sun, and the season in both hemisphere change.
- f. The sun lights half of the Earth at a time. Half of the Earth is always facing the sun and the other half is away from the sun. the part of the Earth, facing the sun and receiving the sunlight, has a day. The other half which is away from the sun, is in darkness and has night. As the Earth keeps on rotating, the side which was in darkness gradually comes to face the sun and has daytime and vice-versa.
- g. We know that our Earth rotates around its own axis and this rotation brings day and night. As the earth rotates, the position of the sun changes, which affects the size of shadow of the tree.

Chapter no. 10

Technology in every day life

1. Fill in the blanks.

- a. Body temperature
- b. 6
- c. Calculations
- d. First aid
- e. Wound
- f. Blood

2. Answer the following questions.

- a.
 - i. mobile phones allows users to make and receive calls.
 - ii. mobile phones allows users to play games.
 - iii. we can click photos and record videos with the help of mobile phones.
- b. The normal body temperature of human body is 37°C.
- c. Blood pressure shows how much work our heart is doing to pump the blood throughout the body. Blood pressure considered normal at the age of 25-30 is 120/80 mmHg.
- d. Blood pressure considered normal at the age of 25-30 is 120/80 mmHg.

3. Write down the names of the following components of first aid.

- a. Tweezers
- b. Alcohol swabs
- c. Bandages
- d. Pain relievers
- e. Gauze pads
- f. Antibiotic equipment