MAP WORK

- MARK THE FOLLOWING CONTINENTS AND OCEANS ON THE WORLD MAP

1. NORTH AMERICA
2. SOUTH AMERICA
3. EUROPE
4. ASIA
5. AUSTRALIA
6. AFRICA
7. ANTARCTICA
8. ARCTIC OCEAN
9. PACIFIC OCEAN
10. INDIAN OCEAN
11. SOUTHERN OCEAN
12. ATLANTIC OCEAN

LESSON 13

NATURAL DISASTERS

NEW WORDS

1. Earthquake	16. evacuation
2. Tsunami	17. volcano
3. hurricanes	18. fisures
4. tornadoes	19. volcanic eruption
5. tectonic	20. pumice
6. ripple	21. poisonous
7. seismic	22. dormant
8. hypocentre	23. extinct
9. epicentre	24. destruction
10. tremour	25. typhoon
11. Aftershocks	26. flood
12. seismograph	27. drought
13. Richter's Scale	28. famines
14. magnitude	29. particular
15. catastrophic	30. livestock

Answer the following questions.

Q1. Define the following

Ans i) Natural disaster: Any extreme, sudden event in natue that causes great damage to life and property is called a natural disaster.
ii) Tsunami: Undersea earthquakes, landslides or volcanic eruptions form giant waves of water, hiting the ground.Such huge waves are known as tidal waves or tsunamis.
iii) Drought: It is a long period of hot and dry weather happens due to lack of rainfall for a long time.

Q2. When does an earthquake occur?

Ans.i) Earth's crust is made up of Tactonic Plates.

ii) Earthquake occurs when these plates drags, bumps or scrapes along another plate.

iii) This causes seismic waves, that make the ground shake.

- It is also caused by volcanic eruption.

Q.4 Name the term-
i) The location inside the Earth where an earthquake starts- **Hypocentre**
ii) The region above the hypocentre on the Earth's surface- **Epicentre**
iii) A series of tremors occuring after the main earthquake.- **Aftershock**
iv) An instrument which records the details of earthquake.- **Seismograph**
v) The recording of seismograph.- **Seismogram**
vi) The mearuring scale of the magnitude of the earthquake.- **Richter Scale**

Q3. Write the effects of an earthquake.

- **Ans.i)** Cracks in walls of houses, buildings and houses may fall.
- ii) Dams, bridges and roads may get damaged.
- iii) Undersea earthquakes cause tsunami.
- iv) Loss of life and property.

Q4.What is volcano and how it forms?

Ans. i) Deep inside the Earth the molten rocks called **magma** is found in **magma chamber.**

ii) Due to heat, the pressure inside the chamber rises and the magma is pushed out through the vents in the Earth's crust and come out onto the surface, in the form of **Lava**

iii) Such an opening in the Earth's surface is called **Volcano.**

Q 5. Name the types of volcanoes with one example of each.(home assignment)

Q6. Strong storms are called by different names in different places. What do we call them when they happen over -

i) The Bay of Bengal and the northern Indian Ocean_____

ii) Japan-_____

iii) The Southern USA-_____

Q.7 What is Famine? What are its effects?

Ans. Severe shortage of food,due to drought is called famine.

It causes- Violent hunger, starvation and death.

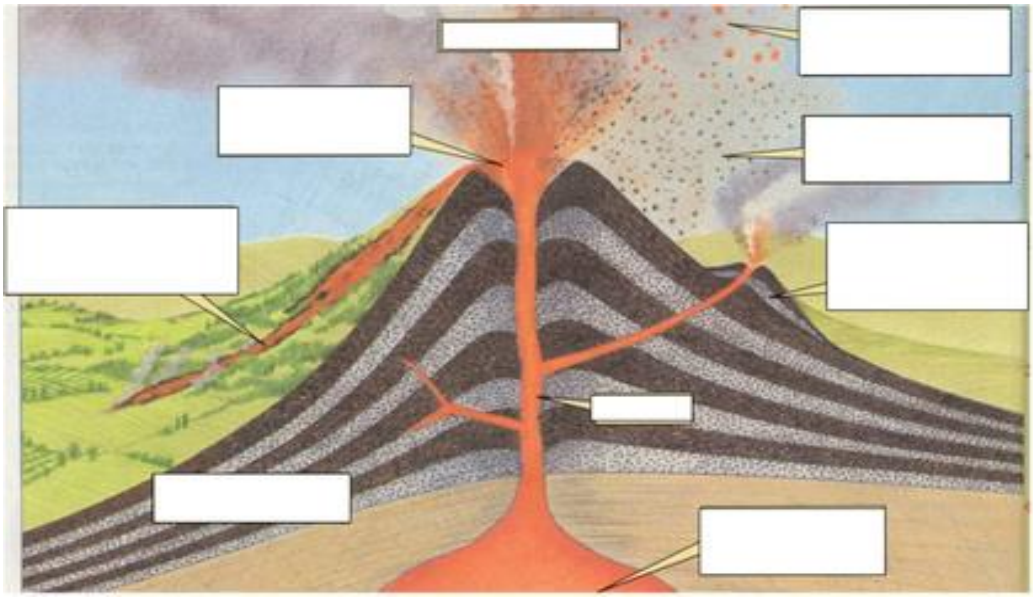
CBE BASED QUESTIONS

Q.1. The following natural disasters lead to what? (hint- earthquake, flood, pandemic, famine)

Q.2. Identify the natural disaster and name them

 _____	 _____	 _____
 _____	 _____	 _____

Q.3. Label all the parts of a volcano- (hint: magma chamber, magma, lava, vent, ash, bits of rocks, lava flow)



LESSON NO 14

CHANGES IN OUR ENVIRONMENT

NEW WORDS

i. Pollutant
ii. Incinerators
iii. Automobiles
iv. Suffocation
v. Contamination
vi. Eutrophication
vii. Deafness
viii. imbalance
ix. Greenhouse gas
x. Acid rain
xi. Excessive
xii. Methane
xiii. Landfill
xiv. Segregate
xv. litter
xvi. disposable
xvii. Resource

ANSWER THE FOLLOWING QUESTIONS.

Q1. Define

Ans. Pollution: The addition of harmful substances to our natural resources.

Pollutants: The substances which cause pollution.

Smog: When smoke gets mixed with fog.

Q3. Write the cause and effects of the following pollutions.

Ans.

Air pollution		
Cause		

- Burning of fuels.
- Smoke from automobiles, factories, waste incinerators, volcanoes and power stations.

Effect

- Diseases like burning eyes, asthma, and lung damage.
- Produces SMOG, which reduces visibility.
- Acid rain which damages water, soil, plants and buildings.

Water pollution

Cause

- Waste from industries, farms, sewage, homes and hospitals thrown into water bodies.
- Due to chain reaction from soil and air pollution.

Effect

- Causes water-borne diseases.
- Oil spills in waterbody cause suffocation to aquatic life.
- Groundwater contamination damages wildlife.

Soil and land pollution

Cause

- Too much use of chemicals like insecticides, pesticides.
- Throwing solid waste from house hold and industries in open areas.

Effect

- Loss of nutrients in soil.
- Fertility of soil reduces.
- Plants growing in such soil, when eaten by us, cause diseases

Noise pollution

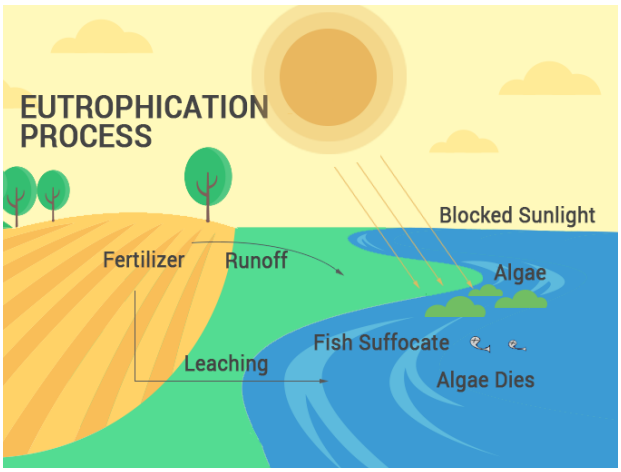
Cause

- Loud noise from vehicles, loud speakers and machinery.

Effect

- Mental imbalance, nervous disability, headache and deafness.
- Disability for animals and birds to find their prey.

Q.5. Explain the following process of eutrophication.



Ans. i) Excessive nutrients in a waterbody caused due to land pollution.

ii) Which in turn causes dense growth of plant life.

iii) Growth of plant life in water bodies deplets the supply of oxygen.

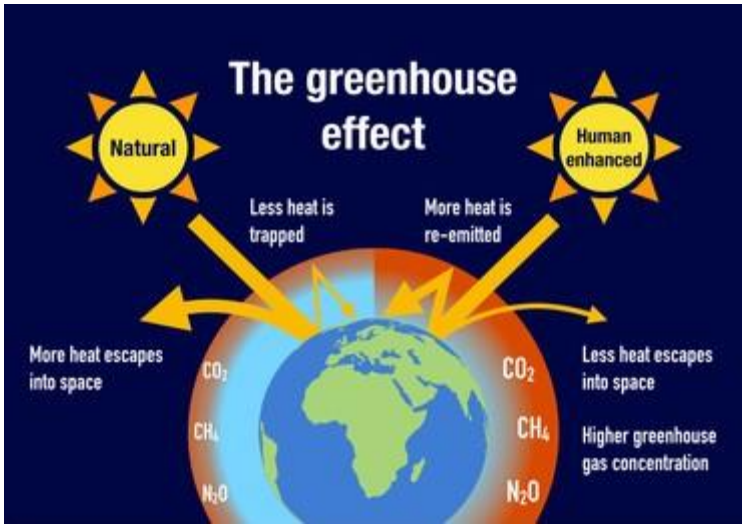
iv) This leads to death of aquatic animals, known as eutrophication.

Q.4. Name the major Green house gases.

Ans. Carbon-dioxide, Methane, water vapour, ozone.

Q5. Explain greenhouse effect with the help of a diagram?

- Various types of pollution increase the level of CO_2 and other green house gases in the air.
- These gases trap heat, resulting in increase of atmospheric temperature.
- This effect is called greenhouse effect and it makes the life possible on Earth.
- But when the amount of green house gases increases, it leads to global warming.



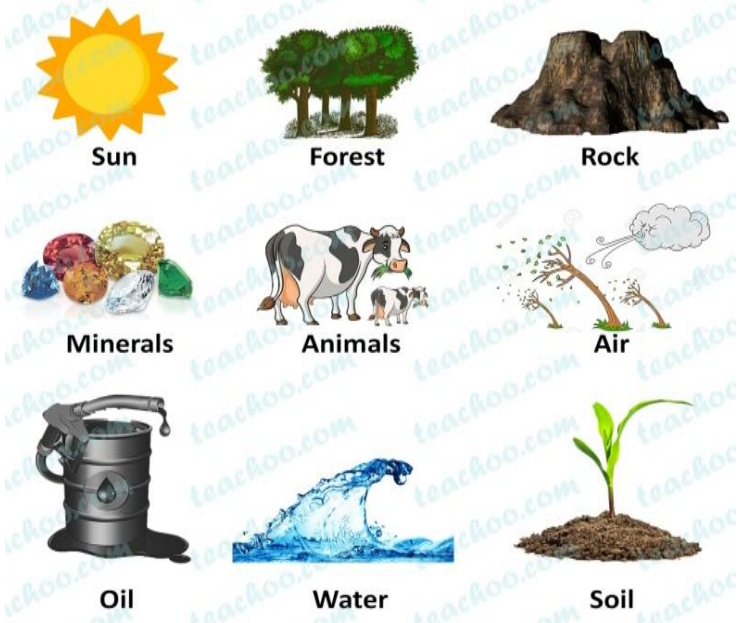
Q6. What are the effects of global warming?

Ans. Because of global warming, ice on poles and mountains starts melting resulting in increase of sea level which floods the large areas of land.

Q7. How can we help to prevent pollution? (Home assignment)

Ans.

CBE- Based questions



THESE ALL ARE OUR-

N_____R_____

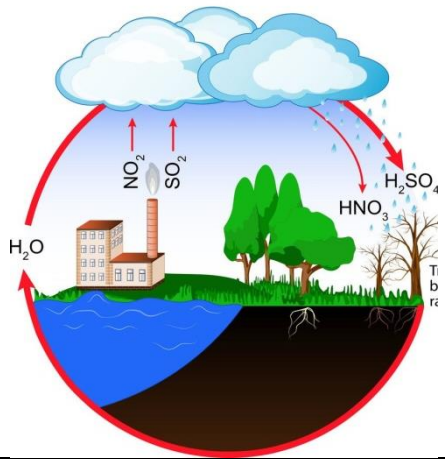



Q.1 How many types of pollution can you identify in the given picture-

1. _____2._____

3._____4._____

Q.2 Observe and answer-



i) Which phenomenon are you observing in this picture?_____
ii) Which gases are responsible for this?
_____
iii) Is it good or bad for environment?_____
iv) Write it's any two effects-
_____

_____

Q.3 Observe and answer-

i)Type of pollution_____
ii)
2causes_____
iii)Example of solid wastes_____
iv) 2 effects_____
_____

Q.4 Arrange the steps of <u>EUTROPHICATION</u> in correct order-

a) Growth of plants in a water body.

b) Excessive nutrients in a water body, caused by runoff of nutrients from land.

c) Death of aquatic animals.

d) Growth of green plants leads to oxygen shortage in water.

Ans i)_____ii)_____iii)_____iv)_____

Q.5 The locomotive pilot (Driver) of Indian Railways usually suffers with mental imbalance and nervous disability later in their life. What may be the cause of this-?

a) Prolonged standing

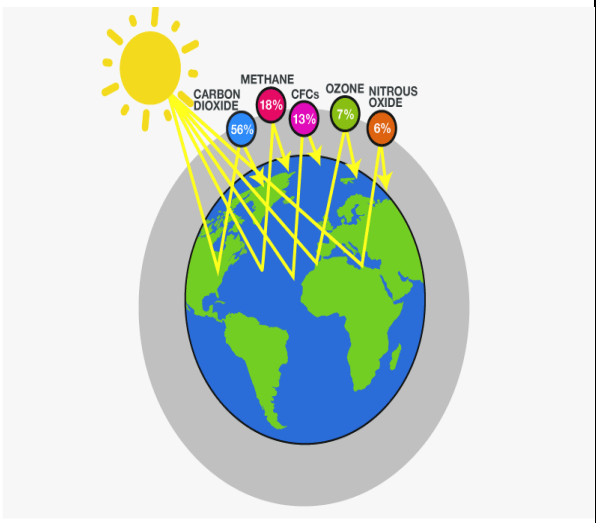
b) Lack of rest

c) Continuous exposer to loud noise

d) None of this

Q.6 Study the following image and answer the questions-

V



1.The slow increase in the average temperature of the earth's atmosphere because an increased amount of the energy (heat) striking the earth from the sun is being trapped in the atmosphere and not radiated out into space.
This is called _____, which is caused due to _____ effect.
2. The gases responsible for this
_____
3. The harmful effects on Earth-
_____

LESSON NO 11

AIR AND WATER

New Words

1. Troposphere
2. Stratosphere
3. Mesosphere
4. Thermosphere
5. Exosphere
6. Ozone
7. Ultraviolet
8. Nitrogen
9. Argon
10. exert
11. pressure
12. Decantation
13. Sedimentation
14. Filtration
15. coagulation
16. condenser
17. Distillation
18. alum
19. coagulation
20. Impurity

Answer the following questions.

Q1. Write the specific features of the following layer of the atmosphere.

Ans.

1. **Troposphere**
   - It is the closest layer to the Earth.
   - Living things can breathe only in this layer.
   - All weather changes take place in this layer.

2. **Stratosphere**
   - Second layer, contains less dense air.
   - Also contains ozone layer which aborbs harmful ultraviolet rays of the sun.
   - Jet planes usually fly here.

3. **Mesosphere**
   - Third layer.
   - Meteors burn up in this layer.

4. **Thermosphere**
   - Space shuttles orbit here.
   - It contains Ionosphere layer, rersponsible for bouncing back the radio signals to Earth.

5. **Exosphere**
   - Outer most layer, fades into space.

Q2. Why is atmosphere important?

Ans.

- Atmosphere contains oxygen which all living things need to breathe and to burn things
- Atmosphere absorbs a large part of heat energy of Sun to maintain the temperature on Earth.
- It recycles the water of the Earth.
- Ozone layer absorbs harmful ultraviolet rays of the Sun.
- It burns off meteorides.
- Air is a carrier of sound waves, thus making it possible to communicate.

Q3. What does air contain?

Ans. Air contains nitrogen (78%), oxygen (21%) carbon dioxide (0.3%) argon, water vapour, smoke, dust and other gases.

Q4. Write the properties of air.

Ans.

- Air is colourless, tasteless and odourless
- Air occupies space.
- Air has weight.
- Air exerts pressure.
- Hot air rises up and also expands

Q.5. Identify the Gases present in air-

1. Important plant nutrient neither burns nor supports burning._____.
2. Needed for breathing and supports burning._____.
3. Plants use for photosynthesis._____.
4. Used for glowing signboard._____.

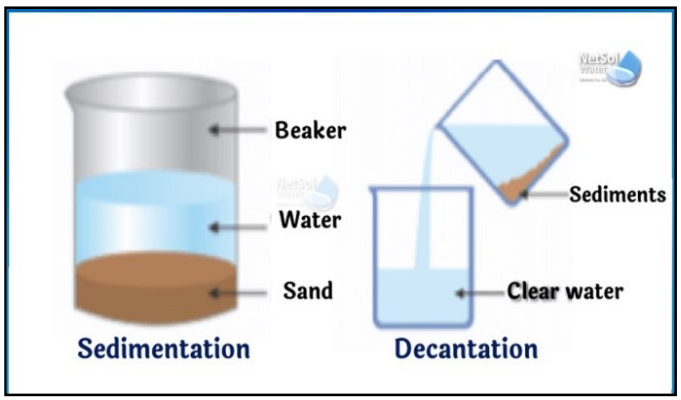
Q 6. Give reason: Water is called a universal solvent.(Home Assignment)

Q 7. Explain the following process of removing insoluble impurities from water with the help of diagrams.

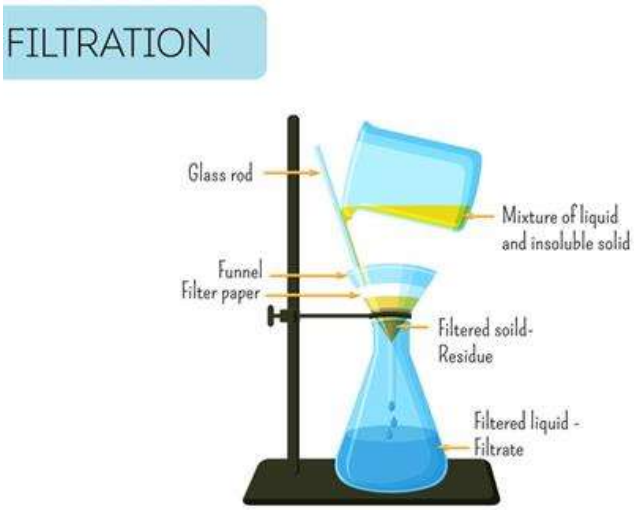
Ans. i. Sedimentation and decantation:

The mixture of insoluble impurities is allowed to stand undisturbed in a beaker.

- After sometime the impurities settle down at the bottom of the container as **sediments.** This process is called **Sedimentation.**
- Clean water can then be poured out into a separate container without disturbing the sediments. This process is called **decantation.**



ii. Filtration: The process by which insoluble impurities are removed by passing impure water through a filtering device is called filtration.



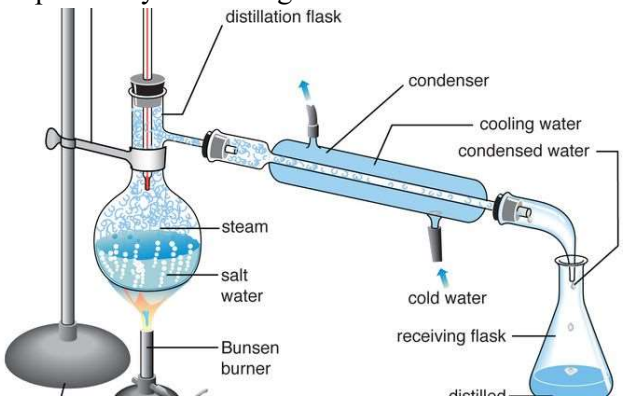
Q 8. Explain the process of distillation with a diagram.

Ans. The process of distillation is used to remove soluble impurities from water.It involves two processes-

i. Evaporation ii. Condensation

It has the following steps:

- Water is evaporated in a distillation flask by heating.
- Water vapour is taken in a condenser, where it condenses to form water. This is the purest form of water. The condenser is kept cool by circulating cold water around it.



Q 9. Name the different steps involved in water treatment?

Ans.Coagulation --->Sedimentation --->Filtration--->Chlorination

CBE BASED QUESTIONS

Q.1 a) Which gas in the air is represented by Part A? 

A) Nitrogen

B) Oxygen

C) Carbon-dioxide

b) Which gas in the air is represented by Part C?

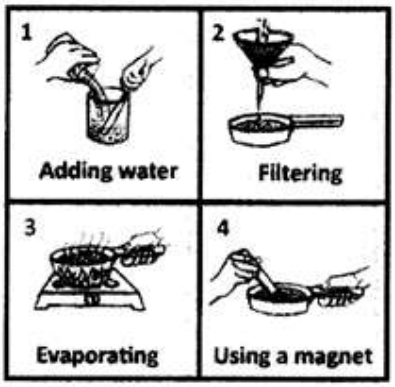
A) Nitrogen

B) Oxygen

C) Carbon-dioxide

D) Water vapour

Q. 2 Shyam is trying to separate a mixture of iron filings, sand and sugar. In which order must he perform the following steps?



A) 4, 1, 2, 3

B) 1, 2, 4, 3

C) 1, 3, 4, 2

D) 4, 2, 3, 1

Q3. When a mixture of Salt + Sugar + Vinegar + Lemon juice + Soda was added into water, it resulted in the formation of a:

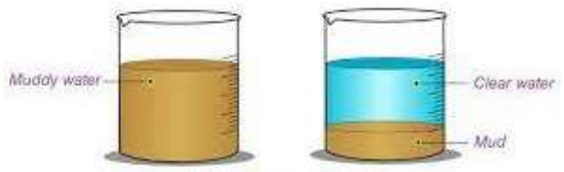
A) Soluble mixture

B) Layers of different mixtures

C) Mixture in which all ingredients are mixed except soda that forms a separate layer

D) None of these

Q.4. Identify the process of purification of water, also write the type of impurities removed by that method.



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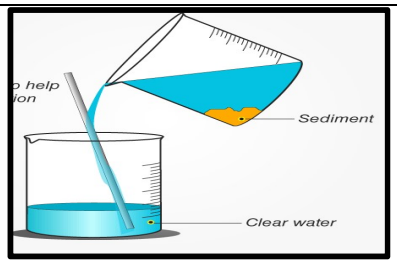

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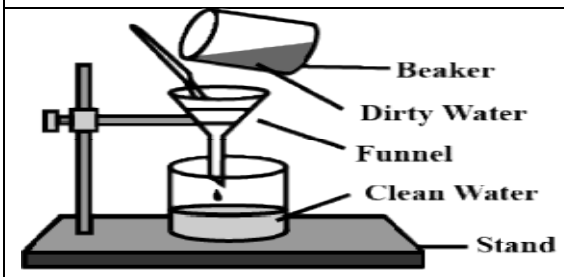

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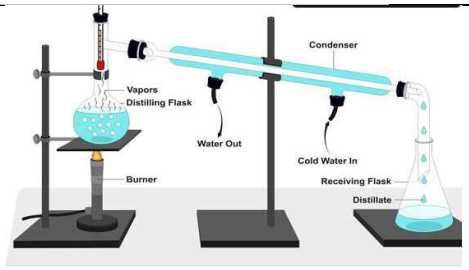


_____

L-10 More About Force, Energy, and Simple Machines

New Words

1.	motion	12.	electrical
2.	gravitational	13.	renewable
3.	frictional	14.	resources
4.	electrostatic	15.	judiciously
5.	magnetic	16.	machines
6.	elastic	17.	effort
7.	stretched	18.	fulcrum
8.	regains	19.	movable pulley
9.	muscular	20.	Inclined plane
10.	buoyant	21.	wedge
11.	mechanical	22.	Wheel and axle

Answer the following questions:

Q.1. Define force and write its effects.

Ans. A push or pull which acts on an object is called a force.
The effects of force are:

i. It can change an object from the rest, to the state of motion and vice versa.
ii. It can change the direction of a moving object.
iii. It can also change the shape and size of an object.

Q.2. Define Gravitational force and the two factors on which it depends.

Ans. The force by which the Earth pulls every object towards itself or downwards is called the Gravitational force
The two factors on which it depends are-
i) mass of the object
ii) distance between the objects.

Q.3. Identify the type of forces acting in the given situation-

1. Soles of your shoes wear out with the time._____
2. You throw a stone using a boomarang._____.
3. The chattering sound caused while removing nylon clothes_____.

4. The refrigerator door remains closed._____
5. The ship sailing in the sea._____
6. When you carry your school bag in your class._____.

Q.4. What type of energy possessed by the following bodies-

1. Flowing water-_____
2. A container kept overhead in the kitchen._____
3. The energy used by plants to make food._____
4. Moving air._____
5. The energy which enables us to see things._____
6. Burning fuels._____
7. The energy coming from power plants._____

Q.5. Differentiate between renewable and non renewable energy.

Ans.

Renewable energy.	Non renewable energy.
1. It is obtained from renewable sources of energy like Sun, wind and water.	1. It is obtained from non renewable sources of energy like coal and petrol.
2. It can be used again and again.	2. It cannot be used again and again.
3. It can be used for a long time.	3. It can be used for a limited period of time.

Q.6. **Define simple machines and list their names.**

Ans. A tool (device) which makes our work easier or faster, as they use less effort for more work, is called a simple machine.

There are six types of simple machines as following:

i. lever
ii. pulley
iii. wheel & axle
iv. inclined plane
v. screw
vi. wedge

Q.7. Explain lever and its types with the help of diagrams and two examples of each.

Ans. Lever is a long bar that rests on a fixed point which lifts or moves loads.

Lever has three components:-

i) The **effort** is the work you apply to move the bar.

ii) The **fulcrum** is the support that the bar rests on or moves freely.

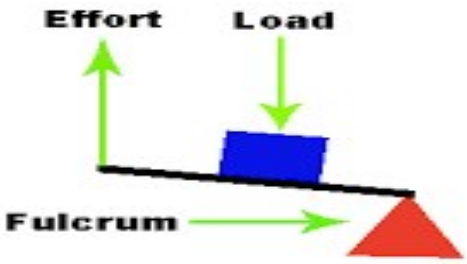
iii) The **load** is the object that you are trying to lift or move.

The three types of levers are-

Class I Lever

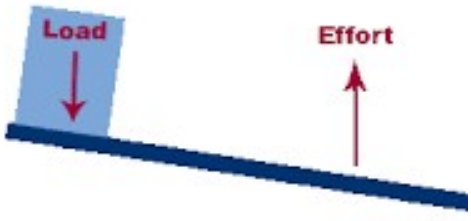
Eg. Seesaw, pair of scissors

Class II Lever



Eg. Wheel barrow, nutcracker

Class III Lever



Eg. Fishing rods and tongs

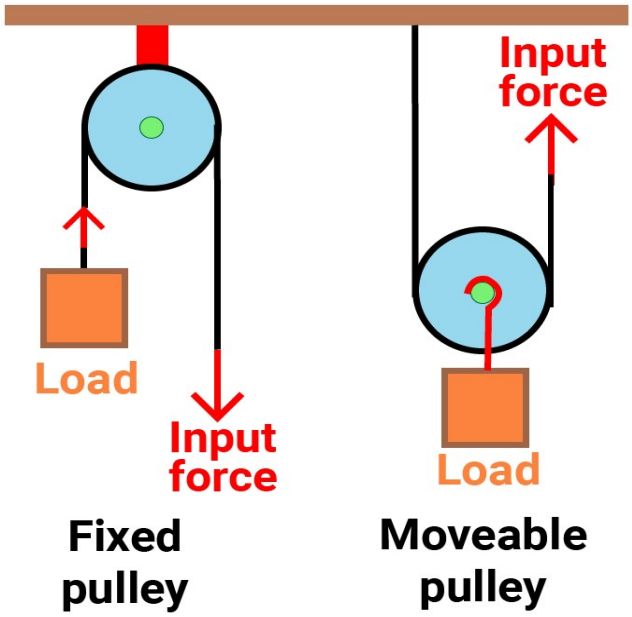
Q.8. Explain pulley and its types.

Ans. A pulley is like a wheel and axle and is provided with a rope or chain that can move things up and down or back and forth.

Pulley are of two types-

i) **Fixed pulley**- fixed at a position, does not reduce or increase the applied force, only changes the direction of the force.eg- flag post

ii) **Movable pulley**-moves with the load, can reduce the applied force.eg- cranes. Lifts.



CBE BASED QUESTIONS

Q.1 Choose the correct option-

Gravity:Downword force::_____:Upward force

a) **Magnetic force**

b) Frictional force

c) Buoyant force

d) Elastic force

Q.2 Choose the incorrect option-

a) **Car tire - Road - Friction force**

b) Iron - Magnet - Magnetic force

c) Floating boats - Buoyant force

d) Hand cart- Elastic force

Q.3 Identify the type of force in the following-

Q.4. In the game of carrom, players spread fine powder on the board.why?
a) to increase friction
b) to decrease friction
c) to reduce gravitational force
d) none of the above

Q.5. Which energy form is renewable and non polluting out of the given options-
a) biomass
b) geothermal
c) hydroenergy
d) all of the above

Lesson-8 Soil

New words

1.weathering	14.overgrazing
2. minerals	15.cultivation
3.organic	16.conservation
4.profile	17.afforestation
5.humus	18.reforestation
6.material	19.depletion
7.regolith	20.pastures
8.fragments	21.embankments
9.removal	22.bunds
10.erosion	23.costruct
11.deforestation	24.windbreaks
12.fertile	25.barrier
13. vegetation	26.campaigns

Answer the following questions-

Q.1. How is soil formed?

Ans. Soil is formed due to weathering of rocks.

Q.2. Define soil profile. Describe the different layers of soil.

Ans. Soil profile means different layers of soil.

The major layers of soil are-

i) Organic layer or Humus-

a. thin , dark layer.

b. made up of decomposed plant and animal material.

ii) Topsoil

a. uppermost layer,mixture of different soil particals.

b. contains microorganisms,water and air.

c. rich in humus and poor in minerals

d. most suitable for plant growth.
iii) Subsoil
a. below the topsoil.
b. made up of small pieces of rocks and water
c. rich in mineral and poor in humus
iv) Parent material
a.made up of weathered or decomposed rock fragments.
b. almost no plant or animal life is found.
c. also known as regolith.
v) Bed rock-
a. lies deep inside the Earth.
b. it is unweathered rock, made up of large pieces of rocks.
c. does not support any plant and animal life.
Q.3 Define soil erosion. Write its causes.
Ans. The removal or washing away of the loose topsil by the action of strong winds
and heavy rains is called **soil erosion.**
Causes of soil erosion are-
i) Deforestation
ii) Heavy rainfall
iii) Strong wind
iv) Excessive heat of Sun
v) Overgrazing by cattle
vi) Ploughing of hills
Q.4 Define soil conservation. Write the ways of soil conservation.
Ans. Protection of soil from wearing away due to physical forces of water and wind
is called soil conservation.
The ways of soil conservation are-
i) Increase in vegetation(green cover)

ii) Crop rotation
iii) Growing cover crops
iv) Development of pastures
v) Construction of Embankments along river sides
vi) Making terrraces on hill slopes
vii) Constructing Dams
viii) Making windbreaks
Q.5. How do forests maintain balance in nature?
Ans. Forests maintain balance in nature in following manner-
i) Forest **helps in cleaning the environment by absorbing toxic gases like carbon-dioxide**
ii) They help to prevent soil erosion and increase the fertility of the soil
iii) Forests are home to about 80 % terrestrial organisms.
Q.6. How is afforestation different from reforestation?

Afforestation	Reforestation
Planting of trees on a large scale, on an open land, which has not been a forest.	Planting trees in place of cut trees of forest areas.

CBE based questions
1. Which part of plant is responsible for weathering of rocks?
a) stem b)root c) leaves d)flowers
2. 'Excessive rain fall makes the soil infertile.' What could be the reason-
a) It washes away the fertile top soil.
b) it washes away the minerals
c) Both a & b
d) none of the above
3. Identify the causes of soil erosion-

a) 

b) 

c) 

d) 

4. If the fields left baren , it leads to-

a) soil erosion b) soil infertility c) soil conservation d) both a &b

5. To save the land from wind erosion, Farmers should-

a) plant windbarriers b) grow cover crops
c) increase green cover d) all of the above

Lesson-9

STATES OF MATTER

NEW WORDS

1. particles
2. atom
3. molecules
4. liquid
5. definite
6. attraction
7. vibrate
8. volume
9. irreversible
10. chemical
11. physical
12. physical
13. corrosion
14. combustion
15. solubility
16. dissolve
17. immiscible
18. conductivity
19. thermal
20. electrical
21. magnetism
22. expansion
23. contraction

Answer the following question-

Q.1. Differentiate between atoms and molecules.

Ans. Atom	Molecule
1. It is the smallest particle of a matter or a substance.	1. It is also the smallest particle of a substance that shows all the properties.
2. It cannot exist independently	2. It can exist independetly.

Q.2. Define matter.

Ans. Matter is anything that takes up space and has mass.

Q.3. Why do the three states of matter exist?

Ans. The three states of matter exists because the molecules are arranged differently in all the three states.(solid, liquids and gases.)

Q.4. Write the differences between solid, liquid and gases.

Properties.	**Solid**	**Liquid**	**Gas**
1. Arrangement of molecules.	Tightly packed	Loosely packed	Very loosely packed
2.Shape	Definite	No definite shape. Take the shape of the container in which it is kept	Do not have any shape
3.Volume	Definite	Definite	Do not have any volume
4. Force of attraction between the particles.	Very strong	Weaker than solids	Extremely weak

Q.5. Identify the processes-
1. Ice turned into water-**Melting**
2. Clothes dried up- **Evaporation**
3. You found droplet of water when you opened your lunchbox in recess- **Condensation**
4. You kept juice in fridge and it turned solid-**Freezing**
5. My mom lit camphor for aarti and it vanished without showing liquid state- **Sublimation.**
6. When carbon-dioxide cooled it turned into dry ice- **Deposition**

Q.7. Differentiate between-
a) Reversible and Irreversible changes
b) Physical and Chemical changes

Ans.a) **Reversible changes**	**Irreversible changes**
Changes which can be reversed to get back the original substance. Eg. Melting of wax	Changes which cannot be reversed to get back the original substance. Eg. Burning of paper
b) **Physical changes**	**Chemical changes**
Change in which no new substance is formed. They are reversible changes. Eg. Cutting of wood or paper.	Change in which a new product is formed. They are irreversible changes. Eg. Burning of wood and paper.

Q.8. Answer in one word-
i) Rusting of iron- **Corrosion**

ii) Burning of a substance-**Combustion**
iii) Ability of a substance to dissolve in another substance.-**Solubility**
iv) Capability of two liquids to mix with each other completely-**Miscible**
v) When two liquids cannot mix with each other.- **Immiscible**

Q.9. Name the following**-(Home assignment)**
i) One solid soluble in water
ii) One liquid miscible in water
iii) One liquid immiscible in water
iv) One gas soluble in water

Q.10. Define –a) Thermal conductivity b) Electrical conductivity c) Magnetism
Ans. a) Thermal conductivity-Substances that can carry heat is a good conductor of heat. This property of the substance is called **Thermal conductivity**.
b) Electrical conductivity- Substances that can carry electricity is a good conductor of heat. This property of the substance is called **Electrical conductivity.**
c) Magnetism-Molecules of some substances are attracted by magnets, they are called magnetic substances.This property is called **Magnetism.**

Q.11. Explain contraction and expansion of solids on change in temperature.
Ans. EXPANSION-

- When an object is heated it expands and increases in size or volume.This is called expansion.
  Eg. In liquid thermometers mercury rises due to heat.

CONTRACTION-

- When an object is cooled it contracts and a decrease in size or volume.This is called contraction.
  Eg. If we hold a very hot glass tumbler under cold water, it cracks.

Q.12. Give reason**--(Home assignment)**

a) Liquids expand more than solids on heating.

CBE -QUESTIONS

Q.1. Choose the correct option-

1. **In the rainy seasons, there is a lot of humidity. Which phenomenon is the reason behind this?**

A) evaporation
B) melting
C) condensation
D) boiling

2. **Read the statements carefully and choose the correct option.**

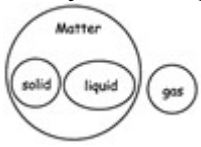
Statement A: In solids the molecules are packed the closest together.

Statement B: In gases the molecules are spread out the most.

A) Statement A is correct B is wrong,
B) Statement B is correct A is wrong.
C) Both the statements are correct
D) Both the statements are wrong.

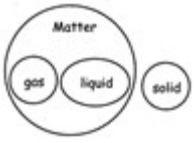
3. Study the diagram and choose the correct option-

a)



b)

c)



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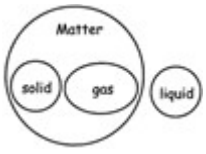
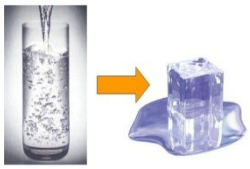


Q.4- Identify the change and write their type(chemical/physical)



_____ _____

Q.5.What type of change is shown in following picture-

a. Reversible
b. Chemical
c. Physical
d. None of these

LESSON NO 4:
THE NERVOUS SYSTEM

New Words

1. nervous
2. nerve
3. respiration
4. cerebrum
5. Spinal cord
6. cerebellum
7. brain stem
8. sensory
9. motor
10. mixed
11. reflex
12. vibration
13. Voluntary
14. co-ordination
15. eyelid
16. iris
17. pupil
18. lens
19. funnel
20. molecules
21. medulla

Answer the Following Questions:

Q. 1) What is a Nervous System? Name its parts.

Ans.)-The nervous system is a complex network of nerves, that carry messages to and from the brain and spinal cord to various parts of the body

It consists of following main parts-

- Brain
- Spinal cord
- Nerves

Q.2) Explain the functions of Nervous system.

Ans.)- Functions of Nervous system:

(i) It is the control centre of the entire body.

(ii)It controls all the system in our body.

(iii)It sends messages to body and receives messages

from the body.

(iv) It controls our sense organs.

Q.3) Describe the parts of Nervous system.

Ans.)- Parts of Nervous system:

- Brain: It is protected by the skull, and acts like a computer.

- Spinal cord: It is a thick bundle of nerves acts like a thick cable.
- Nerves: They act like thin wires connecting all the body parts with the brain.

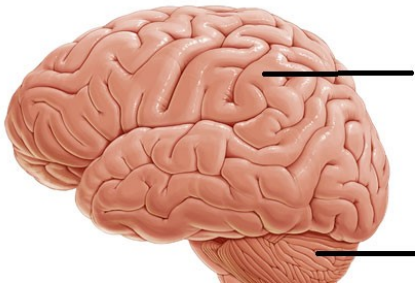
Q.4) Explain the regions of the brain with the help of a diagram.

Ans.) The three regions of the brain are:

A. Cerebrum:
   i) It is the largest part of the brain.
   ii) Controls memory, thoughts, intelligence, learning, speech and sense organs.

B. Cerebellum:
   i) It is located at the back of the brain below cerebrum.
   ii) It controls the movement of muscles. It helps to keep our body balanced.

C. Medulla (Brain Stem):
   i)It is the lower portion of our brain. It connects the brain to spinal cord.
   ii)It controls involuntary actions such as swallowing, breathing and circulation, heartbeat, digestion.



Q.5) Explain the three types of nerves.

Ans.)

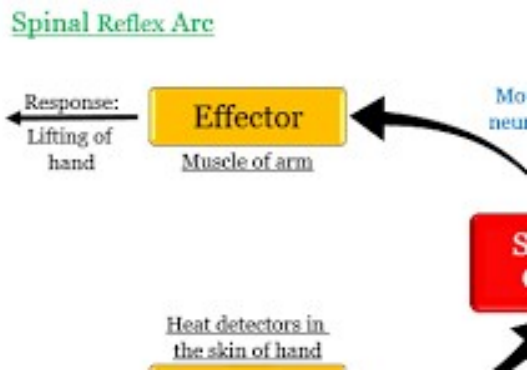
(i)Sensory nerves: carry messages from sense organs to the brain and spinal cord.
(ii)Motor nerves: carry messages (instructions) away from the brain and spinal cord to muscles and glands.
(iii)Mixed Nerves: carry messages from sense organs to the brain and spinal cord as well as away from the brain and spinal cord to muscles and glands.

- Carry messages in both the directions.

Q.6) What is Reflex action?

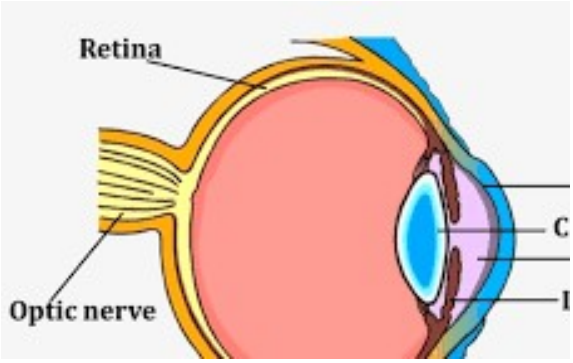
Ans.) A reflex action, is an automatic and immediate action in response to a stimulus (a sudden external change)

- They are automatic actions which are controlled by spinal cord.
- The brain is not involved.
- Spinal cord senses the danger and takes action immediately, to avoid any damage to the body.



Q.7) Explain the structure of eye with the help of a diagram.

Ans.)Eyes are the organs of sense of sight. It works with brain, together they enable us to see things, differentiate colours, shapes, sizes and distances of objects around us.



- Cornea: It is the transparent covering present in the front.
- Iris: It is the coloured part of the eye.
- Pupil: The pupil is the small hole. Light enters the eye through pupil.
- Lens: Behind the pupil, there is a lens. It helps to bend the light rays and focus on Retina.
- Retina: Image is formed on retina. It has many tiny nerves which send the messages to optic nerves.
- Optic nerve: It connects the eye to the brain. The messages are sent to the brain through optic nerves.

Q.8)Explain the structure of ear.

Ans.)The ear is the organ of hearing and balance.

- The outer ear consists of the pinna and the ear canal.
- The sound waves are gathered by the outer ear and sent down the ear canal to the eardrum.
- The sound waves cause the eardrum to vibrate, which sets the three tiny bones in the middle ear into motion.
- The motion of the bones causes the fluid in the inner ear to move.
- These vibrations are changed into signals in internal ear and passed to brain through nerves.

Q-9) Explain the following as sense organs.

Ans.)

(i)The nose:

- The ability to smell comes from specialized sensory cells (nerves), which are found inside the nose.
- These cells connect directly to the brain which takes messages to the brain.

(ii)The tongue:

- Tongue allows us to experience tastes that are sweet, salty, sour, and bitter.
- Taste buds are sensory organs that are found on our tongue.

(iii) The skin:

- The skin acts as a sense organ because it contains specialized sensory nerve endings that detect touch, heat, pressure, pain and cold.

Q-10. Write a short note on

a) Care of eyes.

- When you read, face towards the source of light.
- Sit upright while reading. Never read a book while lying down.
- Do not sit close to the television while watching it.
- Wash your eyes with clean water.
- Never use someone's handkerchief to clean your eyes.

b) Care of ears

- Do not clean your ears with sharp objects.
- Listen to music on low volume.
- Avoid overuse of earphones.
- Keep the ears clean and dry.

c) Care of nose.

- Never blow your nose hard.
- Do not pick your nose.
- Avoid breathing through your mouth.

d) Care of tongue.

- Clean your tongue with a tongue cleaner before and after brushing your teeth.
- Do not eat or drink anything which is very hot or very cold.
- Rinse your mouth after every meal.

e) Care of skin.

- Take bath every day and keep your body clean.
- Drink plenty of water to keep your body hydrated.
- Do not wear unwashed clothes worn by others.
- Use sunscreen lotion to protect skin from harmful sun rays.

CBE BASED QUESTIONS

1. Which part of the brain keeps working even when we are sleeping?
   a) cerebrum
   b) cerebellum
   c) brain stem (medulla)
   d) none of the above.
2. Given below is a picture of telephone line and network.

If we compare this with our body, then which of the following will represent these wires?
   a) nerves
   b) blood vessels
   c) brain
   d) bones

3. If our cerebellum is not working properly, then our movement will be

   a) Balanced
   b) Rhythmic
   c) Jerky like a puppet
   d) Controlled

4. Why are humans more intelligent than animals?

a) Their cerebellum is bigger than human's.
b) Their cerebrum is smaller than human's.
c) Their brain stem is smaller than human's.
d) Their cerebellum is smaller than human's.

5. We should not poke sharp things into our ears. It can damage our hearing. How?

a) It will damage ear lobe.
b) It will damage eardrum.
c) It will damage brain.
d) None of the above.

LESSON NO 5:GOOD HEALTH

New Words

1. Components	8. Stagnate
2. Proteins	9. Insecticides
3. Pyramid	10. Vaccination
4. Roughage	11. Vaccines
5. Cereals	12. Immunity
6. Dehydration	13. Posture
7. Communicable	14. deficiency

Answer The Following Questions:

Q. 1)- Define Nutrients.

Ans.)- Nutrients are substances that our body needs to live, grow and be healthy. They provide nourishment to the body.

Q. 2)-Name the components of food. Write their sources and functions.

Ans.)-

	Components of food	Sources	Functions
1.	Proteins	Pulses, fish, eggs, cheese, beans	Help us to grow
2.	Carbohydrates	Rice, wheat, fruit juices, cereals, potatoes	Give us energy to do work
3.	Fats	Meat, nuts, butter, oil and ghee	Give us energy to do work and keep our body warm
4.	Vitamins	Green vegetables, fruits, sprouts	Help our body to fight diseases
5.	Minerals	Milk, curd, cheese, green leafy vegetables, whole grains, beans, dairy products	Required for the formation of healthy bones, blood and teeth
6.	Water	From food items and water	Help our body to stay healthy and hydrated
7.	Roughage	Fruits and vegetables, oats, barley, cereals,	Helps in removing waste material from our body

		pulses, whole grains	in the form of stool

Q. 3)- What is a balanced diet?

Ans.)- A balanced diet is a diet that contains the right amounts of all the nutrients along with roughage and water.

Q. 4)- What is a Disease? Name their types.

Ans.)- Disease is a state in which our entire body or part of it is not able to function properly.

There are two types of diseases:

Communicable and non communicable diseases.

Q. 5)- Explain communicable diseases with examples?

Ans.)-Communicable diseases spread from one person to other.

- They are caused by germs.

	Micro organism/ Germs	**Disease**
1.	Protozoa	Malaria, amoebic dysentery, leprosy
2.	Bacteria	Pneumonia, typhoid, cholera
3.	Virus	Common cold, flu, chickenpox,corona
4.	Fungi	Infection in eyes, ears, skin and hair

Q. 6)- Write the ways by which communicable disease spread along with examples?

Ans.)-Communicable diseases spread by the following ways:

(i)Through direct contact and air: Example: Common cold, Flu, Measles.

(ii)Through Infected food and water: Example: Diarrhoea, Typhoid, Jaundice.

(iii)Through Insects & Animals: Example: Malaria, dengue, plague.

(iv) Through infected equipment: Example: AIDS, jaundice

Q. 7)- Write the ways to prevent the spread of infectious diseases.

Ans.)-

1. Prevent the breeding & spreading of germs and mosquitoes.
2. Keep yourself and surroundings clean.
3. Use disinfectants to clean floors, drains and bathrooms.

4. Boil drinking water for 15-20 minutes to kill germs.
5. Spray insecticides to kill insects.
6. Stay away from infected people.
7. Get vaccinated.

Q. 8)- Explain what are non-communicable disease with examples?

Ans.)-Non-communicable diseases do not spread from one person to other.

Example: Deficiency diseases, Allergy, Diabetes, Asthma.

Q.9)- What are deficiency disease?

Ans.)-Diseases that are caused by the deficiency or lack of nutrients in diet are known as Deficiency disease

Q.10)- Write the names of deficiency diseases caused due to lack of vitamins and minerals along with food source.

Ans.)-Deficiency diseases caused due to Vitamins & Minerals:

Vitamin/Mineral	Food Source	Deficiency Diseases
Vitamin A	Carrot, Milk, Yellow Fruits, Liver, Green vegetables.	Night blindness
Vitamin B	Whole grains, Fish, Beans, Nuts.	Beriberi
Vitamin C	Citrus Fruits like orange, lemon Tomato, Chilli.	Scurvy
Vitamin D	Sunlight, Milk, Cheese, Fish, Egg.	Rickets
Iron	Green leafy vegetables like spinach Seafood, Bean	Anaemia
Calcium	Milk &milk products, Egg.	Osteoporosis
Iodine	Apple, spinach, dates Sea food, Iodized Salt	Goitre

Q.11)-Why do we need exercise and rest?

Ans.)- (i) Exercise helps to maintain right posture and remain active throughout the day.

(ii) Rest- Our body needs rest to recover and repair. We must have 8 hours of sleep every night to wake up fresh and ready for next day.

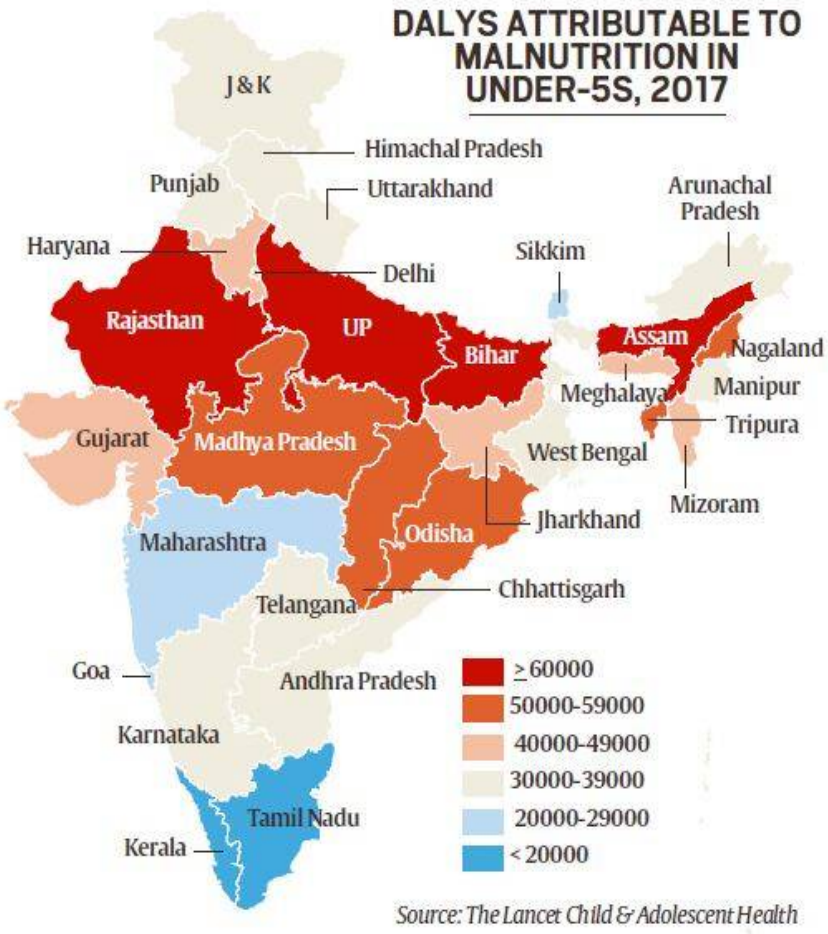
CBE BASED QUESTIONS

1. Amol had four choices in food. Being a sports person, which food item will he choose so that it's healthy for him?

2. Given below are a few food items. On the basis of preservation, they belong to which group?

a) canning
b) deep freezing
c) salting
d) dehydration

Read the below given map and answer the questions.



3. Which states have the highest number of malnourished children?

a) Rajasthan, UP, Madhya Pradesh, Odisha
b) Maharashtra, UP, Madhya Pradesh, Odisha
c) Rajasthan, UP, Madhya Pradesh, Bihar
d) Rajasthan, UP, Assam, Bihar

4. Which states have the least number of malnourished children?

a) Gujarat, Jharkhand
b) Kerala, Maharashtra
c) Tamil Nadu, Kerala
d) Tamil Nadu, Goa

5. Around how many children are malnourished in Sikkim?

a) 20000-29000
b) 30000-39000
c) More than or equal to 60000
d) Less than 20000

LESSON NO 3

THE SKELETAL AND MUSCULAR SYSTEM

NEW WORDS

1. Skeleton
2. Collapse
3. Bone marrow
4. Vertebrae
5. Vertebral column
6. Spinal cord
7. Femur
8. Ribs
9. Breast bone
10. Sternum
11. Humerus
12. Hinge
13. Ligament
14. Ball and socket
15. Gliding
16. Triceps
17. Voluntary
18. Cardiac
19. Pivot
20. Striated
21. Striped
22. Cranium

ANSWER THE FOLLOWING QUESTIONS.

Q1. Write the functions of the skeletal system.

Ans. Our skeletal system

1. Gives shape and support to our body.
2. Protects soft internal organs like brain, heart, lungs.
3. Bones have bone marrow where the blood cells are produced.
4. The muscles attach to bones help in movement of various body part.

Q2. Answer the following in one or two words.

1. Number of bones in
   - Skull- 22
   - Upper part of skull- 8

- Our face- 14
- In backbone (vertebrae) – 33
- Pair of ribs- 12 pair

2. Organs protected by
   - Skull- brain
   - Rib cage- heart, lungs
   - Backbone- spinal cord
3. The other name of the backbone- spine or vertebral column
4. Thin, flat, curved bones that form a cage around the heart and lungs- ribs
5. The other name of the breast bone- sternum
6. Pair of ribs that are not attached to sternum- floating bones/ ribs.

Q3. Name the following.

1. Bone present at the upper half of the leg- femur
2. The longest bone in our body- femur
3. Bone present at the lower half of the leg-
   - shin bone- tibia
   - calf bone- fibula
4. Bone present at the upper arm- humerus
5. The stretchy bands that hold the bones at joints- ligament
6. The tough band of tissues that attach muscles to bones- tendons.
7. The round part of the skull that holds the brain- cranium
8. The last two pairs of ribs that are not attached to sternum- floating ribs
9. Muscles present only in heart- cardiac muscles
10. Muscles present in stomach, intestine etc- smooth muscle
11. The other name of voluntary muscles- striated muscle
12. The other name of involuntary muscles- non- striated muscle

Q4. Define joints. Name the four types of joints and give two examples of each.

Ans. Joints are place where two or more bones are joined together.

<u>The four types of joints are</u>

1. Ball and socket joint- eg. hip joint, shoulder joint
2. Hinge joint- eg. Knee joint, elbow joint
3. Pivot joint- joint between the first two vertebrae of the backbone.
4. Gliding/ sliding joint- eg wrist and ankle joints.

Q5. Write the difference between voluntary and involuntary muscles. Give one example of each.

Ans.

Voluntary Muscles	Involuntary Muscles
These muscles are in our control.	These muscles are not in our control.
Eg. Muscles in arms and legs.	Eg. Muscles in heart and stomach

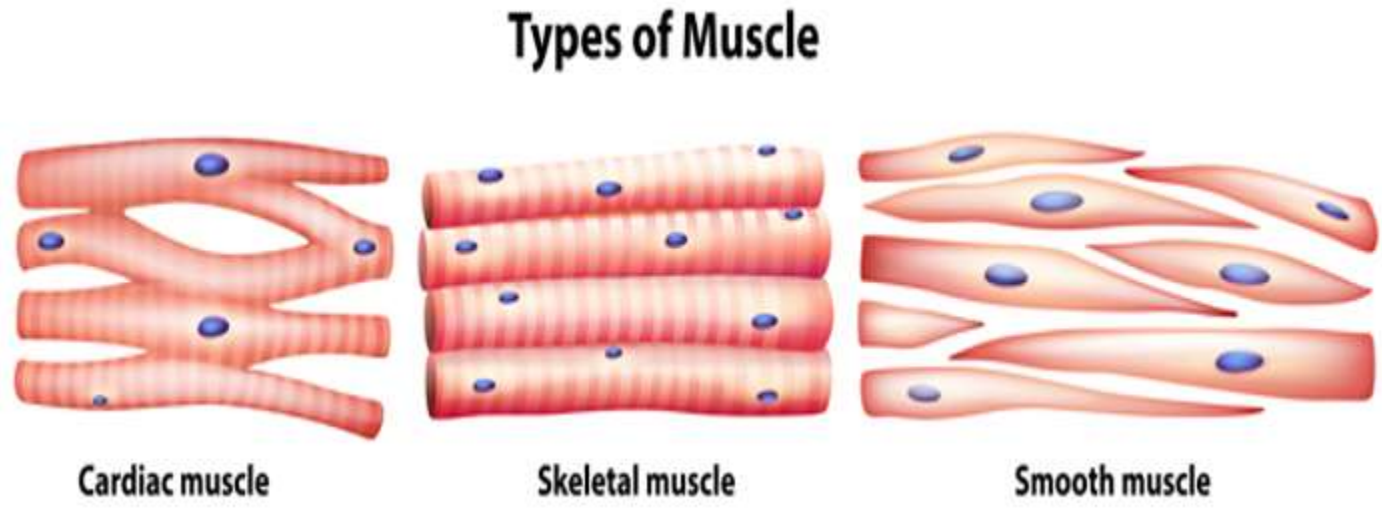
Q6. Describe the movement of different types of joints.

Ans.

1. Pivot joint: helps in movement of our head in upward, downward and sideways direction.
2. Gliding/ sliding joint: allow small sliding movements at wrist, ankle and vertebrae. It allows back to bend, twist and turn.
3. Ball and socket joint- it allows circular movement.
4. Hinge joint- it allows movement of bones only in one direction.

Q7. Draw the diagram of skeletal, cardiac and smooth muscles.

Ans.



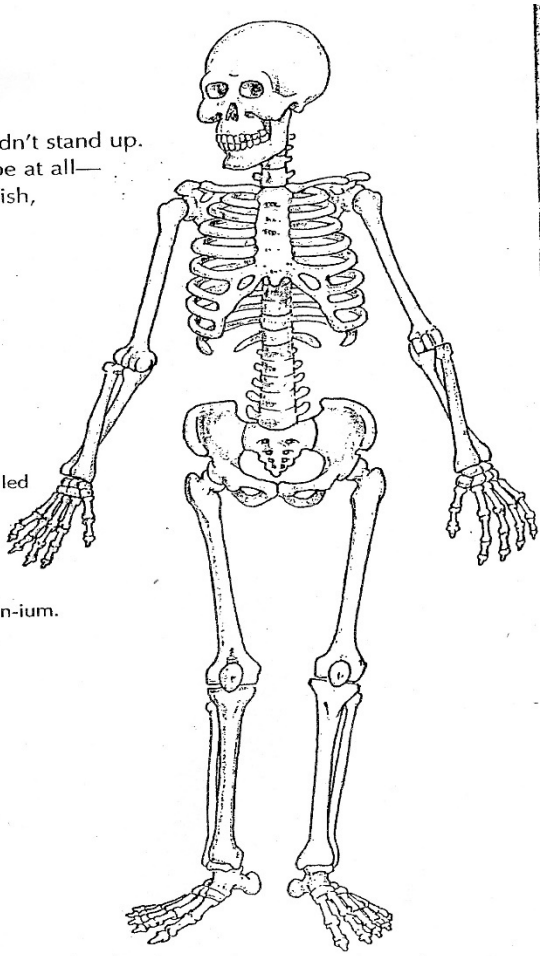
CBE BASED QUESTIONS

Bones

Without your bones, you couldn't stand up.
You wouldn't have much shape at all—
Like a lump of clay, or a jellyfish,
Or a punctured rubber ball.
Yes, to give you shape
And support your weight,
Bones are absolutely great.
Long bones, short bones,
Big bones, small—
You have 206 in all!

All the bones in your body are called your *skeleton.*

Ribs are like a vest
You wear around your chest
To protect your lungs and heart.
Your cranium surrounds your brain-ium.
Bones guard your softer parts.



Read the above poem and tick the correct option.

1. Which of the following is not the function of skeletal system?
   a) Give support to our body.
   b) Give colour to our body.
   c) Give shape to our body.
   d) Protect internal soft organs.
2. What would have happened if you had no bones?
   a) I would have been like a horse.
   b) I would have been like a tree.
   c) I would have been like a punctured ball.
   d) I would have been like a scare crow.

3. Which part of your body is protected by ribs?
   a) Brain
   b) Stomach
   c) Small intestine
   d) Heart

4. If you have fracture in the longest bone of your body, then you have problem in which part of your body?
   a) Upper hand
   b) Back bone
   c) Thigh bone
   d) Lower leg
5. Gunjan fell from stairs. She injured her right knee. In X ray report, her bones were perfectly fine. Damage could be in
   a) Ligament
   b) Bone marrow
   c) Tendon
   d) Both a and c

LESSON NO 1
MORE ABOUT PLANTS

NEW WORDS

1. Reproduction
2. Damage
3. Cotyledon
4. Dicotyledonous
5. Dicot
6. Monocotyledonous
7. Monocot
8. Embryo
9. Germination
10. Condition
11. Hypocotyl
12. Radicle
13. Epicotyl
14. Seedling
15. Plumule
16. Dispersal
17. Struggle
18. Explosion
19. Spores
20. Agriculture
21. Rabi crop
22. Legumes
23. Kharif crops
24. Ploughing
25. Enrichment
26. Manure
27. Fertiliser
28. Sowing
29. Irrigation
30. Pesticides
31. Harvest
32. Perishable
33. Contour

ANSWER THE FOLLOWING QUESTIONS

Q1. What is germination?

Ans. Germination is a process by which a seed produces a baby plant or seedling in the presence of air, water and warmth.

Q2. Define agriculture.

Ans.Agriculture is the practice of growing plants on a large scale for food or other purposes.

Q3. Name the essential elements, other than soil for the growth of a seed.

Ans. Air, water and warmth

Q4. Which special feature of a potato helps in growing its new plant?

Ans. The small buds present on the potato help in growing its new plants.

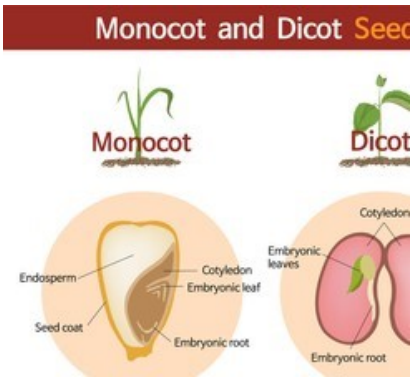
Q5. What is contour farming? Where and why, it is done?

Ans. In hilly areas, people do not have enough space to grow crops. So, they cut steep slopes into several steps and create flat surface for growing crops. This type of farming is called contour farming.

Q6. Explain the structure of a seed with the help of a diagram.

Ans. A seed has the following parts:

- Seed coat: it protects the seed from being damaged.
- Cotyledons (seed leaves): they store food for the baby plant.
- Embryo: it is the baby plant inside the seed. It has a root and a shoot.



Q7. Define crops. Name the main types of crops grown in India.

Ans. Large quantities of fruits, vegetables, cereals and pulses grown in a season in a particular place by a farmer are called crops.

- The two main types of crops grown in India are kharif and rabi crops.

Q8. Define harvesting and irrigation.

Ans. Harvesting is the cutting and gathering of crops when they are ripe and ready.

- Irrigation is the supply of water to the fields through pipes and channels so that crops get sufficient water for growth.

Q9. Differentiate between monocot and dicot seeds.

Ans.

Monocot seeds	**Dicot seeds**
These seeds have only one cotyledon.	These seeds have two cotyledons.
Eg maize, rice, wheat	Eg pea , kidney beans

Q10. Define seed dispersal. Describe the different ways of seed dispersal.

Ans. Seed dispersal is the process of scattering of seeds away from the mother plant.

- Different ways of seed dispersal are

i) Dispersal by wind
- Seeds which are light in weight or have hair or wings fly away and scatter with the wind.
- Eg dandelion seed and drumstick seeds

ii) Dispersal by water
- Seeds or fruits that grow in or near flowing water has a fibrous covering or they are spongy. Such seeds get dispersed by water.
- Eg. Lotus, coconut

iii) Dispersal by animals
- Seeds that have spikes or hooks or stiff hairs are dispersed by animals. Eg cocklebur
- Human beings eat fruits and throw away the seeds on the ground. Eg mango, jamun.
- Sometimes, birds and animals eat the fruits with the seeds which later come out with their droppings. Eg fig, banyan fruit

iv) Dispersal by explosion
- Fruits of some plants explode on ripening and shoot out the seeds.
- Egpea and poppy seeds

Q11. Write the stages of agriculture.

Ans. i) ploughing ii) enrichment of soil iii) sowing seeds iv) irrigation v) spraying insecticides and pesticides vi) harvest and storage vii) transportation

Q12. Explain the process of germination with the help of a diagram.

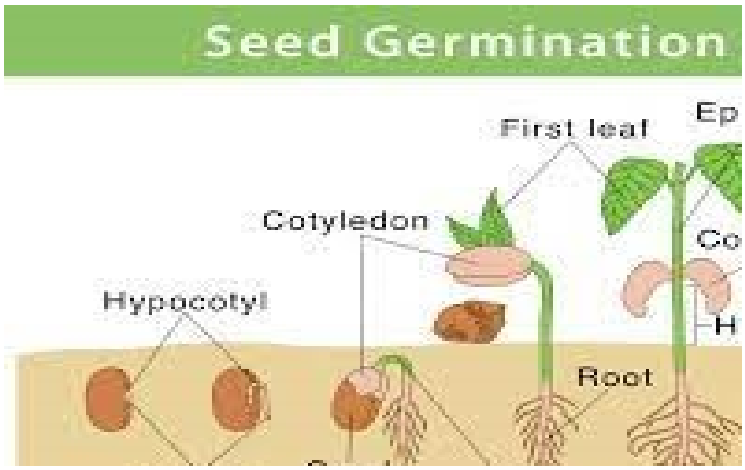
Ans. i) The seed gets air, water and warmth.

ii) The seed soaks up water, the seed coat breaks and the root emerges.

iii) The new plant develops roots and a shoot.

iv) As the plant grows in size, it develops leaves.

v) The cotyledons shrink and disappear.



Q13. Give two examples of the following.

i) Growing plants from stem: hibiscus, sugarcane
Underground stem: potato, onion, ginger
ii) Growing plants from roots: sweet potato, carrot, turnip
iii) Growing plants from leaves: bryophyllum, begonia
iv) Growing plants from spores: mushroom, ferns

Q14. Give reason.

i) Tea cannot be planted in plains.

Ans. Tea needs humidity and rain for its proper growth. This is why tea cannot be planted in plains.

ii) Soil is ploughed before sowing seeds.

Ans. Soil is ploughed before sowing seeds to loosen the soil so that sufficient air gets into it and stones and pebbles are properly removed.

CBE BASED QUESTIONS

1 Why do we see coconut trees mostly near a water body?

a) Because coconut needs water to grow.
b) Because beaches look beautiful.
c) Because coconut seeds get dispersed by water.
d) Because coconut need sand to grow.

2. Which of these are required for germination?

a) air b) water c) warmth d) all of these

3. Tick the correct option.

a) dandelion- water

b) lotus- wind

c) drumstick- wind

d) banyan- explosion

4. The part that grows below the ground is called

a) plumule b) radicle c) hypocotyl d) epicotyl

5. If you are a farmer, which crop will you grow in June to October month?

a) rice b) wheat c) legume d) cotton

LESSON NO 2
ANIMALS AND THEIR ADAPTATIONS

NEW WORDS

1. Vertebrates
2. Invertebrates
3. Locomotion
4. Exoskeleton
5. Flapping
6. Reptiles
7. Ventral
8. Hindlimb
9. Forelimb
10. Hooves
11. Surefooted
12. Spiracles
13. Trachea
14. Nares
15. Blowhole
16. Quills
17. Camouflage

ANSWER THE FOLLOWING QUESTIONS

Q1. Name any three animals that have webbed feet.
Ans. Duck, turtle, crocodile

Q2. How do insects breathe?
Ans. Most insects breathe through spiracles.

Q3. Name any three animals that use lungs to breathe.
Ans. Dog, cat, humans

Q4. Name any four organs of movement in animals.

Ans. Fins, legs, scales, wings

Q5. Why is the body of fish streamlined?
Ans. The body of fish is streamlined to help it swim easily.
Q6. Explain movements in different types of birds.

Ans.1) Birds that can fly have well developed wings, feathers and strong flight muscles.
- Their body is light weight because of hollow bones.
- These birds can fly by flapping their wings.

2) Aquatic birds like ducks have webbed feet to swim in water.
3) Penguin cannot fly due to very heavy body, but can swim very fast.
4) Ostrich can run very fast using its hind limbs.

Q7. Explain the body covering in various animals.
Ans.

i) Feathers- birds have feathers which keep them warm and help them fly.
ii) Scales- fish have overlapping scales to stop water from entering the body.
    - Reptiles like snakes and lizards have scales for protection.
iii) Shell- oysters, tortoises and snails have a shell to protect their soft bodies.
iv) Fur and wool- sheep have wool and polar bear and Arctic fox have fur to keep their bodies warm.

Q8. What is camouflaging? Give examples.
Ans. Camouflage is a process of blending with surrounding so that they cannot be spotted.
Eg: Tigers have stripes on the body to blend with forest background.

Q9. How do the following animals protect themselves?
Ans.

i) Porcupines: have needle like quills for protection.
ii) Armdillos: have hard armour like plates for protection.

Q10. Describe how different vertebrates breathe.

Ans.

i) Fish and baby amphibians breathe through gills.
ii) Adult amphibians- lungs and skin
iii) Reptiles, birds and mammals- lungs
- Birds have small holes known as nares on both the sides of their beaks to inhale air.
- Whale and dolphins have blowhole for breathing.

Q11. What is migration? Give examples.

Ans. The seasonal movement of the birds and the animals from one place to another in search of food and to avoid harsh seasonal changes is called migration.

Eg.

i) Dragonflies migrate to southern part of Asia during winter season.

ii) Monarch butterflies migrate from North America to southern part of California to spend winter season.

CBE BASED QUESTIONS

1. Identify the animal: It has strong grinding teeth to chew the flesh and crush bones.
   a) Deer b) lion c) elephant d) buffalo

2. This is the only bird that has nares at the tip of its beak.
   a) Kiwi b) ostrich c) peacock d) duck

3. Choose the correct option.
   a) Birds: lungs
   b) Insects: lungs
   c) Humans: nare
   d) Fish: skin

4. Salmon fish migrate from saltwater to freshwater because
   a) Their friends live in freshwater.
   b) To protect themselves from saltwater.
   c) To lay eggs.
   d) They love freshwater.

5. If frog: lungs, then tadpole: _____
   a) Gills
   b) Trachea
   c) Spiracle
   d) skin