

Science

Young children have keen minds but their attention span is very short. So it is very important for the teacher to make science interesting so that they grasp well. Keeping this in mind our Science book is more activity oriented and gives importance to 'learning by doing'.

So the teacher has to involve the child in every step and make sure that the concept is made very clear.

By taking the children for nature walks and by talking to them, and by involving them in group work, discussions etc. the teacher can make learning, fun.

We have provided notes to teachers in the text book which will help teacher make Science simple and at the same time very interesting to the children.

Plant Life

Exercise

1. Name the following:
 1. Plants growing on land terrestrial plants
 2. A plant that cannot make its own food fungi
 3. An insectivorous plant venus flytrap
 4. Plants growing in water under water plants (hydrilla)
 5. A plant growing in clay soil mangrove trees
2. Where are these plants normally found ?
 - a) rubber sea coast
 - b) cactus desert
 - c) pine cold, hilly areas
 - d) hydrilla under water
 - e) mangrove marshy areas
 - f) tea hilly regions
3. Give reason. Why do—
 - a) roots of mangrove trees have difficulty in getting air ?
Because they grow in clay soils that do not have enough air for the roots to breathe.

- b) cactus have 1) spines instead of leaves ?
to reduce water loss.
2) fleshy stem ? to store water.
- c) water hyacinth have swellings on the leaf stalks ?
It helps the plant to keep afloat.
- d) mushrooms not prepare their own food ?
Because they don't have green leaves to help them to do so.

4. Answer the following.

- a) What are aquatic plants?
Aquatic plants are water plants.
- b) Name the different types of aquatic plants with example.
 - i) floating plants; eg: duckweed,
 - ii) fixed plants; eg: lotus,
 - iii) under water plants; eg: pond weed
- c) How do plants like rose and poison ivy protect themselves from animals?
Rose plants have thorns and poison ivy have poisonous substance to protect themselves.

5. Specify one adaptive feature of -

- a) Under water plants narrow, finely divided ribbon-like leaves with no pores
- b) Leaf of lotus plant long, hollow stems.
- c) Floating plants have stalk filled with air.

6. Explain the features of fir tree. They have needle-like leaves and they bear cones. These features help them to adapt themselves in cold, hilly areas.

Worksheet (Workbook)

A. Fill in the blanks using the words in the box:

- 1) pine 2) non-green 3) sundew
4) mushroom 5) spines

B. Answer the following:

- 1) a) Cactus - In a desert there is very little water.

Therefore cactus have thick fleshy stems to store water. Their spine-like leaves reduce the water loss through evaporation.

- b) Mangrove trees - which grow in clay soil have special respiratory roots that grow above the soil.
- c) Under water plants - have narrow, finely divided ribbon like leaves with no pores. They breathe through their body surface.
- d) Floating plants - are small in size and are light which help them float on water.

C. Give reasons:

- 1) This prevents water from sticking to the surface and blocking the openings.
- 2) This helps the plant to stay afloat.
- 3) Mushrooms grow on other plants and on dead animals. They get their food from whatever they grow on.

D. Match the following and write below:

- 1) c) floating plant 2) d) fixed plant
- 3) e) under water plant 4) a) insectivorous plant
- 5) b) desert plant

E. Pick the correct answer and rewrite the sentences.

- 1. Land plants 2. clay 3) cones 4. upper
- 5. desert

Plant Life - Part II

Exercise

1. Name the following:

- 1. Very small openings in leaves through which exchange of gases take place. stomata
- 2. The food in plants is stored in this form. starch
- 3. When this is added to starch, it becomes blue-black. iodine
- 4. The gas given out during photosynthesis. oxygen
- 5. The gas used by the leaves to prepare food. carbon dioxide

2. Answer the following:

- 1. What materials do plants use for preparing their food ?
Plants use sunlight, carbon dioxide and water for preparing their food.
- 2. Define 'Photosynthesis'.
The process of making food by green leaves using sunlight, carbon dioxide and water is known as photosynthesis.
- 3. How does a plant use food ?
A plant uses food to grow, to make new cells, to repair damaged parts.
- 4. For testing for starch, why do we soak a leaf in warm alcohol ?
For testing for starch, we soak a leaf in warm alcohol to dissolve the chlorophyll.

3. Match the following:

Photosynthesis	Carbon dioxide taken in, by plants oxygen given out.
Sun's energy	Trapped by chlorophyll.
Respiration	Oxygen taken in, carbon dioxide given out.
Preparation of food	Green leaf.
Stomata	Excess water from plants is sent out.

4. State 2 functions of -

- a) stomata (1) excess water is sent out (2) exchange of gases during respiration and photosynthesis.
- b) root (1)fix the plant firmly to the soil (2) to absorb water
- c) leaf (1) produce food (2) help in respiration

5. Label the leaf:

Margin, Apex, Veins, Stalk, Midrib

Worksheet (Workbook)

A. Drawing activity.

- B. Colour and label: leaf blade, midrib, veins, margin, stalk
- C. Fill in the blanks:
 1) stem 2) chlorophyll 3) stomata, respiration
 4) stomata 5) cabbage / spinach
- D. Answer the following:
 1) Give 3 functions of roots.
 Roots fix the plant to the soil. They absorb water and minerals from the soil. In some plants, the roots also store food. Example: carrot, beetroot.
- 2) Define "photosynthesis"
 The process of making food by green leaves using sunlight, carbon dioxide and water is known as photosynthesis.
- 3) What are the raw materials used by plants during photosynthesis ?
 Plants use sunlight, carbon dioxide and water during photosynthesis.
- E. Observe the set up and answer the following:
- F. Answer the following:
 a) To prove that sunlight is needed for the leaves to prepare food.
 b) The portion covered by the black paper does not turn blue-black but remains colourless.
 c) The covered portion of the leaf did not receive sunlight. It was, therefore not able to make food. This shows that sunlight is necessary for making food.
- G. Match the following:
 1) c) green colour to leaf
 2) e) transport water to leaves
 3) a) helps in breathing
 4) b) stem that stores food
 5) d) root that stores food
- H. Pick the correct answer and rewrite the sentences:

1. In a plant the root grows below the ground and the shoot grows above the ground.
2. During photosynthesis, plants take in carbon dioxide and give out oxygen.
3. The stem supports the plant
4. Chlorophyll gives green colour to the leaves.
5. Exchange of gases take place in stomata.

Animal Life

Exercise

1. Name these -
 1. A terrestrial animal that does not have legs. Snake
 2. An animal that has hollow bones. Bird
 3. An animal that can change colour. Chameleon
 4. An animal that can breathe through its skin. Frog
 5. An animal that sucks blood of other animals. Leech
2. Define-
 - a) Aquatic animal : Animal that lives in water
 - b) Parasite : Small animal that depends on other living animals for its food.
 - c) Arboreal animal : Animal that lives on trees
 - d) Amphibian : Animal that lives both on land and water.
 - e) Hibernation : The process of sleeping for a long time during winter months.
 - f) Migration : The process in which birds fly to warmer places during winter in search of food and shelter.
3. Answer the following:
 - 1) Why is it necessary for animals to adapt themselves to their surroundings ?
 Animals adapt themselves to their surroundings for their survival.
 - 2) Why do some animals have fur on their bodies ?

Some animals have fur on their bodies to protect themselves from the cold.

3) Name the organs of breathing in -

- a) Aquatic animals. Gills
- b) Terrestrial animals. Lungs
- c) Frogs. Lungs and also skin

4. How do these adaptations help animals ?

- 1) Fins in fish Helps them to swim
- 2) Suckers in leech Helps to suck blood of other animals
- 3) Scales in snake To help in moving and crawling.
- 4) Moist skin of earthworm Helps in respiration
- 5) Feathers in a bird To help prevent loss of water and thus protect the skin from drying.

Worksheet (Workbook)

A. Fill in the blanks:

- 1) terrestrials 2) wings 3) hibernation
- 4) gills 5) airholes

B. Draw lines and match the following:

- Aerial animals - spend most of their time in air
- Arboreal animals - live on trees
- Amphibians - live on land and in water
- Aquatic animals - live in water

C. Answer the following:

- 1) All living beings have certain features which help them to survive and live in a particular habitat. This ability to adapt themselves to their surrounding is known as adaptation. Ex: Birds have wings for flying. Fish have fins for swimming.
- 2) Birds living in very cold places fly thousands of kilometres to warmer places in winter in search of food and shelter. This is called migration, e.g. swan,

Arctic tern.

- 3) Parasites are small animals that depend on other living things for their food. A leech is a parasite.
- 4) Some animals have skin colour to match the colour of their surroundings. This is called camouflage. This helps them in hiding from their enemies.
- 5) Monkeys swing from branch to branch and use their tails to balance themselves and to grip the branches.

D. Match the following and write in the space below:

- 1) b) breathe through skin
- 2) d) leech
- 3) a) breathe through lungs
- 4) c) adaptation
- 5) e) opossums

E. Give reasons:

- 1) Some animals living in cold region have fur on their body to protect them from cold.
- 2) Adaptation is necessary as it helps animals to survive and live in a particular habitat.
- 3) These help them to tear the flesh.
- 4) This protects them from the sun. It also prevents water loss from their bodies.
- 5) During winter the weather is too cold and there is scarcity of food. During this long sleep the animals use their body fat to survive.

F. Mention one special adaptive feature of the following:

- 1) Leech - have suckers to suck blood.
- 2) Round worm - has thick outer skin that protects it from the digestive acids in the stomach.
- 3) Chameleon - changes its colour according to the surrounding.
- 4) Camel - has a thick skin with very less hair.

G. Define:

- 1) Hibernation - Some animals like bear, bat, etc. sleep for a long time during winter months in caves or burrows to escape from the cold weather. This is called hibernation.
- 2) Arboreal animal - Animals like monkey and opossums that live on trees are arboreal animals.
- 3) Aquatic animal - Aquatic animals live in water e.g. whale, shark, fish.

Animal Reproduction

Exercise

Fill in the blanks:

1. The larva of a butterfly is known as a caterpillar.
2. The parent birds sit on the eggs to keep them warm.
3. Only in mammals the mother suckles her young ones.
4. Two animals which lay their eggs in water are fishes and frogs.

Answer the following:

1. Why should animals reproduce?
Animals should reproduce as otherwise, all living things would slowly die out and disappear from the earth.
2. What are the 4 stages in the life cycle of a butterfly?
The 4 stages in the life cycle of a butterfly are eggs, larva stage, pupa stage and adult stage.

Write True or False:

- a) If living things stop reproducing, they would all die out slowly. True

- b) Mammals give birth to babies and feed their babies with their own milk. True
- c) When the eggs of frogs hatch, baby frogs come out. False
- d) All animals lay 2 or 3 eggs only. False

Worksheet (Workbook)

A. Fill in the blanks:

- 1) nymph 2) frogs 3) butterfly 4) fish 5) gills

B. Drawing activity

C. Answer the following:

- 1) The caterpillar feeds on leaves and grows. It then covers itself with a special thread like structure called a cocoon. This is the pupa stage.
- 2) When the eggs of frogs hatch, small tadpoles come out. They have a tail and look like fish. Slowly their legs form and they change into adult frog.

D. Match the following and write in the space below:

- 1) c) feed on their mother's milk
- 2) d) larval stage of butterfly
- 3) b) develops by moulting into adult
- 4) e) eggs are covered by shell
- 5) a) develops legs, lungs and becomes adult frog.

E. Complete the following:

- 1) eggs → caterpillar → pupa → butterfly
- 2) eggs → nymph → cockroach
- 3) eggs → fry → fish
- 4) eggs → tadpole → frog

Food

Exercise

1. Fill in the blanks from the suitable words in the bracket.

- 1) Carbohydrates and fat provide energy for the body.
- 2) Proteins are needed for the growth of the body.
- 3) Vitamins and Minerals are protective foods.

- 4) Meat is a body building food.
 - 5) A balanced diet has the right amount of fat, proteins, carbohydrates, minerals and vitamins.
 - 6) Spinach and nuts have vitamins and minerals in them.
2. Answer the following.
- 1) Name the three main groups of food.
Body building food, energy giving food and protective food.
 - 2) Name three food items that provide energy to us.
Rice, Wheat and corn.
 - 3) Give three food items that provide each of the following.
 - a) Carbohydrates - Rice, wheat, corn
 - b) Fats - Ghee, Butter, Cheese
 - c) Proteins - Milk, Meat, Eggs
 - 4) Why are proteins needed by our body?
To grow; to make muscles, skin and other organs and blood. They also help our body to mend when it is damaged and help wounds get better.
3. Make sentences from the following tables.
- Food with plenty of carbohydrates give us energy.
Food with plenty of proteins make us grow well.
Food with plenty of vitamins protect us from diseases.
There are a lot of minerals in lemons
There are a lot of proteins in meat and in eggs
There are a lot of vitamins in mangoes
There are a lot of carbohydrates in rice
There are a lot of fat in cooking oil
4. Group the following food items :
- | | | |
|---------------------------|---|--|
| Protective food | - | Milk, Carrots, Beans, Nuts, Fish, Mango, Orange, |
| Body building food | - | Meat, Egg, Pulses, |
| Energy food | - | Rice, Corn, Wheat, Cheese, |

Potato

Worksheet (Workbook)

- A. Answer the following:
- 1) energy giving 2) Fats: Ghee, butter
 - 3) a) milk and eggs b) growing children need more proteins
 - 4) Food rich in minerals are good for our teeth and bones. Less minerals will make us weak and we will not have strong bones and teeth.
 - 5) a) Balanced diet will have the right amount of proteins, fat, carbohydrates, vitamins and minerals.
b) A balanced diet will give us energy to work, help us to grow and also keep us free from diseases.
- B. Match the following and write in the space below:
1) - d), 2)-a), 3)-e), 4)- b), 5)- c)
- C. State the importance of the following with 2 examples each:
- 1) Bodybuilding food - help our body to grow. They help our body to make muscles, skin and other organs and blood. They help our wounds to get better. Ex: milk, meat.
 - 2) Energy giving food - Carbohydrates and fats provide energy to our body which helps us to walk, run and jump. Ex: Rice, butter.
 - 3) Protective food - gives us vitamins and minerals which keeps us free from diseases.
- Fruits, vegetables, milk are examples.

The Human Body

Exercise

1. Complete the sentences below using the words given in the box: skeleton ; brain ; heart ; messages ; carbon dioxide
 - a) The brain controls all the functions of the body.
 - b) The nerves carry messages to the brain and to other

parts of the body.

- c) When we breathe out, carbon dioxide goes out of our lungs.
- d) The skeleton is made up of 206 bones.
- e) The heart pumps blood through all parts of the body.

2. Name the organs of:

- a) Digestive system mouth, food pipe, stomach, large intestine, small intestine and anus.
- b) Nervous system Brain and nerves
- c) Respiratory / Breathing system Nose, wind pipe and lungs

3. Write the functions of the following organs:

- a) Skin Removes sweat
- b) Lungs Removes carbon dioxide
- c) Mouth Food is broken, chewed and made soft.
- d) Kidney Removes urine
- e) Heart Pumps blood to all parts of the body.

4. Name the organs of the digestive system and write its functions.

- | | | |
|-----------------|---|---|
| Mouth | - | Food is broken, chewed and made soft. |
| Food pipe | - | Food travels from mouth to stomach through the food pipe. |
| Stomach | - | Food is mixed with digestive juices, churned and digested. |
| Large Intestine | - | Excess water is absorbed. |
| Small Intestine | - | Here, food is completely digested and food is absorbed by the walls of the small intestine. |
| Anus | - | Waste is thrown out through the anus. |

Worksheet (Workbook)

A. Identify the system, label the parts and answer the questions:

- I) Parts - brain, nerves
 - a) nervous
 - b) brain and nerves

- c) brain
- d) nerves

II) Parts - food pipe, stomach, small intestine, large intestine, anus

- a) digestive
- b) stomach
- c) small intestine
- d) excess water present is absorbed.

Waste is thrown out through the anus

III) Parts - heart, blood vessels

- a) circulatory
- b) heart, blood and blood vessels
- c) (1) heart - pumps blood to all parts of the body,
(2) blood - takes digested food and oxygen to all parts of body. It also collects waste materials from all parts of body.

IV) Parts - windpipe, lungs a) breathing b) nose, windpipe and lungs c) to get energy from food our body needs oxygen d) oxygen, carbon dioxide

V) Parts - bones a) skeletal b) (1) gives the body its shape (2) It protects all the parts inside, example: skull protects the brain

VI) Parts - muscles
a) muscular b) (1) controls all movements of the body (2) we use muscles to move the bones.

VII) fig. (1) Fig. (1) kidney, (2) skin and (3) lungs belong to excretory system. Kidney helps to throw out waste materials, skin helps to throw out sweat, lungs help to throw out carbondioxide.

Teeth

Exercise

- 1. State True or False.
 - a. Cavities are caused by acid. True
 - b. All teeth have the same shape. False
 - c. We should brush our teeth before going to bed at night. True
 - d. Eating too many sweets cause tooth decay. True

- e. Milk teeth are permanent. False
2. Fill in the blanks.
- The part of the tooth covered by gums is called Root
 - The innermost part of the tooth is called the pulp
 - The teeth that help us grind food are called Pre-molars/molars.
3. Write the names of the teeth that are used in the following cases.
- To bite an apple I N C I S O R S
 - To tear a piece of meat C A N I N E S
 - To chew sugarcane M O L A R
 - To eat chocolate P R E M O L A R
4. The children have to do this activity on their own.
5. Answer the following:
- Name the different parts of a tooth.

a) <u>enamel</u>	c) <u>pulp</u>	e) <u>crown</u>
b) <u>dentine</u>	d) <u>gum</u>	f) <u>root</u>
 - Name the different kinds of teeth.

a) <u>incisors</u>	c) <u>pre-molars</u>
b) <u>molars</u>	d) <u>canines</u>
 - How do incisors help us ?
They help us in biting.
 - What is the work of canines ?
The canines help us in tearing food.
 - How do food particles cause tooth decay?
Bacteria that eat the sugar in the food particles makes an acid that causes holes in the teeth.
 - How can we protect our teeth from tooth decay?
 - Have a balanced- diet and lots of milk.
 - Don't eat too many sweets.
 - Brush teeth in morning and night.
 - Wash mouth well after every meal.
 - Get our teeth cleaned by the dentist once in 6 months

Worksheet (Workbook)

- A. State the difference between -
- | | |
|-----------------|---|
| milk teeth | - temporary, twenty milk teeth, from 6 months to 6 years we get milk teeth. |
| permanent teeth | - permanent, thirty two permanent teeth, from 6 years to 12 years we get permanent teeth. |
- B. Identify the tooth and state its functions:
- | | |
|-------------------------|-----------------------------|
| a) incisor | b) for biting |
| a) canine | b) for tearing the flesh |
| a) premolars and molars | b) to crush and grind food. |
- C. Structure of a tooth:
enamel, pulp, dentine, gum
The hard white portion of the tooth that we can see is the enamel. Below the enamel is the dentine. Inside the dentine is the soft pulp.
- D. Why do teeth get spoilt ?
Many small living things called bacteria live in the mouth. If the teeth are not cleaned everyday, food collects on the teeth. The bacteria eat this food and make an acid. This acid makes holes in the teeth.
- E. State five ways to keep our teeth healthy and free from decay.
- Have a well balanced diet and drink plenty of milk.
 - Do not eat too many sweets.
 - Brush the teeth in the morning and before going to bed.
 - We should wash our mouth well after each meal.
 - We should get our teeth cleaned by a dentist once in six months.

Materials - Solid, Liquid and Gas

Exercise

1. Match the following:

A	B
Solid, liquid and gas Matter	are the three states of matter occupies space and has weight

Molecules are tiny particles of matter
Water takes the shape of the container
In gas molecules are very far apart

2. Fill in the blanks:

1. Liquids have no definite shape.
2. Liquids and Gases take the shape of the container in which they are kept.
3. Solid form of water is ice
4. Solids and Liquids have definite volumes.
5. Boiling water to produce steam is a physical change.
6. Clouds are formed due to evaporation of water from lakes, rivers, oceans etc.

3. Name the following:

- a) Atoms combine in various ways to form molecules
- b) Their molecules are packed together very closely solids
- c) They can flow but have a definite volume. Liquids
- d) The solid that is dissolved in a solvent. solute
- e) A solution in which no more solute can be dissolved saturated solution

4. Define:

Condensation the process of changing water vapour into liquid

Evaporation The process of changing water into steam or water vapour

Solidification The process of changing liquid water into solid ice.

5. Answer the following:

- 1) Differentiate between-
 - a) Chemical change and Physical change:
Under physical changes, the molecules don't change whereas molecules change in chemical changes.

b) Arrangement of molecules in ice and water.

In ice, the molecules are closely packed together whereas in water, the molecules are not packed so closely.

2) Why do gases not have a definite shape or volume?

Because their molecules are far apart and they move freely in the space they occupy.

3) When sugar is dissolved in water, the volume of water remains the same. Why?

Because the sugar molecules only fill up the empty spaces between the water molecules.

Worksheet (Workbook)

A. Answer the following:

- 1) Anything that occupies space and has weight is matter.
- 2) Matter is made up of molecules.
- 3) Tiny particles that are so small that we cannot see them are called molecules.

B. Fill in the blanks:

- 1) matter
- 2) volume
- 3) molecules
- 4) atoms
- 5) solid, liquid and gas

C. Activity and answer:

Activity 1. Solids occupy space.

Activity 2. This shows that liquid occupy space

Activity 3. This proves that water does not have a definite shape. It takes the shape of the container in which it is kept.

Activity 4. 1) Liquids can be poured from higher level to lower level

2) Liquids flow

3) Water on heating changes to water vapour and on cooling changes to ice.

D. Difference between:

1) Chemical change:

- 1) In chemical change, a different kind of matter is

produced.

2) The properties of the molecules are different.

Physical change:

1) The same matter changes into another physical form.

2) The properties of the molecules do not change.

2) Evaporation: the process of changing water into steam or water vapour is known as evaporation.

Condensation: The process of changing water vapour into liquid water is known as condensation.

E. Answer the following:

1) Solids : have a definite shape. They occupy a definite space. The molecules are packed very closely, eg: wood, brick.

Liquids : Do not have a definite shape. They can flow. The molecules are not packed so closely, eg: milk, water.

Gases : Easily change their shape and volume. Do not have definite shape and volume. Molecules are far apart, eg: air in a ball, balloon, etc.

Soil

Exercise

1. State true or false:

- a) Clay does not allow much water to pass through. True
- b) Soil does not contain air. False
- c) Sandy soil is best for the growth of plants. False
- d) Plants grow mostly in top soil. True
- e) Loam is a mixture of sand and stones. False

2. Match the following:

A

B

- | | |
|-----------|--|
| 1. gravel | d. heaviest particles |
| 2. sand | a. used in making building |
| 3. humus | e. dry leaves, twigs and dead insects. |

4. farmer's friend b. earthworm

5. loam c. mixture of clay and sand

3. Answer the following.

1. Name the three important kinds of soil.

Loam, clay, sand.

2. What is humus ?

The rotten remains of dead plants and animals is humus.

3. Which soil is best for the growth of plants ?

Loam is best for the growth of plants.

4. Why is an earthworm called 'a farmer's friend' ?

Earthworms turn the soil and let more air in as they build tunnels and also drag leaves in the tunnels. These activities make the soil airy, fertile and good for crops. That is why they are known as the 'farmer's friend'.

5. What is meant by erosion ?

It is the wearing and carrying away of soil by natural forces like wind and water.

6. Name the agents that bring about erosion.

Sun, wind, rain, rivers, oceans, etc. bring about erosion.

7. What is meant by soil conservation ?

Soil conservation is the protection of the soil from erosion.

8. In what ways can soil be conserved ?

Planting trees and grass, making bunds and embankments, making terraces or furrow help in conserving soil.

4. Experiments.

- 1) Take some soil in a can. Fix a balloon at the top. Heat the can strongly. The balloon is filled up because soil has air.

Worksheet (Workbook)

A. Fill in the blanks:

- 1) humus 2) thick layers of rocks 3) loam

- 4) sand 5) gravel

B. Match the following and write in the space below:

- 1) gravel - large grains; does not hold any water
- 2) sand - grains are smaller than gravel
- 3) clay - the roots of the plants cannot breathe
- 4) loam - equal amounts of sand and clay
- 5) humus - rotten remains of plants and animals

- C. 1) because they cannot retain water as they have plenty of air spaces between them.
- 2) because the roots of the plants cannot breathe in clay soil
- 3) Loam can hold enough water and air for the use of plants. Humus provides nutrients for the plants. Hence loam and humus makes the best soil for growing plants.
- 4) Earthworms live in underground tunnels. As they build their tunnel homes, they turn the soil and let more air into it. They make the soil airy, fertile and good for crops.

D. Fill up the boxes:

top soil, sub soil, rock

E. Draw up conclusions for the diagrams.

- 1) A: Holds sand B: Holds clay C: Holds loam
- 2) Clay holds the maximum water because clay is made up of very fine grains which stick together. There is no air space between the soil particles.
- 3) Sand retains least water as they contain air spaces between the grains.

Force, Work and Energy

Exercise

1. Define-

- a) Force A push or a pull
- b) Work is when force moves an object through a distance.
- c) Energy is the ability to do work.

2. Answer the following:

- a) What is a simple machine ?

Simple machine is one that makes work easier by increasing force applied by us, changing the direction of the force or increasing the speed of the work. It helps in doing simple activities such as cutting paper, opening cans, etc.

- b) When is work done ?

Work is done when force moves an object through a distance.

- c) Why is it difficult to walk on very smooth surface ?

It is difficult to walk on smooth surface because there is very little friction on smooth surfaces.

3. Name the following:

- a) A push or a pull . Force
- b) It stops us from floating in the air Gravity
- c) It is done when a force moves an object. Work
- d) They make our work easier. Machines
- e) This form of energy is used by plants to make food. Solar energy
- f) This form of energy is required to make electricity in dams. Hydrolic (water) energy

4. Look at these pictures and write down the form of energy under each.

- 1) Electrical energy, 2) Motion energy,
- 3) Heat energy, 4) Sound energy.

5. In the picture given below different kinds of machines are used. Name the simple machines. When do we use them ?

Inclined plane: To load heavy objects into trucks.

Pulley: We use them to draw water from wells.

Lever: To move heavy objects. (like boulders)

Worksheet (Workbook)

A. Fill in the blanks:

- 1) food 2) force 3) friction 4) machine 5) energy

B. Answer the following:

- 1) a) lever b) wheel and axle c) pulley d) inclined plane
1) Simple machine makes work easier by (a) increasing the force applied by us (b) changing the direction of the force (c) increasing the speed of doing work.

C. Name - 4 sources of energy:

- 1) sun 2) wind 3) water 4) atomic energy

D. Forms of energy and one use for each.

1. Heat energy - to cook food
2. Light energy - plants use this to make food
3. Electrical energy - to light our homes
4. Motion energy - moving of water to make electricity.

E. State how one form of energy can be changed to another form.

- 1) Fan → electrical energy to motion energy
2) Bulb glowing → electrical energy to light energy.

F. Name three simple machines:

screw driver, plier, scissors

Safety and First Aid

Exercise

1. Name the following:

- a) You should cross a road from here. Zebra crossing
b) When on footpath you should keep to this side of the road. Right side
c) You should keep to this side of the road while riding a bicycle. Left side
d) Clothes that catch fire easily. Nylon clothes
e) When a person is bitten by insect we use this. Ammonia solution

2. Answer the following.

- a) What is first aid ?
The first help that an injured person needs is first aid.
b) What will you do if:

i) a person has burnt himself ?

If a person has burnt himself, wash the burn immediately with plenty of cold water. Apply antiseptic cream.

ii) a person has fainted ?

If a person has fainted, make him lie down with the head kept lower than the body.

iii) an injured person has a bleeding wound ?

If the injured person is bleeding -

- a) Wash your hands before touching the patient.
b) Place a clean cloth or cotton pad firmly over the wound and apply pressure directly over the wound.
c) Tie a tight bandage above the wound.
d) See that the bleeding part is higher than the rest of the body.
e) If ice is available, place some ice on the bleeding wound. This will help to stop bleeding.
f) Keep flies and dust away from the wound.

c) Make a list of things that we should keep in our first aid box at home.

- a) A roll of sterilized cotton wool.
b) Rolls of cotton bandages.
c) Tincture of iodine, dettol, carbolic lotion.
d) Ammonia and lime water.
e) Vaseline or any other ointment.

d) What precautions should we take while handling electrical equipment ?

Do not touch electrical appliances with wet hands or while standing on a wet floor.

You should not touch electrical appliances nor should you try to repair electric wires, plugs or fuses.

e) What are the rules to be observed while playing ?

- 1) Proper clothes should be worn while playing any

game.

- 2) Do not play very rough game or run about rashly.
- 3) Do not throw things at each other.
- 4) Do not play with sharp instruments or fire.
- 5) Do not play near thorny hedges or barbed wires.
- 6) The playground should be kept free from sticks, nails, glass pieces, stones and thorns.

Worksheet (Workbook)

A. Pick out the correct word and rewrite the sentences:

- 1) Nylon 2) dry 3) footpath
- 4) zebra crossing 5) left

B. Answer the following:

- 1)
 - a) Learn to use knives and scissors carefully.
 - b) Never play with electric switches, sockets or electric gadgets.
 - c) In the kitchen, do not go too close to the fire.
 - d) Do not light match sticks for fun.
- 2)
 - a) Always walk on the footpath
 - b) Before crossing the road, look to the right, then to the left, then again to the right and only then cross.
 - c) Always cross the road at a zebra crossing.
 - d) Avoid walking in between vehicles parked along the road.
- 3) The first help that an injured person needs is called First Aid.
- 4)
 - a)
 - 1) Wash your hands and place a clean cloth over the wound.
 - 2) Tie a tight bandage above the wound.
 - 3) See that the bleeding part is kept raised over the rest of the body.
 - b)
 - 1) Wash the affected spot with lime water/ ammonia solution.
 - 2) Place ice over the affected spot.
 - c)
 - 1) Wash the burn immediately with cold water.

2) Apply antiseptic cream.

- 5) A roll of sterilized cotton wool. Rolls of cotton bandages. Tincture of iodine, dettol, carbolic lotion, ammonia and lime water. Vaseline or any other ointment.