Map Work

Mark the following neighbouring countries of India in a political map of India:

1. AFGHANISTAN
2. PAKISTAN
3. NEPAL
4. BHUTAN
5. BANGLADESH
6. MYANMAR
7. SRI LANKA

L-12

Keeping Our Earth Clean

New words

1. Earth	13. outskirts
2. Living thing	14. water pollution
3. Non Living thing	15. harmful
4. Pollution	16. pesticide
5. Pollutants	17. land pollution
6. Activities	18. infertile
7. Factories	19.biodegradable
8. Air pollution	20. non-biodegradable
9. Prevention	21. reduce
10. Afforestation	22. recycle
11. Deforestation	23. reuse
12. Chimneys	

Answer the following questions

Q.1.Define the following

a. Pollutants
   Ans: Harmful substances that pollute air, water and land are called pollutants.
b. Pollution
   Ans: The presence of harmful substances in air, water and land is known as pollution.

Q.2. Distinguish between biodegradable and non-biodegradable substances.

Biodegradable substance	Non-biodegradable substance
1. It decomposes naturally in the environment by the action of microorganisms.	It does not decompose naturally.
2. It is environment friendly.	It is harmful to the environment and causes pollution.
3. It is made up of natural ingredients.	It is made up of synthetic materials.
4. It can be converted into manure or recycled.	It can be either reused or recycled.
5. Examples: Waste paper, wood crumbles, etc.	Examples: Plastic bags, cans, disposable bottles, etc.

Q.3.List out different pollutions, their causes and their preventive measures

Air pollution

Causes

Burning of fuel like petrol or diesel.

Harmful gases from factories or industries.

Preventive measures

Vehicle should use nonpolluting fuels like CNG.
Factories chimneys should be tall and factories must be located on outskirts of cities
We should plant more plants.

Water pollution

Causes

People wash clothes or utensils and bathe animals in water bodies.

Factories release harmful chemicals into rivers.

Preventive measures

People should not bathe animals or wash clothes or utensils in water bodies.
Avoid the use of plastics bags.

Factories and industries should treat their dirty water well before letting them to water bodies.

Land pollution

Causes

Usage of insecticides and pesticides affect the quality of the soil.

Waste from domestic, industrial and agricultural use is not disposed properly.

Preventive measures

Plant more trees.
Minimize the use of chemical pesticides and insecticides in land.

Waste should be disposed properly.

Q.4. Give differences between afforestation and deforestation.

Ans.

Afforestation	Deforestation
1. Planting of large number of trees in an area.	1.C4utting down of trees in large numbers
2. Reduce pollution.	2 . Cause pollution.
3. Increase oxygen level in air.	3. Increase carbon di oxide in air.
4. Cause balance in nature	4. Affect wildlife and food chain. It leads to imbalance in nature.

Q.5. Write short note on Reduce, Reuse and Recycle

Ans:

The 3Rs of waste management are Reduce, Reuse and Recycle.

i. **Reduce**:

We should reduce the use of natural resources wisely and help to conserve them as much as possible.

Example. Paper is obtained from trees. We can reduce the use of paper by using it on both sides or taking printouts only when required.

ii. **Reuse**:

We should reuse the materials or donate them for use by others.

Example. Plastics can be used to make various colourful and useful objects like pencil stands and plant vases.

We can donate old clothes and blankets etc., to those in need.

iii. **Recycle**:

Some resources can be recycled for fresh use.

Example. Paper can be recycles.

CBE Questions

Read the passage and answer the following questions.

What can you do to keep your town clean and safe?

First, I advise you to never litter the streets. Second, always collect the garbage around your house and put it in plastic bags. Then you must put those bags in a garbage can and wait for the garbage collector. Besides, you mustn't get rid of your empty juice cans or yoghurt pots in the streets. Also, many people throw their empty water bottles anywhere. This is very irresponsible and it's source of big environmental problems like pollution and source of various dangerous viruses that will cause diseases.

1. The text is about
   a. Keeping your school clean
   b. Keeping your town clean
   c. Keeping your house clean
   d. Keeping our Earth clean
2. What are the pieces of advice given here?
   a. Throw rubbish everywhere
   b. Let people litter the neighborhood
   c. Never collect garbage cans
   d. Behave in a responsible way
3. Non – biodegradable waste is one of the major cause of land pollution. Which one of the following is a better option to get rid of non-biodegradable waste
   a. Burning
   b. Burying
   c. Recycling
   d. Dumping
4. Which is non-biodegradable waste?

a. Peels 

a. Paper 

c.Can 


d. Wood

5. Choose the pollution caused by this factory.

a. Water pollution
b. Air pollution
c. Land pollution
d. All the above

6. Identify the Personality shown in the picture

Sh. Tanmay Kumar IAS

a. Chairman of Central Pollution Control Board
b. Election commisoner of India
c. Union Minister
d. Deputy Collector

L-13

Air, Water and Weather

New words

1. Weather
2. Heat
3. Cloudiness
4. Sunshine
5. Humid
6. Clothes
7. Tilt
8. Water vapour
9. Snow
10. Hail
11. Sleet
12. Atmosphere
13. Sea breeze
14. Land breeze
15. Impurities
16. Insoluble
17. Sedimentation
18. Decantation
19. Filtration
20. Boiling
21. Chlorination
22. Purifier

Answer the following questions

1. **Define the following**
   - **a. Weather**
     Ans: Weather is the condition of the atmosphere of a particular place and at a particular time. Weather can be hot, humid, dry and windy.
   - **b. Condensation**
     Ans: When water vapour cools down, it changes into tiny droplets of water. This is known as condensation.
   - c. **Hail**
     Ans: Pellets of frozen rain are called hail.
   - **d. Fog**
     Ans: Suspended water droplets or ice crystals in the layer of air, next to the Earth's surface. Fog reduces visibility.
   - **e. Mist**: It is a mild form of fog.

2. Difference between Sea breeze and Land breeze.

Sea breeze	Land breeze
1. It is also known as on-shore wind	It is termed as off-shore wind
2. Formed at daytime.	Formed at night.
3. Comes from water.	Comes from land.
4. Have moisture.	Dry winds.

3. What are the factors that affect the rate of evaporation?

Ans:

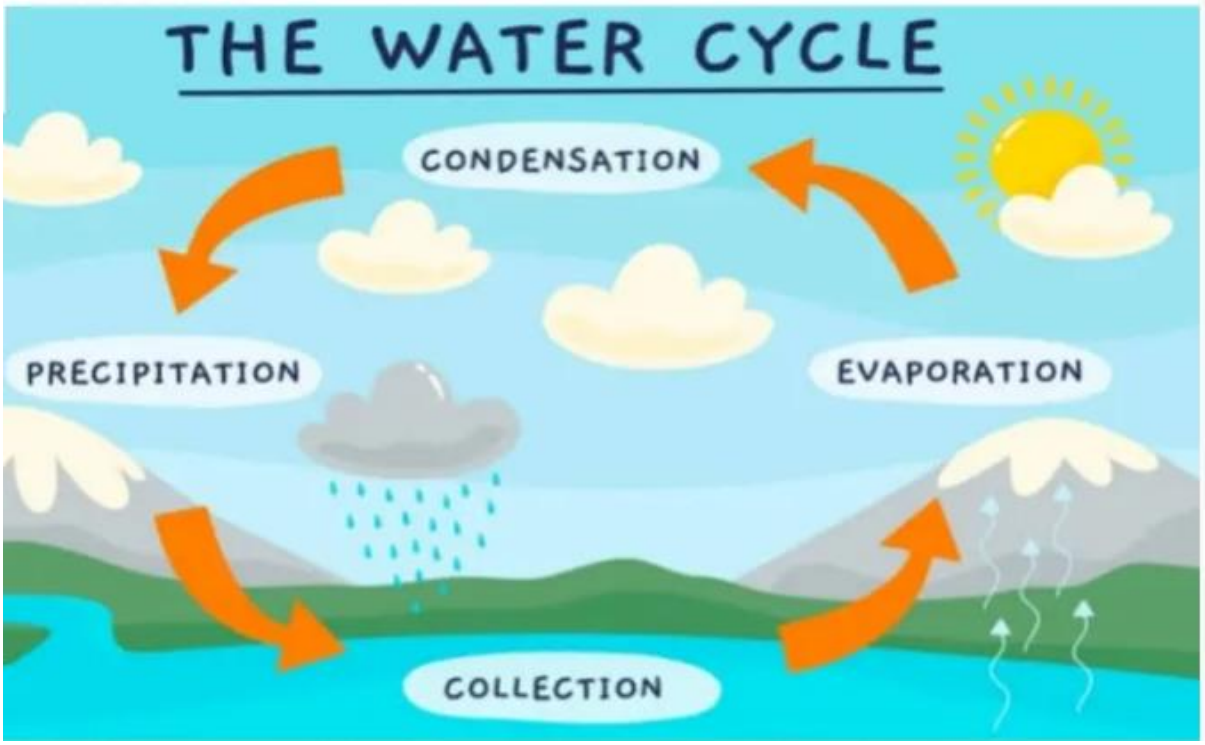
There are several factors that affect the rate of evaporation.

a. Temperature: The higher the temperature, the faster is the rate of evaporation.
b. Wind: Wind speeds up the rate of evaporation.
c. Area of water exposed: The larger the area of water exposed, the larger will be the rate of evaporation.
d. Dry air: If there is already enough water vapour present in the air, evaporation will be slow. Therefore, the drier the air, the more will be the rate of evaporation.

4. Explain water cycle with a diagram.

Ans.

- Water evaporates from oceans, rivers, lakes and other water bodies.
- It condense to form clouds and falls back on the ground in the form of rain, snow, hail and sleet.
- This water gets collected in rivers, ponds, lakes and oceans. Some of this seeps in to ground making ground water.
- This is known as collection.
- This entire cycle of change in the form of water is known as water cycle.



5. Explain the process of removing insoluble impurities from water?

Ans:

- The method of sedimentation and decantation can be used to remove insoluble impurities.
- First let the impure water stand for some time.
- Larger particles of impurities will settle down at the bottom, leaving clear water on the top.

- This is known as **sedimentation**.
- Carefully pour the clean water into another vessel. This is known as **decantation.**
- **Filtration** is another method of removing impurities from water in which unclean water is passed through filter paper. The impurities remain on filter paper and clean water passes through it.

6. **Draw the diagrams to show- (Home Assignment)**

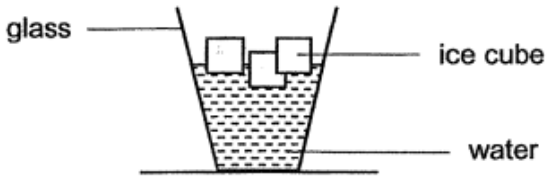
   i) land breeze and sea breeze.

   ii) The process of Sedimentation, Decantation and Filtration.

CBE Questions

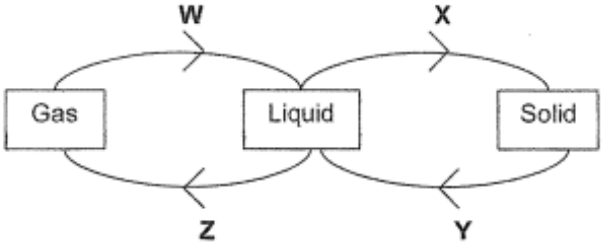
1. Raju took out a bottle of orange juice from a freezer. After a while, he noticed some water droplets on the outside of the bottle. Where did the water droplets come from?
   a. From the cool air in the freezer
   b. From the moisture in the surrounding air
   c. From the orange juice
   d. From Raju's hands.

2. The diagram below shows some ice cubes in a glass of water.



   After ten minutes, the ice cubes melted completely.
   Which of the following statement(s) correctly explain(s) why the ice cube melted?
   A. The water gained heat from the ice
   B. The ice gained heat from the water.
   C. The ice lost heat to the surrounding air.
   D. The surrounding air lost heat to the ice cubes.
   a. B only
   b. B. A and C only
   c. B and D only
   d. A, C and D only

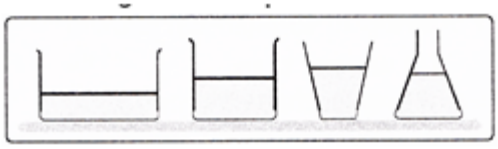
3. The diagram below shows the states of water at different temperatures.



During which two processes will water lose heat to the surroundings?

a. W and X only
b. W and Y only
c. X and Z only
d. Y and Z only

4. Arun poured equal amounts of water into four containers as shown in the figure and kept all of them out in the hot sun for an entire day. At the end of the day, he measured the amount of water left in each container.



What was Arun testing for?

a. Whether evaporation depends on the volume of water taken.
b. Whether evaporation depends on temperature
c. Whether evaporation depends on the material of the container
d. Whether evaporation depends on the exposed area of the water.

5. Sheila made a cup of tea for herself. But her phone rang and she started talking on phone. In the mean while she covered her mug of tea with a lid. After 10 minutes, she removed the lid to drink tea. She observed small water droplets on the inner side of the lid. Now which process is shown in the above paragraph?

a. Evaporation
b. Freezing
c. Condensation
d. Melting

L-11 The Solar System

New words:

1 Dwarf planets
2 Comets
3 Asteroids
4 Mercury
5 Venus
6 Jupiter
7 Saturn
8 Uranus
9 Neptune
10 Terrestrial planets
11 Pluto
12 Eris
13 Craters
14 Haumea
15 Galaxy
16 Universe
17 Equator
18 Hemispheres
19 Constellation
20 Orbits

Answer the following questions

Q.1.What is the solar system?

Ans: The sun, the eight planets and their moons along with smaller bodies like dwarf planets, comets and asteroids form the solar system.

Q.2.Write the names of eight planets in increasing order of their distance from the Sun and give short notes on it.

Ans: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.

i. Mercury:
- Mercury is the smallest and the nearest planet to the Sun.

ii. Venus:
- Venus is very similar to the size of the Earth.
- It is the hottest and the brightest planet.
- It is also called morning or evening star.

iii. Earth:
- Earth is also called blue planet.
- It has 70% water and air in it.
- It is the only planet known to support life.

iv. Mars:
- Mars has red colour soil and rocks and it gives red appearance to this planet.
- Mars is also called as red planet.

v. Jupiter:
- Jupiter is the largest planet in our solar system.
- It can fit 1300 Earths inside it.
- Thick colourful clouds of deadly and poisonous gases surround it.

vi. Saturn:
- Saturn is the second largest planet in our solar system.
- It has beautiful rings around it, which is made up of gases

vii. Uranus:
- Uranus is the third largest planet.
- It is also very cold.

viii. Neptune:
- Neptune is also very cold planet.
- Fierce storms present in this planet are the fastest in the solar system.

Q.3. Define the following.

Ans

a. Satellite:
Satellites are heavenly bodies that revolve around a planet in an orbit. These are called natural satellites or moons.

b. Stars:
The twinkling objects in the night sky are known as stars. Stars are huge luminous bodies made of hot gases and dust.

c. Constellations:
A group of stars, which make a recognizable pattern.
Eg- Ursa Major, Ursa Minor

d. Galaxy:
A collection of stars, planets along with their moons, gases and dust is called a galaxy.Eg.- Milky way

e. Equator:
An imaginary line that runs through the centre of the Earth and divides it into two equal halves called hemispheres.

Q.4.What is the difference between rotation and revolution?

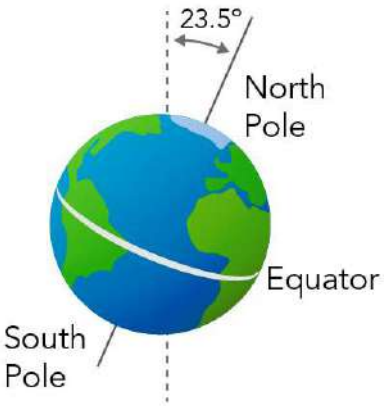
Ans

Rotation	Revolution
1. It is the movement of a planet on its own axis. 2. Earth takes 24 hours/ 1 day to complete one rotation.	1.It is the movement of a planet around the Sun in an orbit. 2. Earth takes 365 ¼ days/1 year to complete one revolution.

3. It causes day and night.	3. It causes seasons.

Q.5. Draw the Earth and mark northern and southern hemisphere. (Home Assignment)

Ans

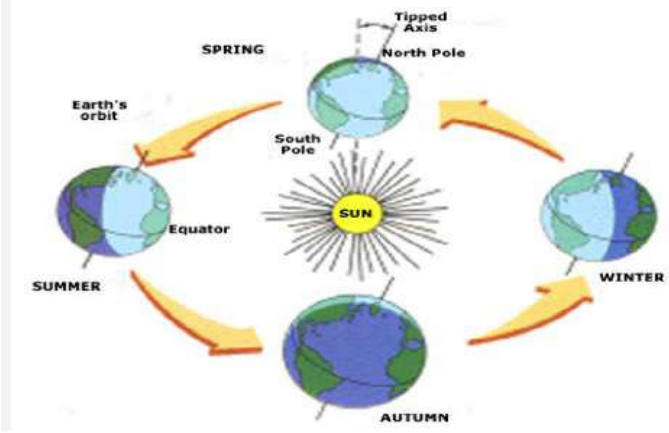


Q.6.What causes seasons? Explain with the help of a diagram.

Ans. Seasons are caused due to two reasons-

i) The revolution of the Earth around the Sun in its eliptical orbit

ii) Earth's tilt at 23.5^0 on its imaginary axis.



CBE Based question

1. With over 63 moons, you might say I have a lot. Look with a telescope to see my big red spot. The spot is a wind storm, swirling around. High in the night sky is where I can be found. Which planet am I?
   a. Jupiter
   b. Venus
   c. Uranus
   d. Saturn

2. What would have happened if there was no Jupiter?
   a. Mars would be the coldest planet in the solar system

b. Life would grow on Venus.
c. Saturn would be the biggest planet in the solar system.
d. All of these.

3. Which of the following statements is correct.
   Statement A: Asteroids can be very large or as small as a grain of sand.
   Statement B: Pluto is the ninth planet in the solar system.
   a. A is true, B is false.
   b. A is false, B is true.
   c. Both A and B are true.
   d. Both A and B are false.

4. What are comets made up of?
   a. Fire
   b. Dust and ice
   c. Colorful smoke
   d. Ribbons

5. Can you tell why the moon is not a planet?
   a. Because the moon is very small.
   b. The moon doesn't have its own light.
   c. The moon isn't moving around the Sun.
   d. All of the above options.

L-11 Force, Work & Energy

New words:

1	direction
2	friction
3	gravity
4	machines
5	lever
6	Pulley
7	wheel & axle
8	inclined plane
9	Screw
10	Wedge
11	Ability
12	Energy
13	geothermal energy
14	chemical energy
15	electricity

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 move an object.
ii. It can stop a moving object.
iii. It can change the direction of a moving object.
iv. It can also change the shape of an object.

Q.2. Define the following and write two uses of each of them:

a) Muscular force

Ans. The force exerted by the muscles of our body.

Uses:

i. To Lift something.
ii. To ride bicycle

b) Gravitational Force

Ans. The force by which the Earth pulls every object towards itself or downwards is called the force of gravity.

Uses:

i. We are able to stand or stay erect because of it.
ii. Everything comes down because of it.

For eg. : ball, fruit, etc.

c) Elastic Force

Ans. The force which helps an object regains its original shape when the acting pull or push is removed.

Uses:

i. Springs are widely used in toys.
ii. Rubber bands

d) Frictional Force

Ans. The force which acts on any moving object to slow it down is called the force of friction.

Uses:

i. We are able to walk or drive vehicles on roads.
ii. We are able to write on paper.

Q.3. When is work said to be done?

Ans. When we apply force on a stable object and it moves, work is said to be done.

Q.4. Define simple machines and list their names.

Ans. A tool (device) which makes our work easier or faster 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.5. Write the uses of all six types of simple machines with two examples of each.

Ans. i. Lever

Uses:

- To cut things
- To lift weights
- To open lids

Eg.: scissors, bottle opener

ii. Pulley

Use:

- To lift heavy objects

Eg.: pulley on wells, lifts, cranes

iii. Wheel & Axle

Uses:

- The arrangement of a circular wheel and a rod called axle, helps objects to move easily

Eg.: doorknob, screwdriver

iv. Inclined plane

Uses:

- Helps objects to move up and down slowly and easily

Eg.: ramps in schools or hospitals, slides in playgrounds

v. Screw

Uses:

- To hold things together

Eg.: screw in furniture and machines

vi. Wedge

Uses:

- To cut objects
  Eg.: axe, knife, needle

Q.6. Define Energy.

Ans. Energy is the ability or the capacity to do work. We need energy to carryout various activities like running, playing etc.,

Q.7. Name different types of energy with its sources and uses.

Ans.

Energy	Source	Uses
Solar energy	Sun	Solar cooker, solar heater and generate electricity.
Atomic energy	Atom	Generate electricity and atom bombs.
Geothermal energy	Heat from the inner part of the earth	Heating buildings and Generate electricity
Chemical energy	Chemicals	Battery.
Wind and water energy	Wind and flowing water	Generate electricity

CBE Based questions

1. Rishabh's mother seldom uses LPG and electrical equipment, and mostly uses solar energy for Cooking and heating purposes. Rishabh has convinced his friends and neighbours also to do so.
(a) What is solar energy?
Ans. The energy that we get from the sun is called solar energy.
(b) What value does Rishabh's mother show by using Solar energy?
Ans. Care for the environment and conservation of electricity.

2. Which force enables us to perform all activities involving movement or bending of our body?

A. Magnetic force
B. Muscular force
C. Electrostatic force
D. Frictional force

3. Which of the following is a complex machine?

A. Lever
B. Hammer
C. Pulley

D. Sewing machine

4. Plants use _____ energy from the sun to make food.

A. Heat
B. Wind
C. Light
D. Electric

5. A football is kicked by a boy. It rolls on the ground to some distance and stops. The force which stops the ball is _____.

A. Muscular force
B. Gravitaional force
C. Elastic force
D. Frictional force

6. Read the statement carefully and choose the correct option

Statement 1: We get energy from food we eat.

Statement 2: We need energy to do work.

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

CHAPTER 6
DIGESTION AND ROLE OF MICROBES

NEW WORDS:

1. Temporary
2. Permanent
3. Incisors
4. Canines
5. Premolar
6. Tearing
7. Grinding
8. Enamel
9. Dentine
10. Decay
11. Plaque
12. Cavity
13. Digestion
14. Alimentary canal
15. Ingestion
16. Egestion
17. Microbes

ANSWER THE FOLLOWING:

Q1. How many sets of teeth do humans have during their lifetime? Name them.
Ans. Humans have two sets of teeth during their lifetime they are:

a. Temporary (Milk) teeth - consist of 20 teeth
b. Permanent teeth - consists of 32 teeth

Q2. Name the different kinds of teeth humans have? Write their number, functions and shape.
Ans.

Kinds of teeth	Numbers of teeth	Shape of teeth	Functions
1. Incisors	8 (4+4)	Sharp and flat	Cut and bite food
2. Canines	4 (2+2)	Sharp and pointed	Tear the food

3. Premolar	8 (4+4)	Flat and wide	Crush, crack and chew the food
4. Molars	12 (6+6)	Broad	Chew and Grind the food

Q3. Explain the structure of a tooth with the help of a diagram.
Ans. Our tooth has following parts:

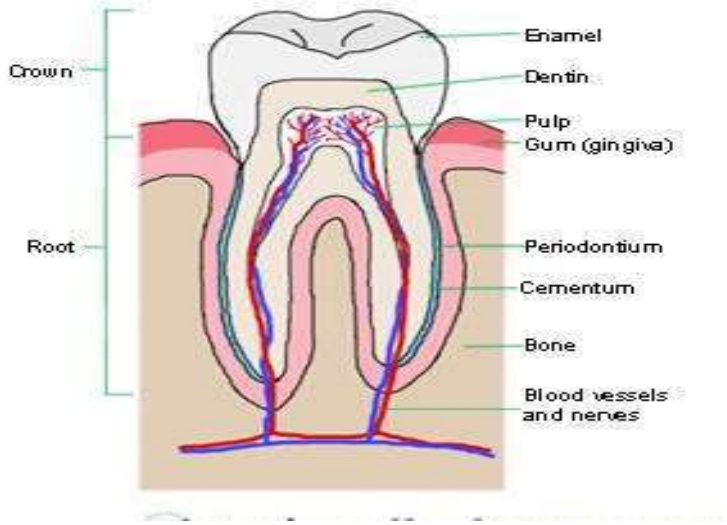
1) Crown: The part of the tooth that can be seen above the gums.

2) Enamel: It is the outermost layer of the crown. The hardest substance of our body.

3) Dentine: The layer below the enamel, not as hard as enamel.

4) Pulp: The innermost portion of the tooth. It contains nerves and blood vessels.

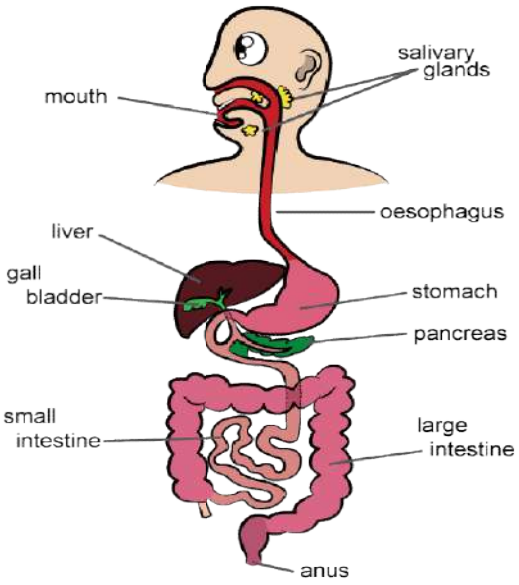
5) Root: The part of the tooth inside the gum. It holds the tooth firmly.



Q4. How do germs cause harm to our teeth?
Ans. 1) After eating, if small bits of food get stuck, germs grow.
2) Germs produce acids which harms the enamel.
3) They cause small holes called cavities.
4) If germs continue to grow, the cavities become deeper and bigger.
5) Cavity reaches the pulp and tooth starts hurting.

Q5. Define digestion.
Ans. The process of breaking down of food into simpler forms inside our body is called digestion.

Q6. Draw a well labelled diagram of the digestive system.
Ans.



Q.7 Explain the process of digestion.
Ans.
1) **Mouth**: The process of digestion starts here.

a) Teeth break down food into smaller pieces by chewing and grinding.
b) Saliva is a digestive juice secreted by salivary glands. It softens the food and turns insoluble starch into soluble sugar.
c) Tongue helps to:
i. taste the food.
ii. mix saliva with food.
iii. pushes food into oesophagus.

2) **Oesophagus:**

a) No digestion takes place here.
b) It helps to pass food from mouth to stomach.

3) **Stomach:**

a) It is a muscular bag that churns food with digestive juices and acid.
b) These digestive juices break down protein into smaller particles.

4) **Liver:**

a) It produces a digestive juice called bile.
b) The digestive juice produced by it, is stored in the gall bladder.

5) **Small Intestine**:

a) It is a long-coiled tube where food gets digested completely with the help of the following digestive juices given by inner wall of small intestine, liver and pancreas.
b) Absorption:
i. Food is now in a simple soluble form.
ii. All nutrients are absorbed by blood through walls of small intestine.
iii. Blood carries these nutrients to all parts of the body.

6) **Large Intestine**:

a) Water and minerals from undigested food is absorbed here.
b) Undigested food turns into solid waste.

7) **Anus**:

a)Solid waste excreted out of body through it.
b) This process is called egestion.

Q8. Write any five good eating habits.
Ans. Some good eating habits are
1. Before & after eating wash your hands with soap & water
2. Eat balanced diet, drink plenty of water and have lots of roughage.
3. Eat your food at fixed time.
4. Chew your food properly before swallowing it. Properly chewed food helps in faster digestion of the food.
5. Drink water an hour before or an hour after meals.

Q9. What are microbes? Name the four different kinds of microbes and the diseases they cause.
Ans. Microbes are tiny living things that can be seen only through a microscope.
The four kinds of microbes are:

Microbes	Diseases caused by them
1. Bacteria	Typhoid, food poisoning, tooth decay.
2. Protozoa	Malaria, Dysentery
3. Fungi	Ringworm, Dandruff
4. Viruses	Common cold, Polio, Flu, Measles, COVID-19 (coronavirus)

Q10. Write any 2 uses of Bacteria and Fungi each.

Ans. Useful Bacteria:

1. Help in decay of dead plants and animals, also help in biogas production.
2. Making of cheese, vinegar and yoghurt.
3. Helps other aniamls to digest food.

Useful Fungi:

1. Help in making bread.
2. Mushrooms are the edible fungi.

COMPETENCY BASED QUESTIONS

1. Amit had his lunch. How does the food travel in his body before it gets absorbed?

a) mouth → stomach → oesophagus → intestine

b) oesophagus → stomach → mouth → intestine

c) stomach → oesophagus → intestine → mouth

d) mouth → oesophagus → stomach → intestine

2. A girl set up the model to stimulate the digestive system by using a thin tube and banana. She made pieces of banana as balls and allowed to pass through the tube X. Which part of the alimentary canal does the X represent?

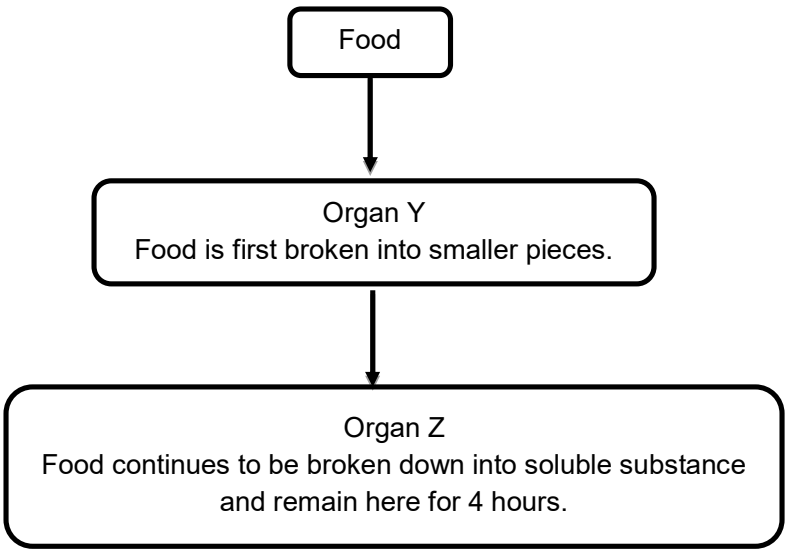
a) Windpipe

b) Oesophagus

c) Small intestine

d) Large intestine

3. The diagram shows the part of the path of digestive system. Identify organ Y & Z.



a) Y-mouth, Z-food pipe
b) Y-mouth, Z-stomach
c) Y-mouth, Z-small intestine
d) Y-food pipe. Z-stomach

4. Rehan took a glass of milk and poured two teaspoons full of buttermilk in it at night. In the morning he obtained curd. Which of the following helped him in changing milk to curd.
a) Protozoa
b) Fungi
c) Bacteria
d) Virus

5. Seena is a 14-year-old girl. How many teeth is she likely to have.
a) 20
b) 14
c) 28
d) 38

CHAPTER 9

SOLIDS, LIQUIDS AND GASES

NEW WORDS:

1. Particle
2. Compressed
3. Molecules
4. Solid
5. Liquid
6. Definite
7. Vapour
8. Solidification
9. Dissolve
10. Solution
11. Solute
12. Solvent

Answer the following:

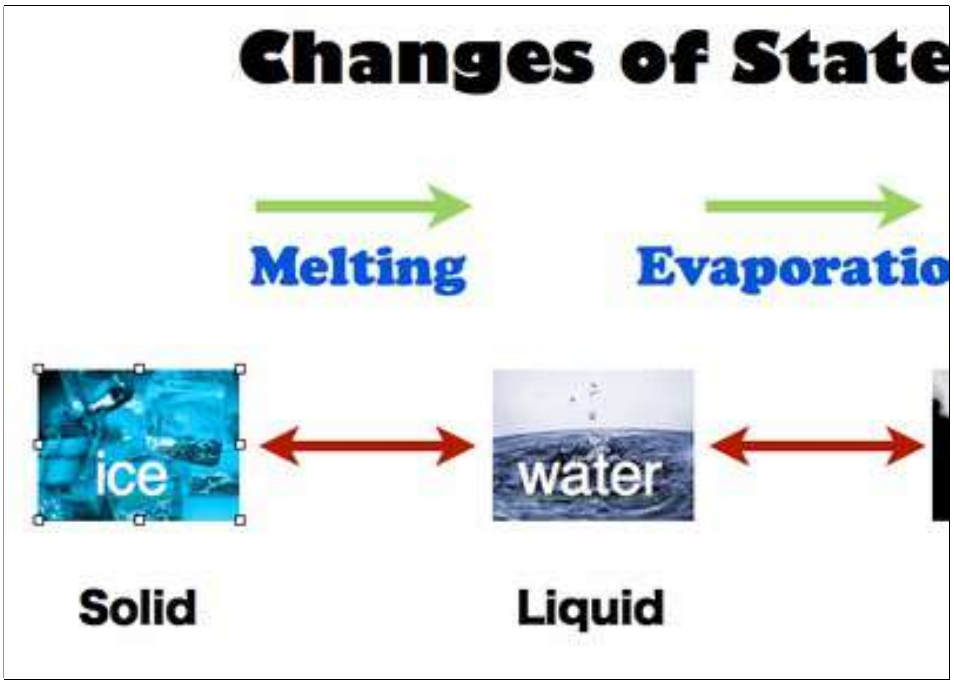
Q1. DEFINE:
i) Matter - Anything that has weight and takes up space is called matter.
ii) Molecule- The tiny particles by which matter is made up of.
iii) Atom- Smallest unit into which matter can be divided.

Q2. Name the three states of matter. Give 2 examples of each.
Ans. The three states of matter are-
i) Solid - wood, stone
ii) Liquid - water, milk
iii) Gas - air, oxygen

Q3. Write properties of the following states of matter: solid, liquid and gas.

S.NO	SOLID	LIQUID	GAS
1.	The molecules are packed close to each other.	The molecules are loosely packed.	The molecules are far away from each other.
2.	Molecules are arranged in a regular pattern.	Molecules are not arranged in a regular pattern.	Molecules are not arranged in a regular pattern.
3.	They have definite shape and definite volume.	They have definite volume but no definite shape.	They don't have definite shape and definite volume.
4.	They cannot be compressed.	They can be compressed slightly.	They can be compressed.

Q4. Explain how matter can change from one state to another. Use water as an example.
Ans. Water can change from one state to another on heating or cooling.



i) Ice is a solid on heating it becomes water (liquid)
ii) On further heating water changes into water vapour (gas)
iii) On cooling water vapour changes into water. (Liquid)
iv) When water is cooled further, it changes into ice. (Solid)

Q6. Define solute, solvent and solution.
Ans. Solute: Solids that dissolve in any liquid.
Solvent: The liquid that dissolves the solute.
Solution: When solutes dissolve in solvent, a solution is formed.

CBE BASED QUESTIONS

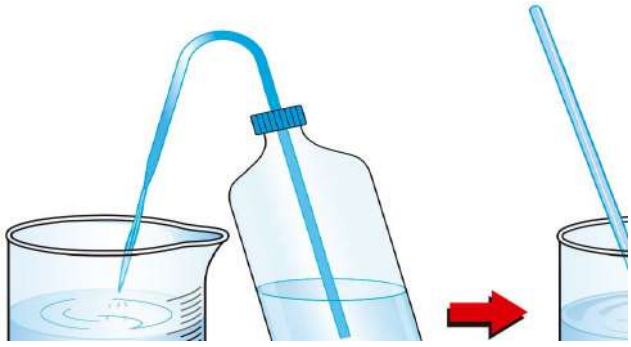
1. Equal amount of water were taken in three containers. In which of the containers will water evaporate the fastest?

a) A
b) B
c) C
d) Water evaporation rate is equal in all

2. A student took water and dissolved some salt in it. Later she placed salty water under sunlight for three days. She found only crystals of salt but no water. The process demonstrated in the experiment is…..

a) Filtration
b) Boiling
c) Condensation
d) Evaporation

3. A student took 20ml of water in a beaker and dissolved two teaspoons full of sugar. When he checked the volume, he was surprised seeing that the volume remained same at 20ml. can you guess the reason?



a) Sugar did not actually dissolve in the water.
b) Sugar evaporated.
c) Sugar occupied the empty spaces in between the molecules of water.
d) Sugar has zero volume.

4. Asma lit a perfume stick in the corner of a room. When she stood at the other corner, she smelled the perfume after sometime. What can we conclude from this?

a) Rooms produce perfume when a perfume stick is lit in a corner.
b) All the air present in a room gives perfume.
c) Perfume doesn't spread from one place to another.
d) All gases, including perfumes, have the property of spreading from one place to another.

5. A glass is inverted over a basin of water and slowly inserted into the water. However the water doesn't enter the glass. This experiment proves that……

a) Air occupies space
b) Water cannot be compressed
c) Water is light weight
d) Water cannot flow into the glass

Delhi Public School, Gandhinagar
Class 4
Subject: EVS
Name of Book: SCIENCE VOYAGE
CHAPTER 4:How Animals Survive

New Words

1. Slithers	10.host
2. blubber	11. decomposer
3. amphibians	12. predators
4. streamlined	13. camouflage
5. arboreal	14. hibernation
6. stout	15. aestivation
7. hip girdles	16. migration
8. scavengers	17. endangered
9. parasites	18. extinct

Answer The Following Questions:

Q. 1)- How much time does an adaptation take to happen in an organism

Ans.)- An adaptation might take hundreds or thousands of years to take place in an organism.

Q. 2)- What do terrestrial animals have to sense changes in their surroundings?

Ans.)- Terrestrial animals have a well-developed nervous system and sense organs to sense changes in their surroundings and climatic conditions.

Q. 3)-Explain how adaptation vary in the following animals according to climatic conditions.

Ans.)- (a)Animals of polar region:(i) Animals have a thick skin covered with fur to keeps them warm. (ii) They have a thick layer of fat under their skin called **blubber** which protects them from cold.

(b)Animals in desert region: (i) Animals have thick skin to protect them from the heat of the Sun.(ii) Animals (like camels) have a hump on their back that stores fat therefore they can travel for days without eating.

(c) Aquatic Animals: They have fins or specialized limbs that helps them to swim(ii) Breathing is through gills.

(d) Amphibians: (i) In water, they have webbed feet toswimand breathe through theirskin.

(ii)On land they have lungs to breathe and legs to hop.

(e) Aerial Animals: (i) Streamlined body (to cut through air and fly easily) (ii) Hollow bones (to keep the body light) (iii) Fore limbs modified to form wings (iv)Feathers all over their body (to keep them warm during flight)

(f)Arboreal animals: (i)Have sharp claws with a strong grip (to help them climb up down the tree). (ii)strong body with stout chest(iii) Strong ribs & hip girdle to help them move.

Q. 4)- What are scavengers, parasites and decomposers. Give examples.

Ans.)-(a)Scavengers- Aanimals that feed on dead decaying organic matter are called scavengers.Example vultures& hyenas

(b)Parasites- Animals that derive their nutrition from other living organism (host) are called parasites.They cause harm to the host. They may live- (i) On the body of the host(example: lice)(ii) Inside the body of the host(example: tapeworm)

(c)Decomposers: Organisms that feed on dead decaying organic matter and convert it into nutrients to enrich the soil are called decomposers. Example: bacteria fungi and germs

Q. 5)- How do animals protect themselves from predator.

Ans.)-(i)Some animals, like deer move very fast to escape from their enemies.

(ii) Some camouflage and hence cannot be spotted easily because their body colour is similar to their environment, like chameleons change their body colour.

(iii) few animals mimic or imitate other animals for protection, like moth caterpillar mimics a snake to defend itself.

Q. 6)- Differentiate between with examples:(i) hibernation and aestivation. (ii) Endangered and extinct animals.

Ans.)-(i)

Hibernation	Aestivation.
Resting state in which animals pass winter is called hibernation (winter sleep)	Slowing down activity during hot or dry period this is called aestivation (summer sleep)
Example: Bear, frog	Example: Crocodile, lungfish

(ii)

Endangered	Extinct
Animals that are close to disappearing from Earth.	Animals that have already disappeared from Earth.
Example: Dinosaurs, Dodo	Example: Crocodile ,Tigers

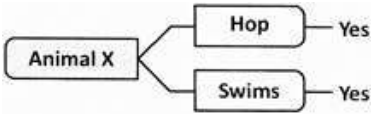
Q. 7)- Define and explain migration. **(Will be given to the students to write on their own as homework)**

Competency Based Question

1)Camouflage is a kind of adaptation in which an organism deceives others by merging its colour with that of its surroundings. Which of the following colours will best suit a chameleon to hide from its enemies in a forest when it sits on branch of a tree?

A) Red B) Blue C) Green D) Brown

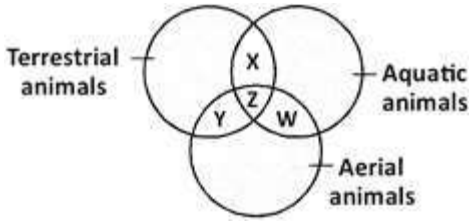
2)John jotted down some notes about the movement of an animal X.



Which of the following animals can Animal X be?

A) Rabbit B) Duck C) Frog D) Fish

3) Study the following diagram.



Frogs and Salamanders can be placed in which part of the above diagram?

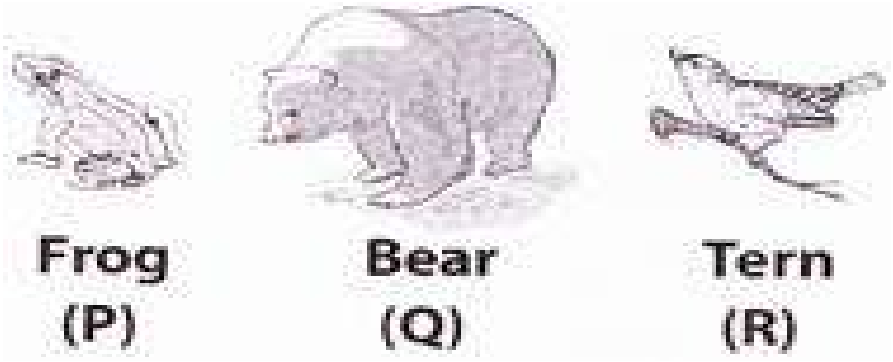
A) W B) X C) Y D) Z

4) Tigers and leopards have stripes on their bodies. This adaptation helps them to:

A) keep their bodies cool. B) keep their bodies hot.

C) mix with the surroundings. D) look beautiful

5) Match the following animals with their adaptations that help these animals to survive in winter.



(i) migrate long distances
(ii) undergoes hibernation
(iii) grow thick fur on its body.

a) P−ii,Q−i,R−iii

b) P−i,Q−ii,R−iii

c) P−iii, Q−ii, R−iii

d) P−ii,Q−iii,R−i

Delhi Public School, Gandhinagar
Class 4
Subject: EVS
Name of Book: SCIENCE VOYAGE
CHAPTER 5:Food-Our Basic Need

New Words

1. Nutrients	10. Balanced Diet
2. Nutrition	11. posture
3. Carbohydrates	12. Preservation
4. Obese	13. Refrigeration
5. Proteins	14. Pickling
6. Vitamins	15. Edible
7. Minerals	16. drying
8. Roughage	17. Canning
9. Dietary Fibre	18. Bottling

Answer The Following Questions:

Q. 1)-Define: (i) Nutrients and (ii) Nutrition

Ans.)- (i) Nutrients-The components that make food healthy, help us grow and protect us from illness are called nutrients.

(ii) Nutrition- The process of taking in and utilizing food for the growth and development of our body is called nutrition

Q. 2)-Explain the four different nutrients or food groups with examples.

Ans.)- (i) Carbohydrates- nutrients that give us energy to do work of (energy giving food). People who do a lot of physical work need a lot of carbohydrates. Example: rice, wheat, fruit juices& potatoes.

(ii) Fats- gives body more energy than carbohydrates, they also keep the body warm and make the food tasty. Example: cooking oil, ghee, nuts, butter.

(iii) Proteins-It helps us to grow (bodybuilding food). Growing children need more protein rich food than others. Example: pulses, fish, eggs, cheese, milk and beans.

(iv) Vitamins and Minerals- also known as Protective food.(a)**Vitamins** helps our body to fight against diseases, they help in absorption of other nutrients from food by the body

(b)**Minerals** are required for formation of healthy bones, blood and teeth.

Examples; fruit vegetables meat and milk

Q. 3)-Explain the importance of roughage and water.

Ans.)-Roughage helps in removing waste material from our body in form of stool,

Water is essential for the proper functioning of our body

Q. 4)- What is a balanced diet? How does it help us?

Ans.)- A diet that includes all the nutrients in right amount is called a balance diet. It helps in proper functioning, healthy growth and development of our body.

Q. 5)- Give reasons:

(a) We must take proper rest.

Ans.)-Lack of rest will make us tired and our organs will not function properly making us ill, so we need to rest properly.

(b) We must maintain correct posture.

Ans.)- Maintaining incorrect posture leads to pain in muscles and joints.

Q. 6)- Why do we need to preserve food?

Explain the following methods of food preservation: (i) Drying (ii) Pickling

Ans.)- We need to preserve food to prevent it from spoiling and to increase its shelf life.

(i) Drying-This method removes water content from the food items hence they remain edible for longer duration. Example: grains, bananas, fish, papad.

(ii) Pickling-In this process spices and oil are used to preserve food items example: mangoes and limes.

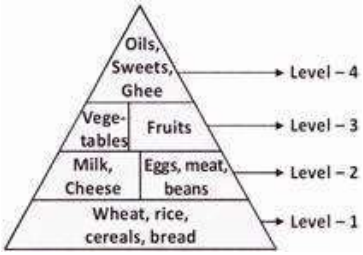
Q. 6)- Match the following:

Column A	Column B
1. Vitamin A	a. to produce energy
2. Vitamin B	b. formation of bones
3. Vitamin C	c. increases body resistance
4. Vitamin E	d. formation of blood
5. Calcium	e. healthy skin & good eyesight
6. Iron	f. growth & repair of tissues

(Will be given to the students to write on their own as homework).

Competency Based Question

1) Observe the following food pyramid and answer questions:.



The food items in level 1 are rich in which nutrient?

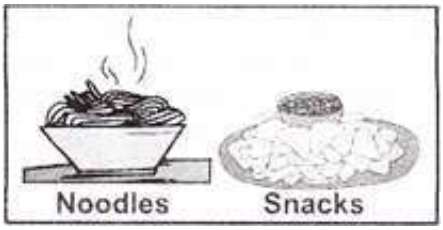
2) The man shown in the figure is obese because of the over intake of which nutrient?

A) Protein B) vitamins C) fat D) none of these

3) Anjali made mango jam. Which process must she use to preserve it for longer duration?

A) Pickling B) Canning C) Drying D) none of these

4) The figure below shows the daily diet of a primary school student. It is not a balanced diet for the child. Which of the following is needed for the child to build up his/her body?



A) Proteins B) Carbohydrates C) Fats D)Fibre

5) Circle the correct answer:

i) Refrigeration process is used for preserving food. It is a process by which temperature is-

increased decreased do not changed

ii) The following are used as preservatives-

Corriander Vinegar Tomato

iii) Canning is the process which makes food-

Rotten Preserved None of these

Delhi Public School, Gandhinagar
Class 4
Subject: EVS
Name of Book: SCIENCE VOYAGE
CHAPTER 3:Animals and their Young ones

New Words

1. Reproduction	**11. Nymph**
2. Embryo	**12. Moulting**
3. Incubation	**13. Cocoon**
4. Yolk	**14. Caterpillar**
5. Hatching	**15. Pupa**
6. Tadpole	**16. Chrysalis**
7. Cluster	**17. Reptiles**
8. Spawn	**18.Mammals**
9. Cluster	**19.Blowholes**
10.Metamorphosis	**20.marsupials**

Answer The Following Questions:

Q. 1)-Define reproduction?Why do all living organism reproduce?

Ans.)- The process by which living organisms produce young ones is known as reproduction. All living organism reproduce for the continuity of life.

Q. 2)-What are the two ways by which animals reproduce?

Ans.)-Animals reproduce in two ways-

ii) by laying eggs from which young babies hatch out.

i) by giving birth to young ones.

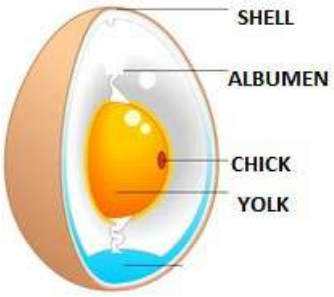
Q. 3)- Describe the structure of a bird's egg with the help of a labelled diagram.

Ans.)- Structure of a bird's egg:

(i)Shell-The outermost covering of the egg, it protects the young ones inside the egg

(ii) Egg White -within the shell is a white thick jelly like substance called the albumen. Itis rich source of protein. It also protects the developing baby.

(iii)Yolk-Inside albumen is round and yellow yolk. It is rich in fats, vitamin and minerals and provides nutrition to growing embryo.



Q. 4)- With the help of a flowchart show the life cycle of a frog.

Ans.)- Female frog lays eggs in water in clusters (frogspawn)

↓

Early tadpole (fish like, has tail to swim and gills to breathe)

↓

Late tadpole (grows limb, starts losing its tail and gills, starts developing lungs)

↓

Adult frog

Q. 5)- What are mammals? Give examples.

Ans.)-Animals that give birth to young ones and feed their own milk to their babies are known as mammals. Usually they have hair on their body Example : human beings, dolphins, rabbit .

Q. 6)- How do mammals take care of their young ones.

Ans.)-Mammals give birth to their young ones feed them, provide them with warmth of their body.

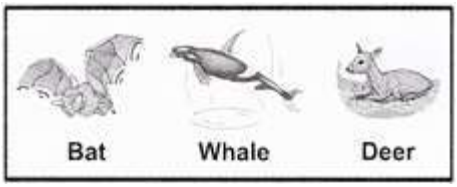
Some mammals carry their babies in the pouch of their body. These animals are known as marsupials. Example: kangaroo

Q. 7)-Define: (i) Life cycle (ii) Incubation (iii)Hatching (iv)Metamorphosis

(v) Moulting **(Will be given to the students to write on their own as homework)**

Competency Based Question

Q. 1)- How are the animals given below similar?



A) Their eggs have hard shells.

B) Their eggs must be incubated.

C) They give birth to live young one.

D) They do not look after their young.

Answer: C

Q. 2)-Which of the following young ones resemble their parents?

A) Caterpillar B) mosquito

C) tadpole D) Nymph

Answer: D

Q. 3Aruna studied two animals P and Q. At the end of her study, she made her observations as follows:

Observation	Animal P	Animal Q
Eggs are laid on land.	√	×
There are 4 stages in the life cycle.	×	√
It has six legs	√	√

Which of the following headings would be correct?

A)

Animal P	**Animal Q**
Butterfly	**Frog**

B)

Animal P	**Animal Q**
Cockroach	**Mosquito**

C)

Animal P	**Animal Q**
Cockroach	**Frog**

D) None of the above

Correct Answer: B (Animal 'P' is a cockroach and animal Q is a mosquito).

Q. 4 The growing chick in the yolk is called

A) larva.

B) pupa.

C) embryo.

D) cocoon.

Answer: C

Q. 5 The animals which suckle their young ones are called

A) mammals.

B) insects.

C) reptiles.

D) cocoons.

Answer: A

Delhi Public School, Gandhinagar
Class 4
Subject: EVS
Name of Book: SCIENCE VOYAGE
CHAPTER 1: GREEN PLANTS

New Words

1. Chlorophyll	10. Iodine
2. Leaf Apex	11. Alcohol
3. Midrib	12. Insectivorous
4. Petiole	13. Parasitic
5. Stipule	14. Saprophytic
6. Compound Leaf	15. Mould
7.Photosynthesis	16.Decay
8.Glucose	17.Organic
9.Starch	18. Stomata

Answer The Following Questions:

Q. 1)- Describe the detailed structure of a leaf with a well labelled diagram.

Ans.)- **Structure of a leaf:** The flat part of the leaf that is called a leaf blade.

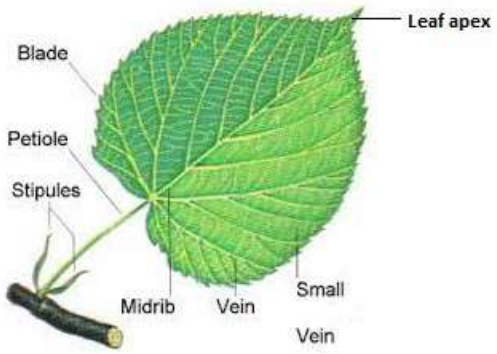
It is fattened for maximum absorption of sunlight. The upper side of leaf is dark and smooth while the lower side is light coloured and rough.

The tip of the leaf is called the Leaf apex.

The main vein in the center of the leaf is called Midrib.

The stalk of the leaf that attaches the leaf blade to stem is called Petiole.

Leaf like pairs found at the base of petiole are called Stipules.



Q. 2)-Write the functions of the following:

Ans-a) Veins- Helps in transporting food, water and minerals in different parts of plant.

b) Stomata-Help in exchange of gases (taking in carbon dioxide and giving out oxygen &water vapour).

c) Stipule-Protect the young leaf.

d) Petiole-Attaches leaf blade to the stem of a plant and supplies food and water to stem.

Q. 3)- Explain the process of photosynthesis in plants with equation and diagram.

Ans.)- Leaf is the kitchen or food factory of the plant.
It uses sunlight, water, carbon dioxide and chlorophyll to make food for the plants.

The process of photosynthesis:

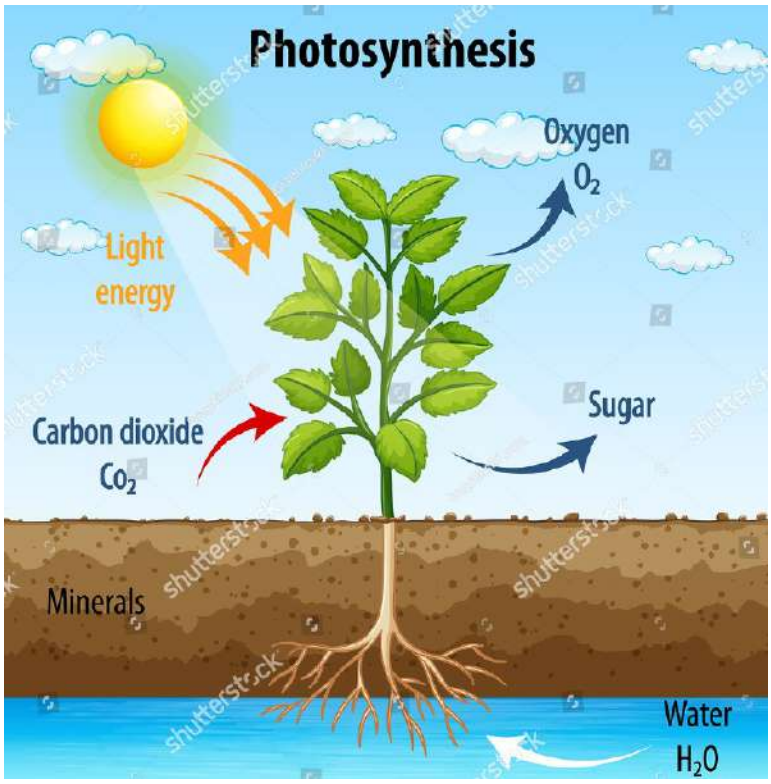
(i)The energy from sunlight is absorbed by chlorophyll present in leaves of the plants.

(ii) Water and minerals present in the soil is absorbed by the roots of the plants and carried to leaves by stem.

(iii)Carbon dioxide is taken through stomata (present in underside of leaves).

Equation:

Carbon dioxide + Water $\xrightarrow[\text{Chlorophyll}]{\text{Light}}$ Glucose + Oxygen



Q. 4)- What happens to food prepared by plants?

Ans.)- Plants prepare their food in form of simple sugar or glucose.

This glucose is utilized by plants for growth and development.

The extra glucose is stored in form of starch in plant parts such as leaves, stems and roots

Q. 5)- How are plants and animals interdependent?

Ans.)- Plants and animals are interdependent:

(i) Plants are producers of food. Animals depend on plants for food.

(ii)Plants release oxygen during the process of photosynthesis which is used by animals for breathing.

(iii) Animals use oxygen and give out carbon dioxide which is used by the plants.

(iv) Animals die and decay & hence form natural fertilizers and minerals

Q. 6)- What is food chain?

Ans.)- A food chain describes how energy and nutrients move from producers (plants) to Herbivores and later to Carnivores.

Energy flow starts from sun to plants and then to animals in form of food.

Sun ⟶ Plant ⟶ Herbivores ⟶ Carnivores

Q. 7)- Explain the following unique organisms.

Ans.)-**(i) Venus's flytrap** – It is both producer and a Carnivore.

It photosynthesizes and catches insects for nutrition as well.

Such plants are called insectivorous plants

(ii) Non-green plants – These plants do not have chlorophyll hence cannot photosynthesize.

Therefore, they grow on dead decaying matter and absorb food from it.

Example: Coral Root& Indian pipe.

(iiI) **Parasitic plants** – Some plants depend on other plants partially or completely for their nutrition they are called parasitic plants. They cause damage to plants on what they grow.

Example: Cuscuta &Mistletoe.

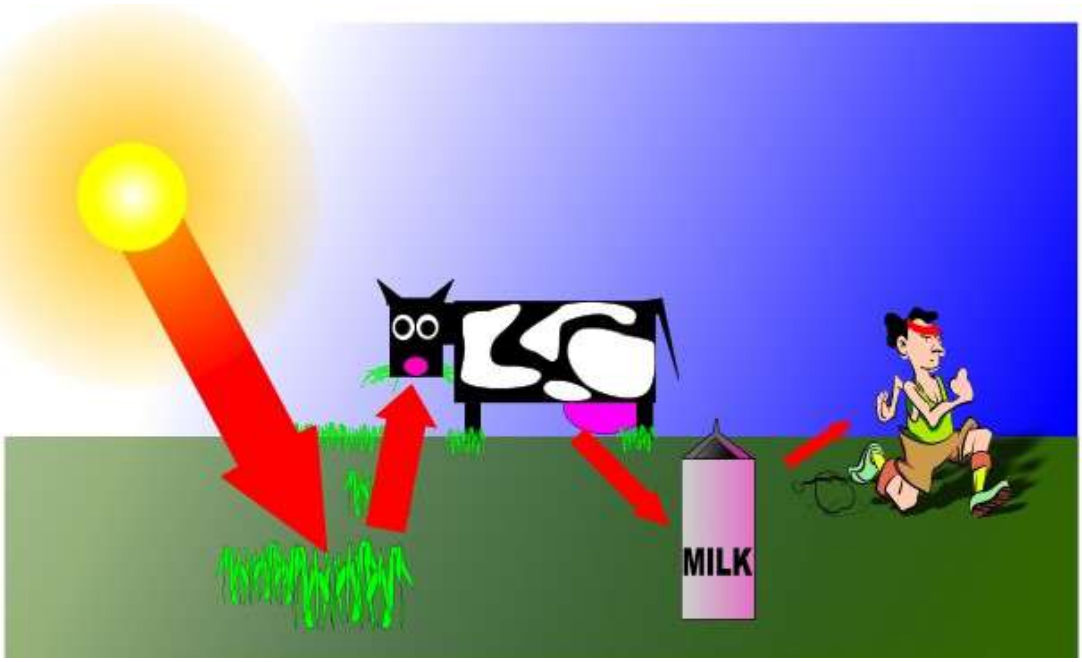
Q. 8)- What are compound leaves? Give example.

Ans-When leaf blade of leaf is divided into many leaflike structures called leaflets, they form a compound leaf. Example: Gul mohar.

COMPETENCY BASED QUESTIONS

1) Read the paragraph and fill in the blanks:

Photosynthesis is the process in which radiant energy from the sun is changed inside a plant into food (chemical energy).
Radiant energy can be called light or solar energy. All energy on the earth originally comes from the sun when people eat food, they get chemical energy they need to live and grow. The food chain below shows the energy from the sun could end up inside a person.
Plants need solar energy, carbon dioxide, chlorophyll and water to go through photosynthesis.



(i) Give two other names for sunlight energy: _____, _____ .
(ii) All energy on the Earth comes from the_____.
(iii) What energy transformation occurs during Photosynthesis:

_____ → _____

(iv) _____ absorbs sunlight as well as gives green colour to the plants.

Answer:

(i) Light, solar.

(ii) Sun

iii) Radiant energy ⟶ chemical energy

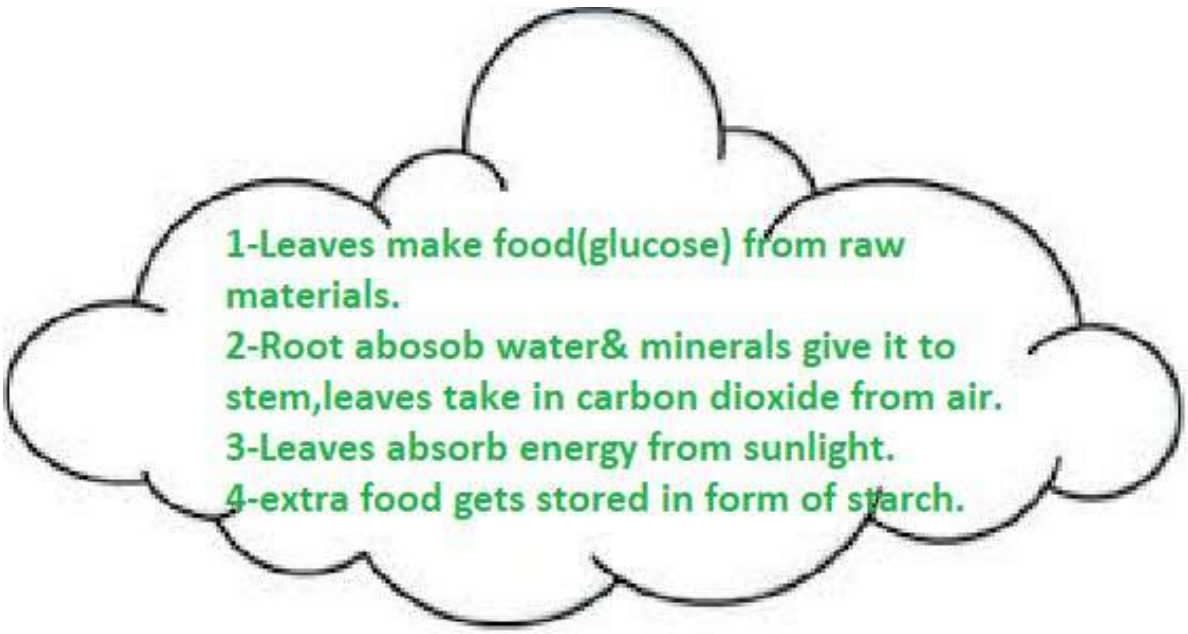
iv) Chlorophyll

2) Why the upper side of leaf darker green than the lower side:

a) For plants look more attractive.
b) Because more amount of chlorophyll is present on upper surface of leaf (to trap sunlight).
c) Make plant colourful.
d) None of the above.

Answer: (b)

3) Given below are activities performed by plants put them in correct order:



Answer: 2 ⟶ 3 ⟶ 1 ⟶ 4.

Delhi Public School, Gandhinagar
Class 4
Subject: EVS
Name of Book: SCIENCE VOYAGE
CHAPTER 2:HOW PLANTS SURVIVE

New Words

1. Adaptations	11. Coastal
2. Habitat	12. Spongy
3. Terrestrial	13. Submerged
4. Aquatic	14. Aerial
5. Deciduous	15. Fleshy
6. Climate	16. Thorns
7. Conifers	17. Tentacles
8. Evergreen	18. Epiphytes
9. Marshy	19. Yarn
10.Swamps	20. Biofuels

Answer The Following Questions:

Q. 1)- Define the following:

Ans.)- (i) Adaptations – they are special features that allow an organism to survive and reproduce in a particular area.

(ii)Habitat- the natural home of a plant or an animal is called the habitat.

Q. 2)-**Differentiate between deciduous and evergreen trees given example of each.**

Ans.)-

Deciduous trees	Evergreen trees
Trees that shed all their leaves once in a year are called deciduous trees.	**Trees that do not shed all their leaves at the same time. A few leaves fall and new ones grow. They remain green always.**
Example: Teak, Neem, Peepal	**Example: Conifers**

Q. 3)- Give one feature of the plants that grow in following areas (write their adaptive features only).

Ans.)- (i)Plains -trees are branched with numerous leaves.

(ii)Mountains – trees have needle like leaves with waxy coating so that snow slides of easily.

(iii)Deserts-Plants have small or no leaves. They have thick fleshy stem (covered with thorns) that store water.

(iv)Swamps – Plants have roots that grow above the ground in order to breathe (aerial or breathing roots).

(v)Coastal areas – They are able to survive in heavy rainfall.

Q. 4)- Explain the three types of aquatic plants along with examples. Draw diagrams also.

Ans.)- (i)Floating plants- The plants are spongy and filled with air this enables them for floating as they become light in weight.

Example: water hyacinth and duckweed

(ii)Fixed plants- Such plants have root fixed at the bottom of the pond in mud.

Their stems are hollow and have airspaces.

They have broad flat leaves at the water surface to trap maximum sunlight.

Stomata are found only on upper surface of the leaves.

Leaves have waxy coating to repel water.

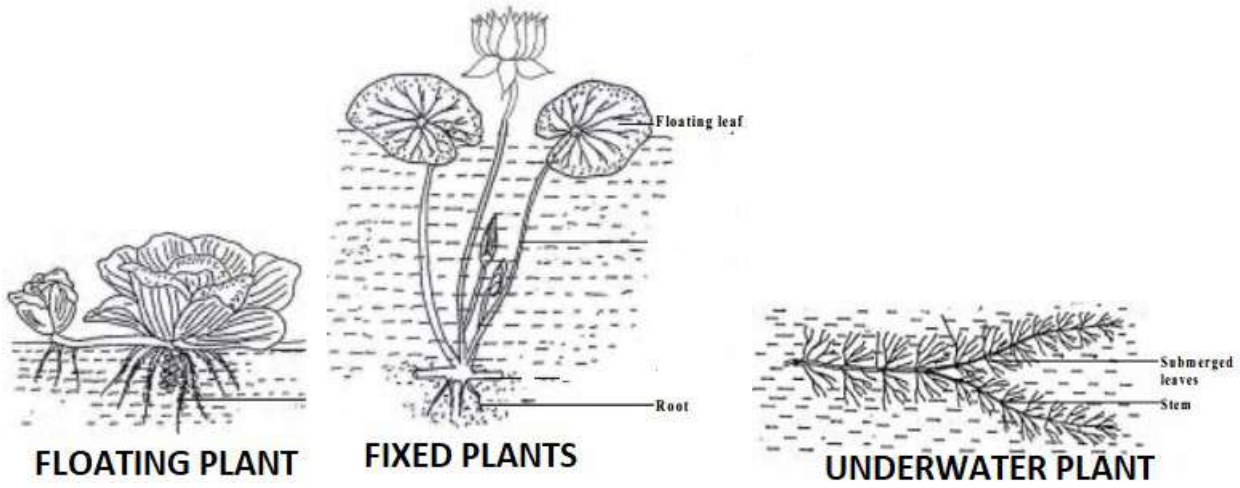
Example: water lily and lotus

(iii)Underwater plants- These plants are submerged completely in water.

The leaves and stems are thin and flexible (this allows movement with water current).

Leaves are without stomata (breathe in and dissolved gases in water through general water surface)

Example: Hydrilla and tape grass



Q. 5)- -What are epiphytes give examples?

Ans.)-Plants that grow on other plants to reach positions where they can have better access to sunlight or called epiphytes, they absorb moisture and nutrients from air, water and rain. Example: Moses and Fern.

Q. 6)-Write five ways to show importance of plants for humans. **(Will be given to the students to write on their own as homework).**

Competency Based Question

Q. 1)- Match the following home remedies to be used in the following situations

a) Ravi is having cough and cold	(i) turmeric
b) To reduce inflammation in body	(ii) aloe vera juice
c) For proper digestion by stomach	(iii) juice of Tulsi leaves
d) For having good sleep skin	(iv) Amla juice

Ans.)- (a)(iii); (b)(i); (c)(iv); (d)(ii).

Q. 2)-Identify me: I am an aquatic plant with broad flat leaf, stomata are present only on the upper surface of my leaves.

Ans-Lotus

Q. 3)- Choose the correct option: Why conifers have woody cones instead of flowers?

(i) because of extremely cold climate.

(ii) to prevent flower withering.

(iii) woody cones protect the seeds effectively.

(iv) all of the above

Ans-(iv)

Q. 4)- Ravi tried to grow Neem tree and Peepal tree in marshy areas to save the environment, with in a few week plants died. What could be the correct reason for it?

(i)they cannot grow in saline water

(iv)they do not have breathing roots

(iii)both (i) and (ii)

(iv)none of the above

Ans-(iii)

Q. 5)- Since India is agriculture-based country, we produce a lot of crops which have waste parts (after harvesting) so instead of burning them what could be done to save the environment from harmful gases released (due to burning)

(i)used to produce paper

(ii)can be turned into manure

(iii)can be used to produce biofuel.

(iv)all of the above

Ans-(iv)