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
8. CHINA

L-14 Our Environment

Learning objectives:
Children will be more aware of:

i. The environment and the damages caused to it
ii. Air, water and, land pollution and their effects
iii. Difference between biodegradable and, non-biodegradable wastes and how to treat them
iv. Their role to keep the environment clean

New words:

1	environment	12	sewage
2	material	13	diseases
3	comfortable	14	dump
4	damaged	15	stink
5	dirtied	16	biodegradable
6	pollution	17	compost
7	fertile	18	garbage
8	erosion	19	manure
9	poisonous	20	Dung
10	acid	21	Recycle
11	untreated	22	Destroy

Answer the following questions:

Q.1. What are the things that make up our environment?
Ans. Everything around us, both living and non-living things, make up our environment.

Q.2. What is soil erosion?
Ans. The removal of fertile top-soil by the actions of wind and rain is called soil erosion.

Q.3. What is pollution?
Ans. Dirtying of air, water and land by adding harmful substances to them is called pollution.

Q.4. What are the effects of air pollution?
Ans.
i. Breathing polluted air causes harm to our bodies specially lungs.
ii. Certain harmful gases mix with water vapour in the clouds to form acid and come down as acid rain, which damages plants, buildings and, soil.

Q.5. What are the effects of water pollution?
Ans.
i. Breathing polluted water causes dangerous diseases like typhoid, diarrhoea and, dysentery.
ii. Polluted water with chemicals affects fish and other aquatic plants and animals.
iii. If we eat these plants or animals, we will also fall ill.

Q.6. What are the effects of land pollution?

Ans.
i. Waste dumps attract animals and insects which spread germs.
ii. Harmful substances in the waste are washed into the soil by the rain and pollute underground water.
iii. Burning waste pollutes the air.

Q.7. Write the differences between biodegradable and non-biodegradable wastes with examples.

Ans.

Biodegradable wastes	Non-biodegradable wastes
• They rot and mix with the soil. For eg.: food waste, leaves, grass, paper, etc.	• They do not rot and pollute the soil. For eg.: plastic, metal, glass, etc.

Q.8. Write a few ways to treat biodegradable wastes.

Ans.
i. To dispose garbage – compost heap can be made into manure.
ii. Animal dung can be spread on the soil to improve the fertility of soil.
iii. Animal dung can also be used to make gobar gas, which can then be used as fuel in homes.
iv. Old paper can be recycled.

Q.9. What can you do to save the environment?

Ans. We can do the following to save the environment:
i. Stop plant and animal life from being destroyed.
ii. Plant more trees.
iii. Do not waste anything; mend, reuse and recycle things.
iv. Carry cotton bags instead of plastic bags.

L-13 Air, Water & Weather

Learning objectives:
Children will be able to know:

i. Weather – its relationship with the Sun
ii. Sea breeze and Land breeze
iii. Water cycle – difference between hail, snow, dew, frost and fog
iv. How do we get drinking water?

New words:

1	weather	13	repeated
2	particular	14	hail
3	directly	15	snowflakes
4	overhead	16	ground water
5	slanting	17	enough
6	lighter	18	polluted
7	breeze	19	waterworks
8	warmer	20	filters
9	process	21	chlorine
10	evaporation	22	precious
11	condensation	23	wasted
12	particles		

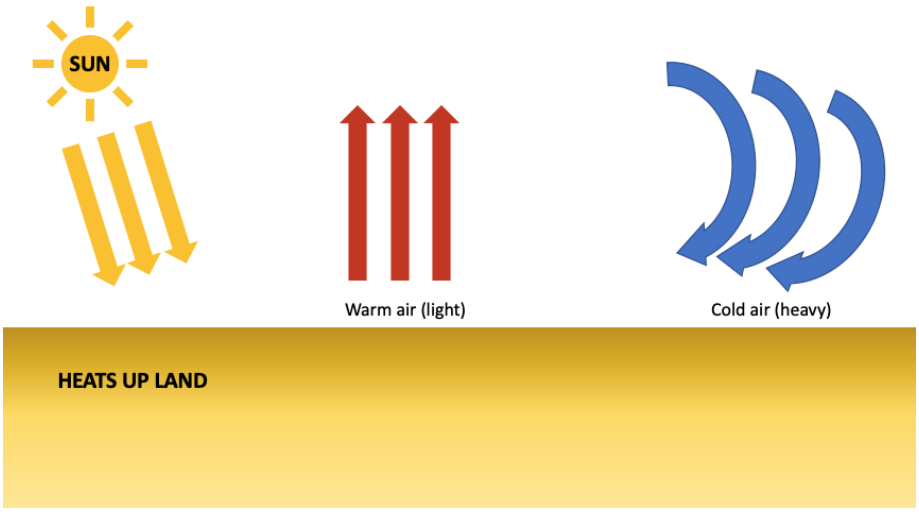
Answer the following questions:

Q.1. Define weather

Ans. Weather is the condition of the air surrounding us at any given time.

Q.2. What makes the wind flow?

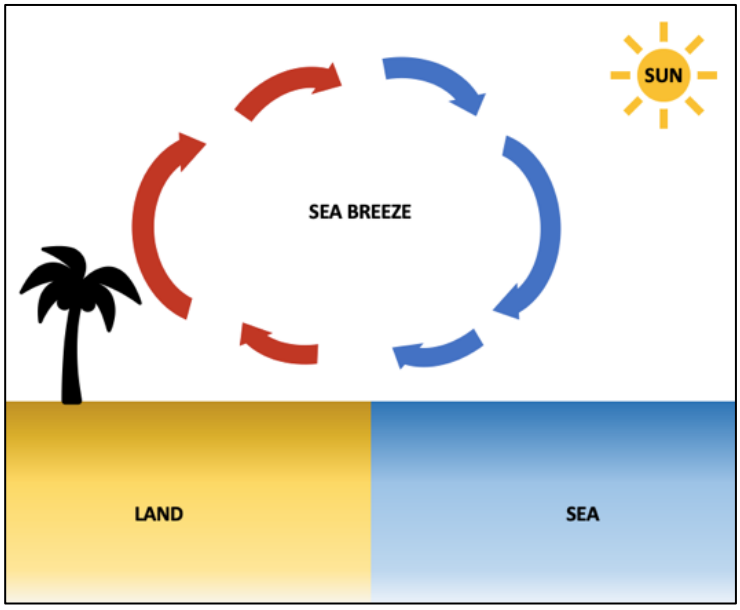
Ans.
i. The heat of the Sun makes the wind flow.
ii. The bright Sun heats up the land.
iii. The air above the land also gets heated up.
iv. As warm air is lighter than cold air, it rises up.
v. Cold air rushes in to take its place.



Q.3. With the help of diagrams explain sea breeze and land breeze.

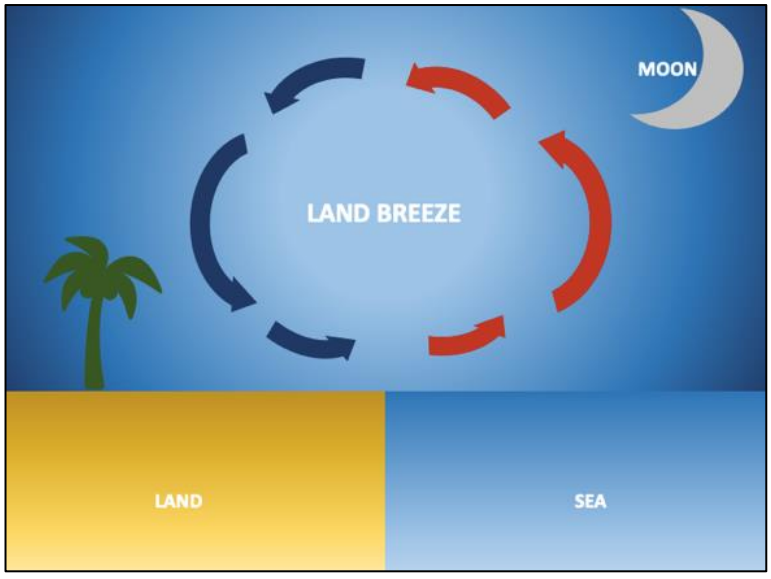
Ans. a) Sea breeze

i. It blows during the daytime.
ii. Due to the Sun's heat, land gets heated up more than the water in the sea.
iii. The warm air above the land rises up.
iv. The cool air from above the sea then rushes towards the land to take its place.
v. Thus, the breeze which blows from the sea towards the land is called sea breeze.



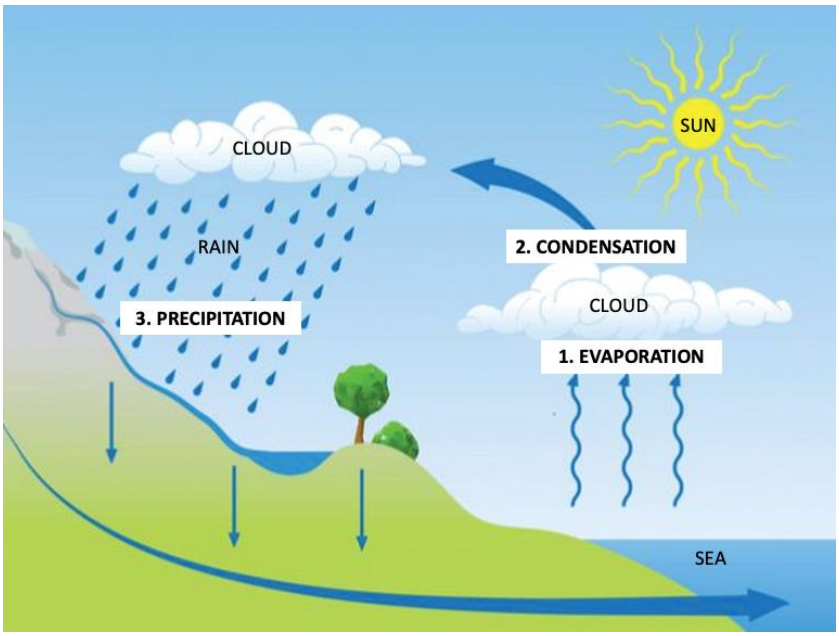
b) Land breeze

i. It blows during the night time.
ii. The land cools down faster than the water in the sea.
iii. The warm air above the water rises up.
iv. The cool air from above the land then rushes towards the sea to take its place.
v. Thus, the breeze which blows from the land towards the sea is called land breeze.



Q.4. Define water-cycle. With the help of a diagram show all the processes involved i.e. evaporation, condensation, precipitation, etc.

Ans. The repeated change of water to water vapour and then back to water is called the water-cycle.



Q.5. Identify the form of water (precipitation):

a) Raindrops freeze to form small balls of ice.

Ans. Hail

b) Water vapour condenses and freezes to form soft ice inside the cold clouds.

Ans. Snow

c) Water vapour in the air condenses to form drops of water on leaves, grass, etc.

Ans. Dew

d) Water vapour in the air (dew) freezes to form ice on very cold nights.

Ans. Frost

e) Water vapour condenses on dust particles near the ground and forms clouds.

Ans. Fog

Q.6. How is water pollution caused?

Ans. Water pollution is caused when wastes from our homes and factories directly flow into rivers and lakes without any treatment.

Q.7. What is the function of waterworks?

Ans. The water from lakes and rivers is made fit for drinking in our town and cities by the waterworks.

LESSON 12

THE EARTH AND THE SOLAR SYSTEM

OBJECTIVE

- Students will learn about
- The solar system
- Internal structure of the Earth
- Rotation and revolution of the Earth and their effects.

New Words

1) Heavenly	2) Orbit
3) Brightest	4) Magma
5) Storm	6) Spinning
7) Telescope	8) Weather
9) Crust	10) Northern
11) Mantle	12) Southern
13) Core	14) Hemisphere
15) Volcanoes	16) Equator

Answer the following questions.

Q1. Distinguish between star, moon and planet.

Ans.

- **Star**: It is a huge ball of hot glowing gases. It gives out heat and light.
- **Moon / Satellite**: It is a small heavenly object that moves around a planet. It does not have its own light.
- **Planet**: it is a large heavenly body which revolves around a star. It does not have its own light.

Q2. What is Solar System?

Ans. The Sun, the eight planets and their moons belong to a family of heavenly objects called solar system.

Q3. Name the inner and outer planets.

Ans. Inner planets: Mercury, Venus, earth, Mars

Outer planet: Jupiter, Saturn, Uranus, Neptune

Q4. Write the special feature of the following planets.

Ans. i) Mercury:

- Nearest to the Sun.
- No moon.
- Very little air.

ii) Venus:

- Hottest and the brightest planet.
- Closest to the Earth.
- No moon.
- Also known as morning and evening star.

iii) Earth:

- Only planet to have life.
- Has air, water and the proper temperature.
- Has one moon.

iv) Mars:

- Known as red planet.
- Iron rich red dust covers it.
- Has two moons.

v) Jupiter:

- largest planet
- has a big red spot which shows huge storm.
- Has 79 known moons.

vi) Saturn:

- Second largest planet.
- Has many rings.
- Has 62 moons.

vii) Uranus:

- Third largest planet
- Has 27 moons.

viii) Neptune:

- Windy planet
- Has 14 moons.

Q5. Explain the internal structure of the Earth with the help of a diagram.

Ans. The Earth is a huge ball of rocks.

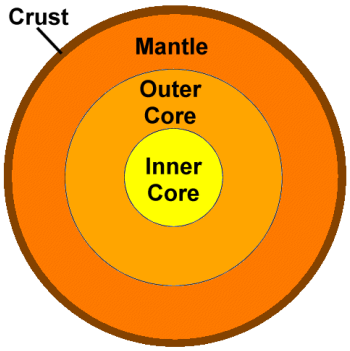
It has three layers

i) Crust: the thin outer surface where we live.

ii) Mantle
    - It lies below the crust.
    - It is very hot and made up of molten rocks.

iii) Core
    - It is the inner most layer of the Earth.

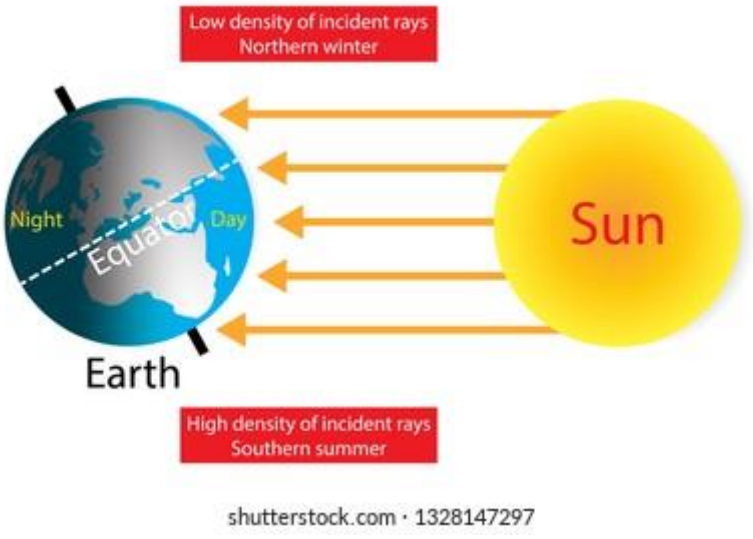
- It consists of metals.



Q6. Write a short note on

i) Rotation

- The spinning movement of the earth on its own axis is called rotation.
- The axis is an imaginary line that passes through Earth's centre from north pole to south pole.
- The Earth completes one rotation in 24 hours.
- It causes day and night.



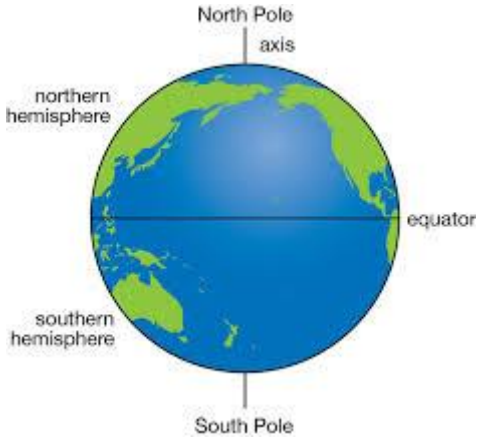
ii) Revolution

- The earth moves around the Sun in a fixed path called orbit. This is called revolution.
- The Earth completes its one revolution in 365 days and 6 hours.
- It causes change in season.

Q7. Draw a diagram to show equator, northern hemisphere and southern hemisphere and explain them.

Ans.

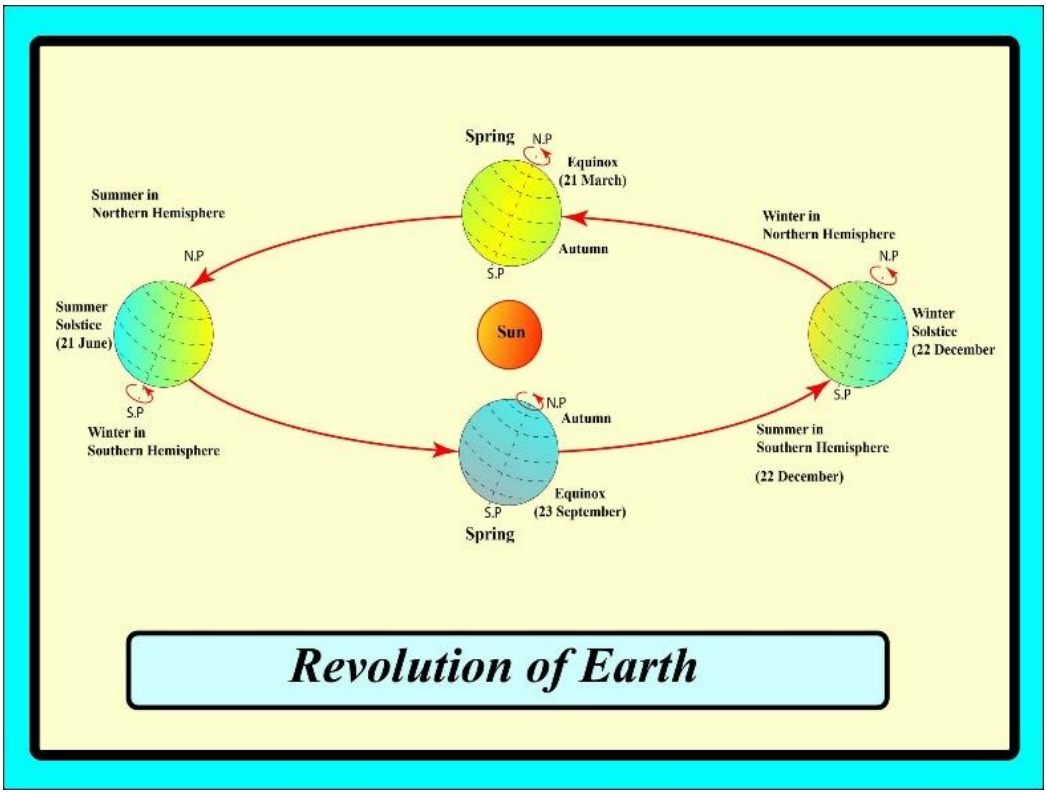
i) Equator is an imaginary line which divides the earth into two equal halves.
ii) The upper half near to the north pole is called northern hemisphere.
iii) The lower half towards the south pole is called southern hemisphere.



Q8. What causes the season?

Ans. When the Earth revolves around the Sun, it is tilted to one side.

- When the north pole is tilted towards the Sun, the northern hemisphere gets more heat and has summer.
- At the same time, the south pole is tilted away from the Sun. The southern hemisphere gets less heat and has winter.
- After a few months, the Earth reaches the other side and the condition becomes opposite.



L-11 Force, Work & Energy

Learning objectives:
Children will comprehend:

i. Force and its effects
ii. Some common force and their importance
iii. Work and energy
iv. Simple machines and their types

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

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) The force of friction

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.

b) The force of gravity

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.

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

Q6. Define energy. Write two uses of some important forms of energy.

Ans. The ability to do work is called energy.

- Some important forms of energy are:

i. Heat energy: used to cook food and keep everything warm.
ii. Light energy: used to see things and plants use to make food.
iii. Electrical energy: used to heat and light things and run electrical appliances.

Q7. Name the main sources of energy and explain briefly.
Ans.

The Sun:

- It is the main source of energy.
- Energy of the Sun is called solar energy.
- Solar energy consists of heat and light.

Moving air:

- It is also called wind energy.
- It is used to turn wind mills.
- Windmills turn other machines which help to generate electricity, draw water from wells etc.

Moving water:

- Moving water contains energy which is called hydel energy.
- When it falls from a height onto turbines, electricity is generated.

Fuels:

- Fuels like wood, coal, petroleum, oil and gas are the excellent store of energy.
- This energy can be used to cook food, heat homes, run machines and cars.
- Burning fuels causes pollution.

LESSON: 9 REPRODUCTION IN ANIMALS

OBJECTIVES: Children will amaze to know about-

1) How animals reproduce?
2) All less developed invertebrates and fish, birds, reptiles and amphibians reproduce by laying eggs.
3) Highly developed group of animals i.e. mammals reproduce by giving births to babies.
4) Some concepts like life cycle, metamorphosis, moulting etc.

NEW WORDS:

i) Reproduction
ii) Mammals
iii) Yolk
iv) Embryo
v) Albumen
vi) Incubation
vii) Shell
viii) Tadpoles
ix) Metamorphosis
x) nymph
xi) shedding
xii) moulting
xiii) larvae
xiv) chrysalis
xv) pupal stage
xvi) disappear
xvii) process
xviii) caterpillar
xix) bury
xx) shallow

ANSWER THE FOLLOWING QUESTIONS:

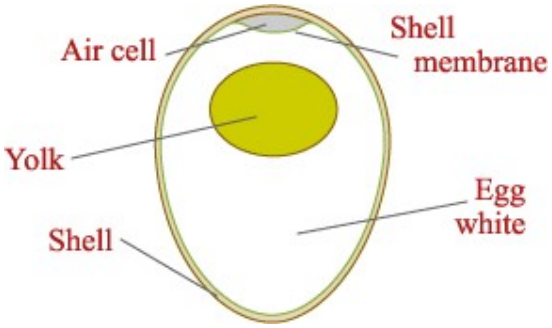
1. What is life cycle?
   Ans: All living things grow, become old and then die. The stages in the life of a living thing form its life cycle.

2. What are the two ways by which animals reproduce? Give examples.
   Ans: The two ways by which animals reproduce are:
   i) By laying eggs: eg- insects, fish, birds, reptiles etc.
   ii) By giving birth to babies: eg- mammals

3. What are mammals? Explain in detail.
   Ans:
   i) Animals which give birth to babies are called mammals. Eg- Humans, dog, cat, rat etc.
   ii) The babies are formed inside the mother's body.

iii) After many weeks or months the babies are born.
iv) The mother takes care of them and feeds their own milk till they learn to look after themselves.

4. Explain the structure of an egg with the help of a diagram.
Ans:

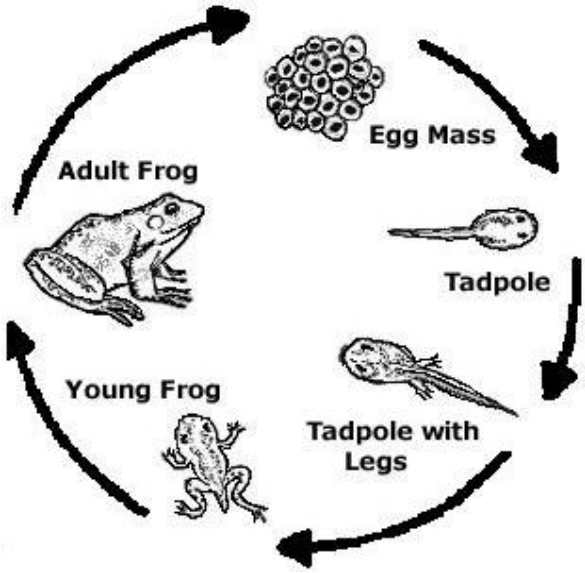


i) The egg is protected by a hard outer cover called egg shell
ii) In the center of the egg is a yellow portion called the yolk.
iii) At its top is the developing baby called the embryo, which gets its food from yolk.
iv) Yolk is surrounded by a white portion called albumen. It protects the embryo and provide it water and protein.

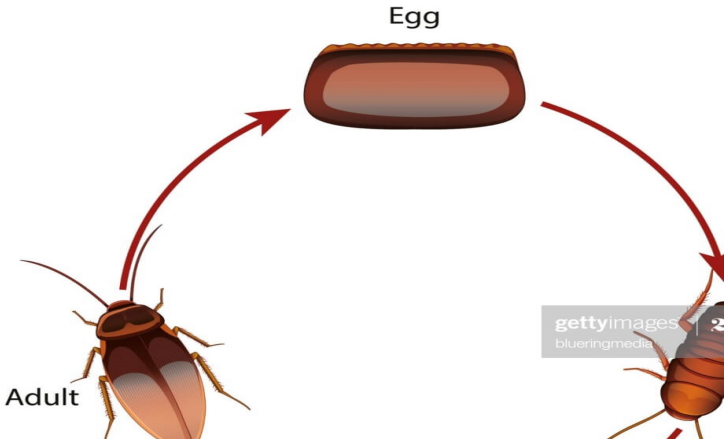
5. Define –
   1) Incubation: after the eggs are laid, the parent (mother) bird sits on it to keep it warm it is called incubation.
   2) Metamorphosis: the process by which some animals go through several stages to become an adult is called metamorphosis.
   3) Moulting: shedding of old skin.

6. Show the life cycle of a frog with the help of a flow chart.
7. Ans :

ADULT FROG
↓
LAYS HUNDREDS OF EGGS
↓
TADPOLES } **IN WATER**
↓
YOUNG FROG
↓
ADULT FROG } **ON LAND**

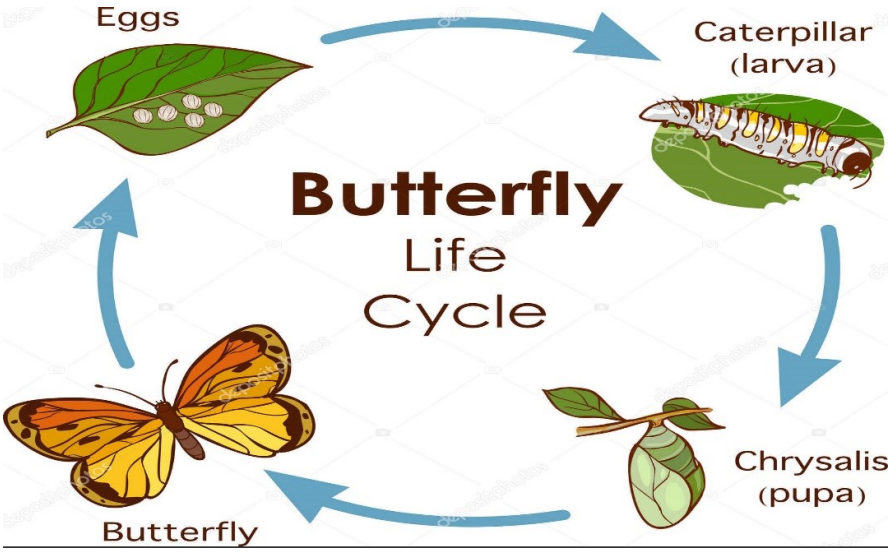


8. Explain the life cycle of following insects with the help of a diagram.
   a) Cockroach



i. Cockroaches have 3 stages in their life.
ii. Adult cockroach lays eggs.
iii. Egg hatches into baby cockroach called nymph.
iv. Nymph looks like adult cockroach but it doesn't have wings.
v. Nymph sheds its skin several times and changes it into an adult.

b) Butterfly :



i. Butterflies have 4 stages in their life cycles.
ii. Female butterfly lays eggs in groups on the underside of a leaf.
iii. Eggs hatch into worm like young ones called larvae or caterpillar.
iv. It eats a lot and grows quickly.
v. It then forms a shell called a chrysalis around its body and this stage is called pupal stage.
vi. Inside the chrysalis slowly pupa turns into adult butterfly.

9. Identify the animals-
   i) They burry their eggs in the sand- **Turtles**
   ii) They lay thousands of eggs in water at a time- **Fish**
   iii) They lay eggs in soil or holes in the ground- **Snakes**
   iv) They dig shallow pits in sandy riverbanks to lay their eggs and cover the eggs with sand and guard them- **Crocodiles**

L- 8 ADAPTATIONS IN ANIMALS

LEARNING OBJECTIVES

Children will know-

i) Various habitat and the adaptations- ii) Unfavorable conditions and how animals survive. i.e. hibernate, migrate etc. iii) How do they protect themselves?

NEW WORDS-

1.habitat	11. aerial
2. escape	12. migration
3. hurdle	13.prey
4. hump	14. predator
5. behavior	15. parasites
6.hybernation	16.defend
7. balance	17.camouflage
8.maintain	18.pretend
9. amphibians	19.scare
10. arboreal	20.chase

ANSWER THE FOLLOWING QUESTIONS-

Q.1 .Define habitat.

Ans. The place or environment where a plant or animal naturally or normally lives and grows.

Q.2 Write common adaptive features of terrestrial animals. Ans. i) They breathe through lungs and other organs ii) They have legs to move, find food and protect themselves. iii) They use their sense organs to find food and shelter etc.

Q.3 How do animals in polar regions survive the harsh, cold condition during winter?

Ans. i) They have thick coat of fur.

ii) A layer of fat under their skin- BLUBBER.

Q.4 Write the adaptations found in camel to survive in hot deserts.

Ans. i) A camel can go a week or more without water ii) Has thick

skin, which protects it from the hot sun and cold.

iii) It has fat stored in its hump, which helps it to survive without food or water for days.

iv) Camel's feet are wide so they can walk on sand more easily.

Q.5 What is hibernation?

Ans. i) During winter, some animals such as lizards, snakes and rats cannot bear the cold. ii) So during summer they eat a lot and store the fat.

ii) In cold winter they sleep in caves or burrows in the ground and use up the extra fat.

 This is called hibernation.

Q.6 Write any two adaptive features of aquatic animals. Ans. i)

They have gills to breathe the oxygen dissolved in water. ii)

They have fins to swim and maintain their balance in water.

Q. 7 GIVE REASON-

Dolphin and Whales are aquatic animals but they can't take oxygen dissolved in water.

Ans. They have lungs to breathe not gills so they come up to the surface of the water to take in oxygen (breathe)

Q.8 What are amphibians? Give examples.

Ans. Animals who live both on land and in water.

Eg- Frog, toad, newt, salamander.

Q.9 What are the adaptive features of amphibians?

Ans. i) For breathing- On land- Lungs

In Water- Moist Skin

ii) For movement- On land- legs (walking)

In Water- webbed feet (swimming)

Q. 10 Write the differences between Arboreal and Aerial animals. Give examples.

Ans.

ARBOREAL ANIMALS	AERIAL ANIMALS
□ Animals, which spend most of	□ Animals, which spend a lot of
their time on trees.	their time in air.
Eg. Monkeys, squirrels	Eg. Birds, bats

Q. 11.Write adaptive features of –

a) ARBOREAL ANIMALS –

i) They have strong arms and legs to climb trees. ii)

Also have strong claws to cling tightly to branches.

iii) Some monkey have long muscular tail to swing on trees.

b) AERIAL ANIMALS-

i) They have wings instead of front legs

 wings – modified front legs.

ii) Bodies are covered with feathers and bones are hollow to make them light and help in flying.

Q.12 What is migration?

Ans. The regular movement of animals every year in search of better living conditions is called migration.

Q.13 Define prey and predator with an example.

Ans. i) Prey - An animal that is caught and eaten by another animal.

ii) Predator- An animal that catches and kills another animal.

Eg- LION KILLS GOAT

(Predator) (Prey)

Q.14 What are parasites? Give examples. What do they eat and how?

Ans. Animals that feed on living animals or plants are called parasites.

Eg- Mosquitoes, fleas, lice .

 they suck the blood of other animals (host). Instead of teeth they have sucking tubes as mosquitoes.

Q.15 What is camouflage? Give example.

Ans. Some animals merge with their surroundings. Thus, it becomes difficult to see them. This is called camouflage.

Eg-i) Stick insects look like a twig.

ii) The stripes of zebra and tiger merge with the grassland.

Q. 16 How do the following animals hunt and protect themselves?

Ans. i) DEER AND ZEBRA - by running away as they can run very fast.

ii) CHAMELEON AND POLAR BEAR- by camouflaging. iii) PORCUPINES AND HEDGEHOGS- spine covering of the body.

iv) TORTOISE AND SNAIL- hard shell over body.

v) RHINOCEROS AND BUFFALOES- horns to fight vi) OPOSSUM AND SOME SNAKES- pretend to be dead when in danger. vii) GLOBEFISH- blows itself to double and scares away its enemies.

viii) FLYING FISH- jumps out of water and glides by spreading its large fins.

LESSON NO 7
ADAPTATION IN PLANTS

NEW WORDS

1. Survive
2. Terrestrial
3. Desert
4. Spine
5. Prevent
6. Conifers
7. Needle
8. Sloping
9. Deciduous
10. Climate
11. Mangrove
12. Marshy
13. Swampy
14. Aquatic
15. Floating
16. Hollow
17. Flexible
18. Submerged
19. Insectivorous
20. Mushroom

ANSWER THE FOLLOWING QUESTIONS

Q1. What are terrestrial plants?

Ans. Plants that grow on land are called terrestrial plants.

Q2 Write the adaptation found in desert plants.

Ans.

- The roots of some plants spread out just under the surface of soil.
- In some plants, roots go deep inside the earth to absorb water.
- The leaves are either small or modified into spines to prevent water loss.
- The stem is fleshy and stores water.
- The stem is green, contains chlorophyll to make food.

Q3. Write the adaptation found in plants in the hills.

Ans.

- The trees are usually tall and straight.
- Instead of flowers they have cones. So, they are called conifers.
- Their leaves are needle like with a waxy coating to prevent damage from snow.
- The shape of the tree is sloping so that snow can slide off easily.
- Oak, maple and birch trees are deciduous trees as they shed their leaves in winter to protect themselves from cold.
- Pine, spruce, cedar trees are evergreen trees.

Q4. Write the difference between evergreen trees and deciduous trees.

Ans.

Evergreen trees	Deciduous trees
They do not shed all the leaves at the same time and remain green whole year.	They shed their all leaves at the same time and do not have leaves for some months.
Eg fir, pine, spruce	Eg oak, maple, birch

Q5. What are breathing roots?

Ans.

- Mangrove trees grow in marshy and swampy places.
- The roots do not get air as water covers the soil.
- Therefor they have roots that grow above the soil. These roots are called breathing roots.

Q6. Write a short note on aquatic plants.

Ans. Plants that grow in water are called aquatic plants. There are three types of aquatic plants:

a) Floating plants

- They float freely on top of water.
- Their body is like a sponge and have empty space filled with air making the plant light weight.
- Eg water lettuce, water hyacinth.

b) Fixed plants

- These plants remain fixed to the bottom of the water body through roots.
- Have plate like leaves, floating on the surface of water.
- Stomata are present on the upper side of the leaf.
- The stems are hollow, light and flexible.
- Eg. Water lily, lotus

c) Under water plant

- They are also called submerged plants because they remain completely under water.
- Leaves are narrow, thin and without stomata.
- Plants breathe through their body surface.
- The stems are flexible and have air space.
- Eg. Hydrilla, tape grass

Q7. Why do some plants eat insects? Give two examples of such plants.

Ans. Some plants grow in soil that is poor in minerals. To get minerals, insectivorous plants trap and eat insects.

Eg. Venus flytrap, pitcher plant.

Q8. What are fungi? From where do they get food? Give 2 examples of fungi.

Ans. Fungi are the living things which do not have chlorophyll and cannot make their food.

They get food from plant or animal matter on which they grow.

Eg. Mould, mushroom

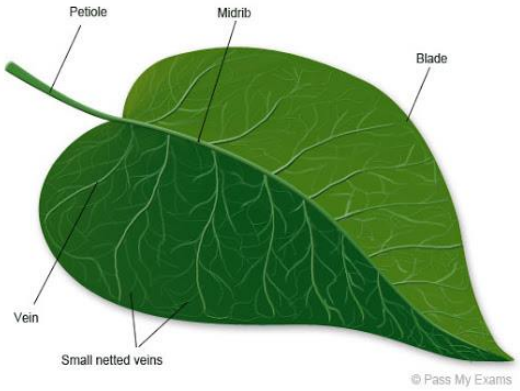
Lesson 6 How Plants Make Food

New words

1. Chlorophyll
2. Mushrooms
3. Necessary
4. Photosynthesis
5. Carbon-dioxide
6. Veins
7. Stomata
8. Trapped
9. Oxygen
10. Starch
11. Increase
12. Decrease

Answer the following questions-

Q.1 Describe the structure of a leaf with the help of a diagram.

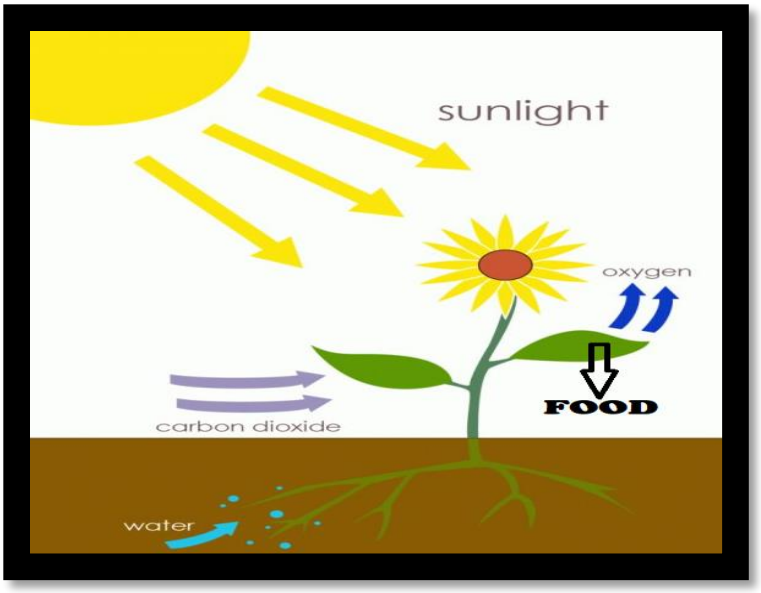


i) The green colour of leaf is due to a green substance / pigments called **chlorophyll.**

ii) There are tubes all over the leaf, called **veins.** Veins take water and food to all parts of the leaf.

iii) On the underside of the leaves, there are very small openings called **stomata.**

Q.2 How do plants make food? Explain with the help of a diagram.



The process by which green plants make food is called **Photosynthesis.** This process needs following raw materials-

- **i)** **CHLOROPHYLL** – found in all green parts of the plant like leaves, young stems.
- **ii)** **WATER**- is absorbed by the roots from the soil and carried by the stem to the leaves
- **iii)** **CARBON-DIOXIDE**- is taken in through stomata.
- **iv)** **SUNLIGHT** – is absorbed by chlorophyll.

Using the energy of sunlight, leaves change water and carbon-dioxide into sugar, which is the food of the plant, which is distributed through the veins and stem to all parts of plant.

Q.3 How do plants use the food they prepare?

Ans. Plants use the food for-

- i) Growth
- ii) Making flowers, fruits and seeds
- iii) Repairing damage

Q.4 What happens to the extra food prepared by the plants?

Ans. The extra food prepared by plants is changed into a substance called **starch** and stored in-

- i) Fruits-eg- tomato, apple
- ii) Seeds- eg- wheat, rice
- iii) Leaves- eg- spinach , cabbage
- iv) Roots- eg- carrot, radish
- v) Stems-eg- potato,ginger

We eat all these as food.

Q.5 Why should we maintain the balance between plants and animals in nature?

Ans. i) Animals breathe in oxygen from air and give out carbon-dioxide.

ii) Plants take in this carbon-dioxide for photosynthesis and give out oxygen.

iii) In this way animals and plants depend on each other.

iv) If the number of plants and animals decrease or increase, the balance will be disturbed.

LESSON 4 MATTER

OBJECTIVES:

By the end of the lesson, you will be able to:

1. Explain the term matter.
2. Recognise that matter is made up of molecules.
3. Recognise that matter exists in different states – solid, liquid and gas.
4. Change of state of matter.
5. Solubility of Substances in water.

NEW WORDS:

1. Weight
2. Space
3. Volume
4. Particles
5. Molecules
6. Solid
7. Liquid
8. Definite
9. Container
10. Squeezed
11. Vapour
12. Furnace
13. Dissolve
14. Solution
15. Solute
16. Solvent
17. Insoluble
18. Empty
19. Saturated

ANSWER THE FOLLOWING QUESTIONS:

Q1. DEFINE:

i) Matter - Anything that has weight and takes up space is called matter.

ii) Volume – The amount of space matter takes up is called its volume.

iii) Molecules – The tiny particles by which matter is made up of.

Q 2. 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

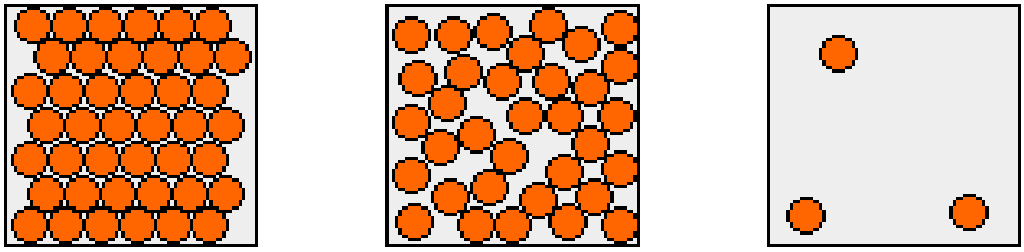
Q3. Write two points of difference between solids, liquids and gases.

SOLID	LIQUID	GASES
The molecules are packed close to each other.	The molecules are not packed as close together as they are in a solid.	The molecules are far away from each other.
They have definite shape and definite volume.	They have definite volume but no definite shape.	They don't have definite shape and definite volume.

Q4. Make a diagram to show molecular arrangements in solid, liquid and gas.

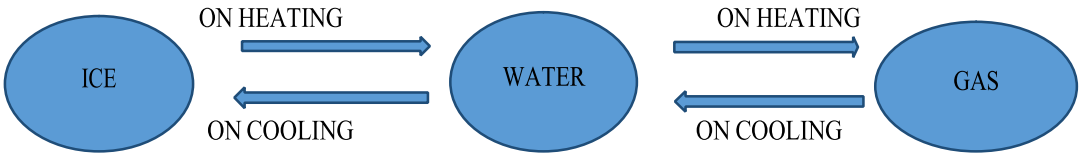
Ans.

Q5.



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. Differentiate between soluble and insoluble substances with 2 examples of each.

Soluble substance	Insoluble substance
Solids that dissolve completely in water. They are also called solute.	Solids that don't dissolve in water.
Ex: salt, sugar, glucose	Ex: sand, chalk, wood

Q7. 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.

Q8. What is a saturated solution?

Ans. When no more solute can be dissolved in a solution, it is called a saturated solution.

CHAPTER 3
TEETH AND MICROBES

OBJECTIVES

By the end of the lesson, you will be able to:

- Describe the different kinds of teeth
- Describe the structure of a tooth
- Explain how you should take care of your teeth
- Classify microbes

NEW WORDS:

1. Temporary
2. Permanent
3. Incisors
4. Canines
5. Premolar
6. Tearing
7. Grinding
8. Enamel
9. Dentine
10. Decay
11. Acid
12. Cavity
13. Microbes
14. Microscope
15. Bacteria
16. Virus
17. Fungi
18. Poisoning
19. Protozoa
20. Disease

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 and functions.

Ans.

Kinds of teeth	Numbers of teeth	Functions
1. Incisors	8 (4+4)	Cut and bite food
2. Canines	4 (2+2)	Tear the food
3. Premolar	8 (4+4)	Crush the food
4. molars	12 (6+6)	Grind the food

Q3. What is the shape of all 4 types of teeth?
Ans. Incisors - sharp and flat
Canines - sharp and pointed
Premolar - flat and wide
Molar - broad

Q4. Explain the structure of a tooth with the help of a diagram.
Ans. Our tooth has following parts:

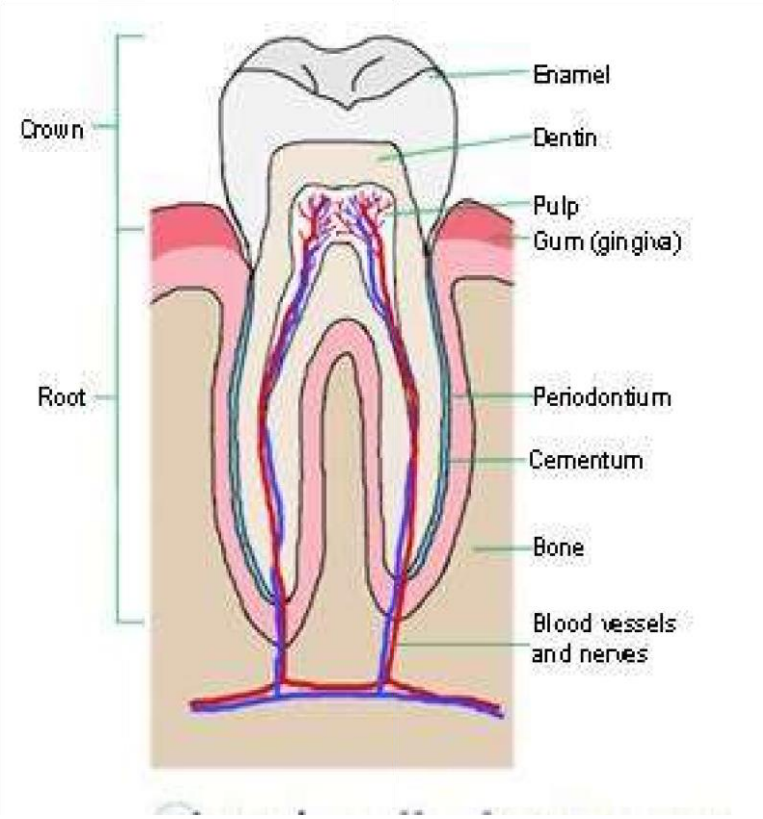
1) Crown: The part of the tooth that can be seen above the gums.

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.



Q5. 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.

Q6. 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

Q7. Write any 2 uses of Bacteria and Fungi each.

Ans. Useful Bacteria:

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

Useful Fungi:

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

Lesson no 1
Food

Objective

Students will learn about

- Importance of food for living beings.
- Different types of nutrients, their sources and functions.
- Balanced diet and its importance.
- Correct ways of cooking and preserving food.

New Words

1. Nutrients	2. Calcium
3. Carbohydrates	4. Indigestible
5. Protein	6. Rotten
7. Vitamin	8. Preservation
9. Mineral	10. Refrigeration
11. Starch	12. Canning
13. Cereal	14. Roughage
15. Pulses	

Answer the following questions.

Q1. Why do we need food?

Ans. We need food to

- Get energy
- Grow
- Fight diseases
- Stay healthy.

Q2. Explain all the nutrients found in food. Write their functions and sources.

Ans

Nutrient	Functions	Sources
Carbohydrates	Give energy to our body.	Sugar (chocolate, ice creams), Starch (potatoes, bread, rice) Fruits (mango, grapes)
Fats	In the absence of carbohydrates, stored fat gives us energy. Keep our body warm.	Ghee, butter, nuts, cheese
Proteins	Help us to grow. Repair damaged part of the body. Also called body building food.	Plant sources: pulses, beans, almonds Animal sources: chicken, egg, milk

Vitamins & Minerals	□ Help our body to work properly. □ Fight diseases □ Help to stay healthy. □ Also called protective food.	Fresh fruits, vegetables, milk, eggs

Q3. Explain a balanced diet.
Ans. A diet that contains all the nutrients in the right amount as per requirement, along with water and roughage is called a balanced diet.

Q4. Why is water important for us?
Ans. Water helps us to

- Digest food.
- Absorb nutrients properly.
- Get rid of waste from our body.

Q5. Write the functions and sources of calcium and iron in our diet.
Ans.

Nutrient	Function	Source
Calcium	Needed for healthy bones and teeth	Milk, cheese, paneer, green leafy vegetables
Iron	Needed for blood formation	Green leafy vegetables, beans, meat

Q6. What is roughage? Why is it important?
Ans. Indigestible part of the plant food is called roughage. It helps to eliminate solid waste from our body.

Q7. What is the reason behind spoiling of cooked food?
Ans. Cooked food gets spoilt when germs grow in it.

Q8. Name any four methods of preserving food. Give two examples of each.
Ans. The four methods of food preservation are:

1. Refrigeration: eg fresh fruits and cooked food
2 Canning: jams and baked beans
3 Adding preservatives: sauces and jams
4 Drying: chips and pulses

Q9. How can we preserve nutrients of food?
Ans. Food should not be over cooked.

- Vegetables and fruits should be washed before they are cut.
- Food should be cooked in just enough water.

Lesson no 2

Digestion

LEARNING OBJECTIVES-

Children will be able to understand-

- The term digestion.
- Different organs of digestion.
- The process of digestion in various organs.
- Recognise the importance of good eating habits.

NEW WORDS

1. Digestion
2. Salivary gland
3. Swallow
4. Coiled
5. Intestine
6. Liver
7. Pancreas
8. Anus
9. Rinse

Answer the following questions.

Q1. Define digestion.

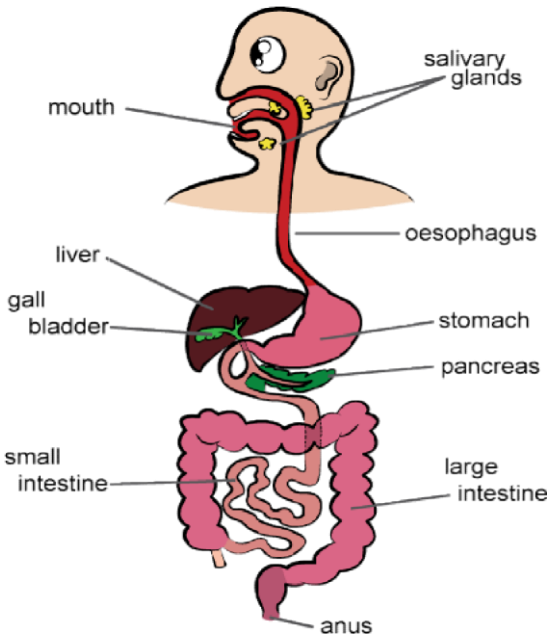
Ans. The process of breaking down of food into simpler forms inside our body, so that it can be used for various functions of the body, is called digestion.

Q2. Name the organs of digestive system. Also name the glands associated with it.

Ans. Organs: mouth, oesophagus, stomach, small intestine, large intestine, anus. Glands: salivary glands, liver, pancreas.

Q3. Draw a well labelled diagram of the digestive system.

Ans.



Q4. 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 and fat into smaller particles.

4) Small Intestine: two processes take place here-

a) DIGESTION-It is a long-coiled tube where food gets digested completely with the help of the 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.

5) Large Intestine:

a) Water from undigested food is absorbed here.

b) Undigested food turns into solid waste. (faeces)

6) Anus: Solid waste passes out of body through it.

Q5. 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 Rest for a while having food.