

4

SCIENCE

FIRST TERM



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Unit

Topic

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E-Book



Evaluation



Digi Link

My Body

Unit
1



Learning Objectives

After learning this lesson, the students will be able to

- ❖ identify and describe the internal organs of humans
- ❖ list the main functions of the internal organs
- ❖ differentiate the types of teeth
- ❖ appreciate the importance of oral health
- ❖ become aware of good touch and bad touch



EQSUCV

Let us Recall

There are some body parts hidden in the table below. Can you spot them?

Y	A	M	Y	E	R	D
H	C	L	Q	A	I	L
A	P	K	S	R	P	E
N	O	S	E	S	H	G
D	O	H	E	A	D	H

I. Internal organs

There are some body parts we can see such as eyes, nose, ears, hands and legs that we can see. Such parts that we can see are called **external organs**.

There are some body parts such as stomach, lungs and heart that are inside our body. We are unable to see them. These body parts are called **internal organs**.

Let us learn more about these parts now.

1. Brain

Brain is an important organ of our body and it is protected by the **skull**. It has three main parts namely:

1. Fore Brain
2. Mid brain
3. Hind Brain



Brain is the commanding centre of our body and it helps us to think and perform various actions. Every action that we do like moving our hands, sitting or walking is possible only because of our brain.



The human brain weighs about 1.3 kg.

Try to Answer

1. _____ (Nose / Brain) is an internal organ.
2. We can see the internal body parts (True / False).



Let us Play

Memory Chain - A Brain Game (Teacher led activity)

How to play?

1. Make students to sit in a circle.
2. Place a tray with picture cards of different body parts and an empty tray.
3. Now ask a student to pick a card and name the body part and put the card in the other tray.

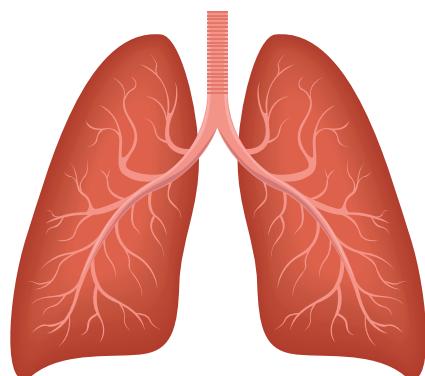


4. Call the next student. Ask him to pick another card and name the first and the second card.
5. Next student picks a card and tells the name of the first two cards and the new card.
6. In the same way, all the students take the cards one by one and tell the names in the previous cards and the name of the new card also.

2. Lungs

Lungs are a pair of spongy, sac-like organs located in the chest. They help us to breath.

- When we **breath in**, we **take in oxygen** from air through the nose and pass it to the lungs. The lungs expands (becomes big) in the position.
- When we **breath out**, we **give out carbon dioxide** from the lungs through the nose into the air. The lungs contract (becomes small) in the position.



Let us Play

Bigger and smaller

(Teacher gives balloons to all the children)

Teacher : Blow the balloon... What do you see?

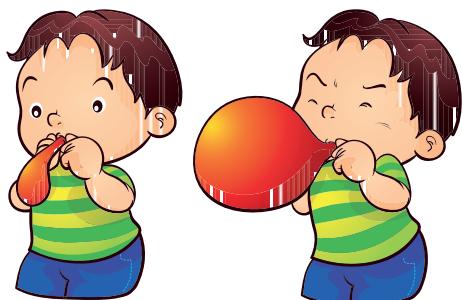
Students : It becomes bigger.

Teacher : Like this, when we breath in, the lungs become bigger. If you let the air out from the balloon, what will happen?

Students : The balloon becomes small.

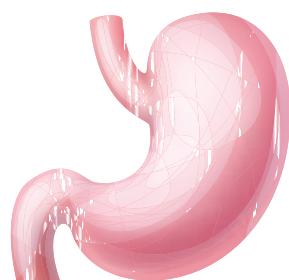
Teacher : Yes, like this, when we breath out air, the lungs become smaller.

The lungs act like two balloons inside our chest. As we draw air into the breathing system, the lungs get bigger as they are filled with air. When you breath out, air is pushed out of the lungs and they get smaller.



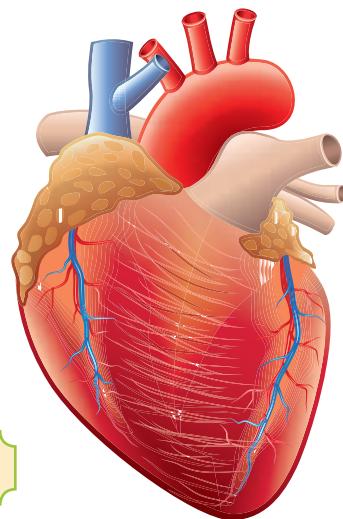
3. Stomach

Stomach is a 'J' shaped bag found below the lungs. It breaks down food items and gives us energy. It contains special juice to breakdown food into energy.



4. Heart

Our heart is the pumping organ. It pumps blood to all parts of the body. It lies in between the lungs almost in the centre of the chest. It is made up of muscles.



More to know

The heart beats about 72 times in a minute.



Let us Make

Stethoscope

Things we need: Flexible tube, Small funnel, Duct tape, Medium-size balloon and Scissor

Steps to construct:

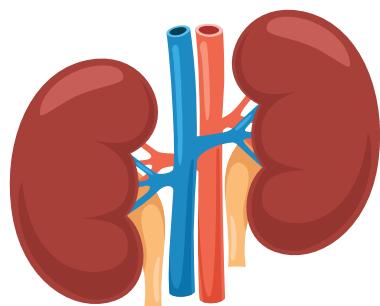
1. Put the small end of the funnel at both ends of the flexible tube tightly.
2. Tape the funnel and the tube using duct tape.
3. Inflate the balloon to stretch it out.
4. Let the air out and then cut the neck of the balloon.
5. Stretch the remaining part of the balloon tightly over the open end of the funnel, tape it in place.
6. Place the funnel end of the stethoscope on the heart and the other funnel near your ear.
7. Can you listen to the sound of the heart?



5. Kidneys

We have **two kidneys**. They are **bean shaped** organs.

The kidneys **purify blood** by filtering excess water and **toxins**.



Try to Answer

Match the following.

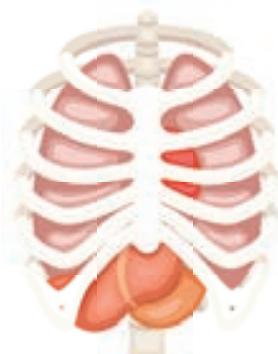
- | | |
|-------------------------|-----------|
| 1. Pair of spongy sac | - Stomach |
| 2. 'J' shaped bag | - Kidney |
| 3. Filters excess water | - Brain |
| 4. Command centre | - Heart |
| 5. Pumps blood | - Lungs |



More to know

Exactly half of a single kidney is capable of doing the job that is performed by two kidneys together.

6. Bones and Muscles



Our body is made up of bones and muscles. Press your upper arms. The portion that feel hard to touch is the bone. The portion that feels soft to touch is the muscle.

The bones give us shape. They are the frame for our body and allow us to jump, run or just lie down. Bones also protect the internal parts of the body.

Muscles are the soft parts that cover our bones. They help us to move different parts of our body by tightening or loosing, like a rubber band.

In order to maintain healthy bones we need to have healthy food, such as milk, cheese and eggs. For strong muscles, we need to exercise and stay active.





Babies are born with 300 bones but by adulthood the number is reduced to 206.



Amazing Fact

17 muscles are functioning while smiling and 43 while frowning.

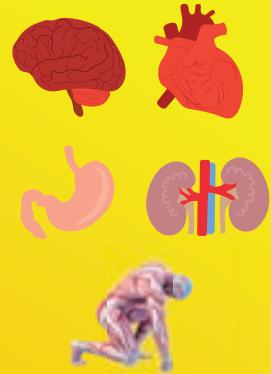
So **smile and save energy!**



Let us Take care

If you care for your,

- | | |
|------------------|----------------------------|
| Brain | - Sleep for eight hours |
| Heart | - Avoid fatty food |
| Stomach | - Eat healthy food on time |
| Kidney | - Drink more water |
| Bone and Muscles | - Exercise regularly |



The human body has more than 600 muscles.

The longest bone is thigh bone.

The smallest bone is stapes in ear.

The longest muscle is in the thigh.



Let us Do

Muscle Activity: How our muscles send information to our brain?

Things we need: 2 large plastic cups, Large bag of rice or beans.

Activity

- Blindfold your partner
- Have your partner hold one cup in each hand.
- Take the cups back and add a small amount of beans or rice to one cup.
- Return the cups to your partner's hands. Ask him whether they weigh more.
- If your partner says one is heavier, ask him which one?
- Here we understand that weight difference felt by the muscles was sent to the brain as message.



II. External organs

1. Teeth and its Types

The teeth are the hardest parts in our body. They are helpful for cutting and chewing the food. The teeth are found inside our mouth.

We develop two sets of teeth in our lifetime.

1. Milk teeth: The first set of teeth starts to develop from the age of six months. They are called milk teeth and they are 20 in number. At the age of 6 or 7 the second set of teeth grow after milk teeth fall.



2. Permanent Teeth: Second set of teeth are called permanent teeth. There are four types of teeth: **Incisors, Canines, Premolars and Molars.** If permanent teeth fall, we cannot grow one more set of teeth. So, it is important to take care of our teeth. There are 32 permanent teeth.



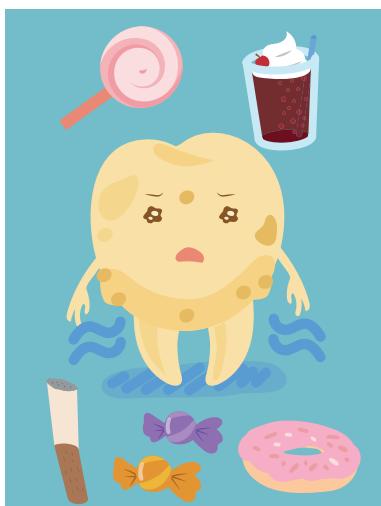
2. Importance of Oral Health

As we learnt, it is important to take care of our teeth and also our mouth. If you do not care of your mouth and teeth, you will have problems with eating and speaking.

3. Healthy Mouth

It is important to take care of our teeth and mouth. Brushing teeth, eating healthy food and regular dental checkup keep us healthy. **We should brush our teeth twice a day.**

4. Foods for Healthy Mouth and Teeth



- Take plenty of fruits, vegetables and dairy products.
- Drink water or milk instead of sugary juices.
- Eat candy, cake and ice cream as less as possible.



5. Taking Care of Mouth and Teeth

- Change toothbrush once in every three months.
- Avoid sticky food.
- Brush twice a day. (After getting up and before going to bed)
- Rinse your mouth with water every time after you eat.

6. Neem Toothbrush

Researchers believe that use of neem toothbrushes is the reason behind the **bright smiles** and **healthy teeth** of Indian villagers. Indians traditionally chew neem twigs to keep their gums and teeth healthy.



Try to Answer

Tick (✓) the foods that are good for your teeth and cross (✗) the food that are bad for your teeth.



III. Good Touch, Bad Touch and Don't Touch

Try to Answer

Is it Good touch or Bad touch? Why?



A



B

"Good touch" and "Bad touch" are the words most commonly used to explain what touch is okay and what is not okay. This helps us to understand when to tell a safe person about bad touch and ask for help. "Good touch" is a touch that cares for us or makes us feel safe. "Bad touch" is any touch that we don't want or makes us feel scared. Let us learn how to keep ourselves safe.



Activities related to Good Touch:

- Parents' hug and kisses.
- Father pats you on the head.
- Friendly hugs by family members.
- Shaking hands.

Activities related to bad touch:

- Touching the buttocks and other private parts.
- Hitting, slapping, spitting, pushing or punching, kissing.
- Activities that make you feel scared or nervous or ashamed.
- Dirty talk and dirty pictures.



MY BODY IS MY OWN. I never allow others to misuse it.

Never be afraid to shout and say "Don't touch me".

It is never your fault.



If you receive a bad touch, you must



Say "Don't touch"
in a loud voice.



Leave the spot
quickly.



Tell elders (like parents or
teacher) till you get help.

Students must be taught that offenders might resort to the following "Dirty Tricks"

- Your mother is admitted in the hospital. So, I have come to take you there.
- Could you please accompany me and guide me to reach this address?
- Tempting you with gifts or money.
- Distracting you with the promise of sweets or food.
- Offering to play 'doctor game' and 'hide and seek' game trying to touch you under that pretext.
- Pretending to show great concern for you.

Safety tips every child should know:



- Tell everything to your parents especially to mother.
- Don't share address and phone numbers with strangers.
- Don't answer the phone or open the door without an adult's presence.
- Never eat anything you get from strangers.
- Have emergency telephone number.

For teacher / parents:

How to prevent sexual abuse and what are the signs of sexual abuse?

- Behaviour of the child to be watched.
- Depressed and withdrawn from their peer group.
- Moving away from a particular individual, excessive dependence, decline in learning and dominant behaviour.
- Self-destructive behaviour.
- Internet can cause adverse impact.



Try to Answer

Look at the pictures and write 'Good Touch' or 'Bad Touch'.



Evaluation

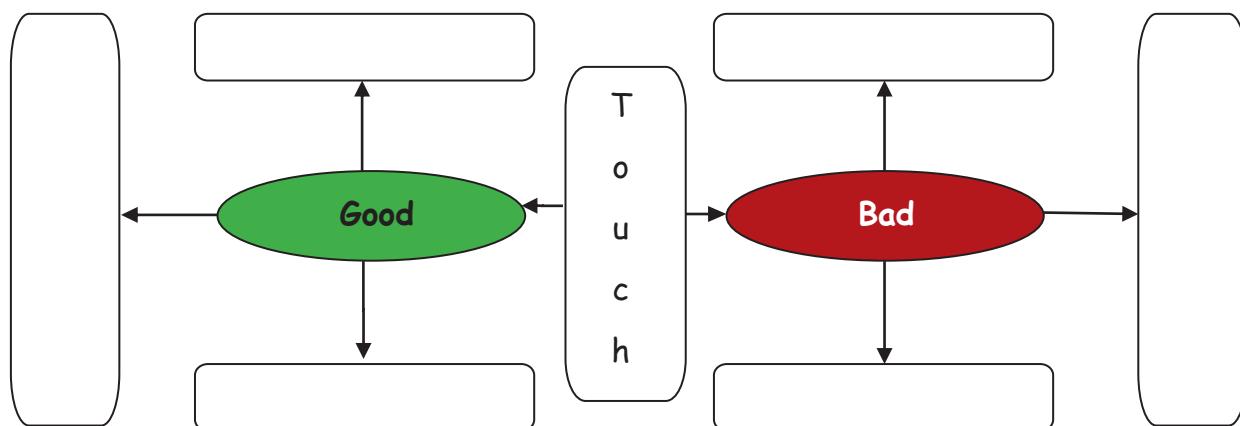
I Pick out the odd one.

1. heart, legs, brain, kidney
2. eyes, ears, fingers, lungs
3. fore brain, mid brain, hind brain, nerves



II Complete the figure with words given in the bracket.

(Kissing on the mouth, Grand parents' love, Hitting the buttocks,
Pat of dad on head, Parent's hug and kisses, Showing awkward pictures)



III Find the answers from the following clues and circle the words.

(First one is done for you)

- i. An internal organ.
- ii. Organ that helps us to breath.
- iii. An organ removing wastes from our body.
- iv. Unfair and unhealthy touch.
- v. Everyday we should drink more _____.

H	B	O	U	V	L	S	W
C	E	R	B	R	U	M	A
A	Y	A	W	Q	N	O	T
P	D	C	R	A	G	U	E
O	X	Y	U	T	S	T	R
K	I	D	N	E	Y	H	Z
B	A	D	T	O	U	C	H

IV Say true or false.

1. Head, hand and legs are internal organs.
2. Heart is made up of muscles.
3. Muscles are the soft parts that cover our bones.
4. Brush your teeth once a day.
5. Father patting you on your head is a good touch.

V Choose the correct answer.

1. _____ is the commanding centre of our body.
a) Heart b) Lungs c) Kidney d) Brain
2. Food is converted to energy in the _____.
a) neck b) heart c) stomach d) nose
3. Every day we should brush our teeth _____ times.
a) one b) two c) three d) four
4. Good touch is a fair and _____ touch.
a) unhealthy b) bad c) unsafe d) healthy
5. Drink a lot of _____ every day.
a) oil b) water c) packed juice d) salt water

VI Answer the following questions in one or two sentences.

1. Name the internal organs.
2. What are the functions of brain?
3. List out the food items for healthy mouth and teeth.
4. How will you take care of your heart and kidney?
5. What do you do when some one touches you and you feel uncomfortable?

VII Think and answer.

1. When an unknown person disturbs you, how do you behave? Write in your own words.
2. Which organ controls thinking, speaking and learning. Write its three important parts.

VIII Project

1. Make a model of lungs with the help of locally available materials.
2. Make an album with the pictures of internal organs.

Matter and Materials

Unit
2



Learning Objectives

After learning this lesson, the students will be able to

- ❖ classify the materials based on their properties
- ❖ conduct simple investigations related to materials
- ❖ realize the importance of matter and materials in daily life
- ❖ differentiate Transparent, Translucent and Opaque objects

I. Materials

Everything in the universe is made up of matter. We need to explore many different materials to make sense of our world.



The matter from which a thing is made of is called Material.
For example: Chair is made of wood, Eraser is made of rubber, Candle is made of wax.

Try to Answer

Look at the pictures and identify the materials by which they are made of:
(paper, clay, glass, wood, plastic, metal rubber, wax)



Try to Answer

Match the objects that are made of same material.



II. Properties of Materials

We can measure, see or feel the materials. Different types of material have different properties that make them useful for various purposes. Most materials have more than one property. They can be hard or soft, shiny or dull, smooth or rough and flexible or rigid.

1. Hard and Soft Materials

Materials which cannot be easily compressed, cut, bent or scratched are called **hard materials**.

Example: Brick, bone and steel.



Materials which can be easily compressed, cut, bent or scratched are called **soft materials**.

Example: Foam, clay and skin.



Try to Answer

Write whether the given materials are hard or soft.

Wood

Eraser

Cotton

2. Shiny and Dull Materials



Materials which reflect the light well are called **shiny materials**. Example: Stainless steel, gold and diamond.



Materials which do not reflect the light well are called **dull materials**. Example : Candle, paper and jute bag.

Try to Answer

Collect some objects from your house and classify them as shiny or dull materials.

3. Rough and Smooth Materials



Materials which have ups and downs on their surface are called **rough materials**. Example: Brick, rock and tyre.



Materials which do not have ups and downs on their surface are called **smooth materials**. Example: Mirror, Silk cloth and tiles.

Try to Answer

Sort the given objects as rough or smooth.

Wet soap

Coir

Feather

Stone

Glass ball

Paperboard

Sand paper

Plastic spoon

4. Flexible and Rigid Materials



Materials which can be bent or stretched easily are known as **flexible materials**. Example: Rubber band, electric wire and cycle tube.



Materials which cannot be bent or stretched easily are known as **rigid materials**. Example: A stick, wooden scale and stone.

Activity

Test the flexibility.

Give one plastic scale and wooden scale to the students. Ask them to bend. Tabulate their observation (bends, does not bend).

Plastic Scale	Wooden Scale

5. Waterproof Materials

Materials that do not allow water to pass through them are called **Waterproof Materials**.

Example : Raincoat and aluminium foil of tablet strip.



Think and answer

Do you have a raincoat? What is its use?

Activity

Take a glass bowl. Fill three fourth of it with water. Put an orange fruit with peel and an orange fruit without peel. Observe which orange floats? Why?

III. Transparent, Translucent and Opaque objects

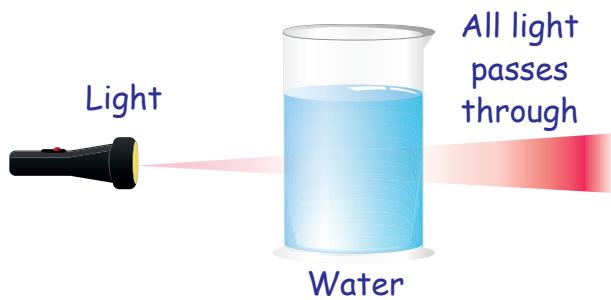
Have you ever seen
through the
bus window?



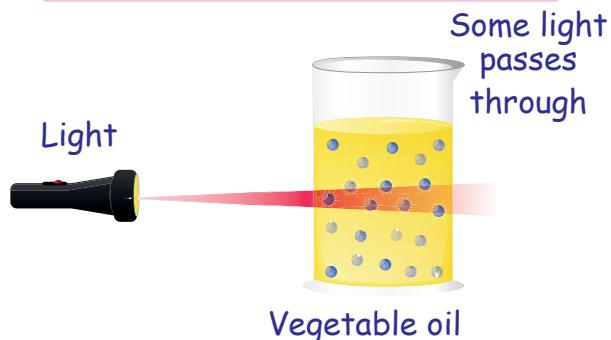
Some objects allow light to pass through them. This helps us to see through them as the window of a bus. Let us see how different objects behave with light.

1. Transparent Objects

Transparent objects allow the light to pass through them. So, we can see other objects clearly through **Transparent Objects**. **Examples:** Air, glass and pure water.



2. Translucent Objects



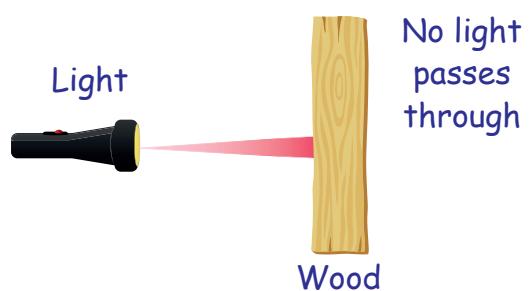
Translucent objects allow some light to pass through them. So, we cannot see objects clearly, but we see them as blurred images through them.

Examples: Paper soaked in oil, snow and vegetable oil.

3. Opaque objects

Opaque objects do not allow light to pass through them. So, we cannot see through these objects.

Examples : Wood, stone and metals.



Think and answer

Why should we build the walls of the house with bricks (opaque material) instead of glass (transparent material)?

Activity

Complete the Worksheet

Name :

Class :

Date :

Unit : 2. Matter and Materials

Complete the sentence in your own words.

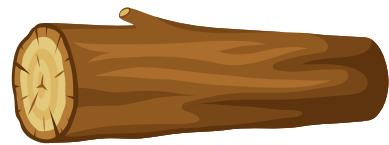
1. Transparent objects allow _____

2. Translucent objects allow _____

3. Opaque objects allow _____

Try to Answer

Write whether the objects are transparent, translucent or opaque.



IV. Reflection of Light



We see the world around us with the help of **light**. Where do we get light from? Light may come either from the Sun or from other sources like an electric lamp or a bulb. The objects that give off light are called **light sources**.

When light falls on a transparent material it passes through it. However when light falls on a polished surface of an opaque material, it does not pass through it. It bounces back. The bouncing of light by any smooth or polished surface is called **reflection**.



When you look into the mirror, you can see your own face on the mirror. What you see is a reflection of your face in the mirror. We also see reflections of other objects that are in front of the mirror. These reflections are formed by light and they are called **images**.

Try to Answer

Try to see your face on some materials like mirror, exam pad, new stainless steel plate, table top and water in a plate. What are the materials that show your face clearly? Do you know why?

Activity

Reflection of Light

Material Required/Needed

A plane mirror and a torch light

How to do?

1. Make your room dark by closing the door and windows.
2. Ask your friend to hold a mirror in his/her hand at one corner of the room.
3. Stand at another corner with a torch in your hand.
4. Switch it on.
5. Direct the light from the torch onto the mirror.
6. **Answer the following from your observation:**



- a) When you change the angle of the mirror, what happens to the light?
- b) Are you able to direct the reflected light using the mirror?



More to know

Mirrors can reflect sound waves too. So they were used in the **Second World War** to detect sounds coming from enemy aircraft.

Evaluation

I Find the odd one.

1. brick, coir, silk cloth, pine apple
2. stone, rubber band, cycle tube, electric wire
3. sun, candle, torch, pen
4. umbrella, sponge, rain coat, jerkin
5. glass bottle, exam pad, paper plate, wooden board



II Fill in the blanks.

1. Materials which can be compressed or cut easily are called _____.
2. Gold and diamond are the examples of _____ materials.
3. Materials which can be bent or stretched easily are called _____.
4. _____ objects allow all the light to pass through them.
5. _____ is the natural source that stimulates sight and makes things visible.

III Match the following.

- | | | |
|-----------------|---|---------------|
| 1. Light source | - | Glass |
| 2. Waterproof | - | Vegetable oil |
| 3. Transparent | - | Sun |
| 4. Translucent | - | Metal |
| 5. Opaque | - | Rain coat |

IV Say True or False.

1. We cannot compress, cut or bend the rough materials easily.
2. Dull materials reflect light.
3. Sand paper is a good example for smooth materials.

4. Opaque objects do not allow light to pass through them.
5. Mirrors change the direction of light that fall on them.

V Answer the following.

1. When can you say a material is waterproof material?
2. What is a light source?
3. What is the difference between transparent and opaque materials?
4. Define reflection.
5. Classify the objects given below as transparent, translucent or opaque materials.

(Air, Rock, Water, Aluminium foil, Mirror, Snow, Wooden board, Polythene bag, CD, Oil soaked paper, Glass tumbler and Coloured glass)

Transparent Materials	Translucent Materials	Opaque Materials

VI Projects

Collect some rough and smooth materials from your surrounding.

Work and Energy



Unit
3



Learning Objectives

After learning this lesson students will be able to

- ❖ define work
- ❖ understand work and energy
- ❖ know simple machines
- ❖ classify types of machine
- ❖ know about three types of lever



Let us Recall

Teacher : Students, you have studied about force in your lower class. What is force ?

Students : A force is a push or pull that moves an object at rest or stops an object in motion.

Teacher : There are different kinds of force. What are they?

Students : Frictional force, Gravitational force, Muscular force and Magnetic force

A force can cause an object to change its shape, speed or direction.

I. Work

An action in which one exerts a force to move an object is known as **work**. What do you understand from the below pictures?



From these pictures, we understand that a force is applied to do some work.



Think and say

Teacher: Yesterday I was walking back from school. I found some people working to lay the road. I found some items in that place. Can you say something about that place and the machines that were used there?

When can we say that work is done or not?

Two main conditions are needed for work to be done.

- A force should act on an object.
- Object should move from one place to another.

When the force acting on the object makes it move it is said to be done a **work**.

Try to Answer

Observe the picture and put a tick (✓) if work is done and put a cross (✗) if work is not done.



Try to Answer

Answer whether work is done or not in the following activity.

S. No	Activity	Work done or not done
1.	Pushing the door	
2.	Holding a doll	
3.	Sitting in a bus	
4.	Pushing a wall	
5.	Digging soil	

II. Energy

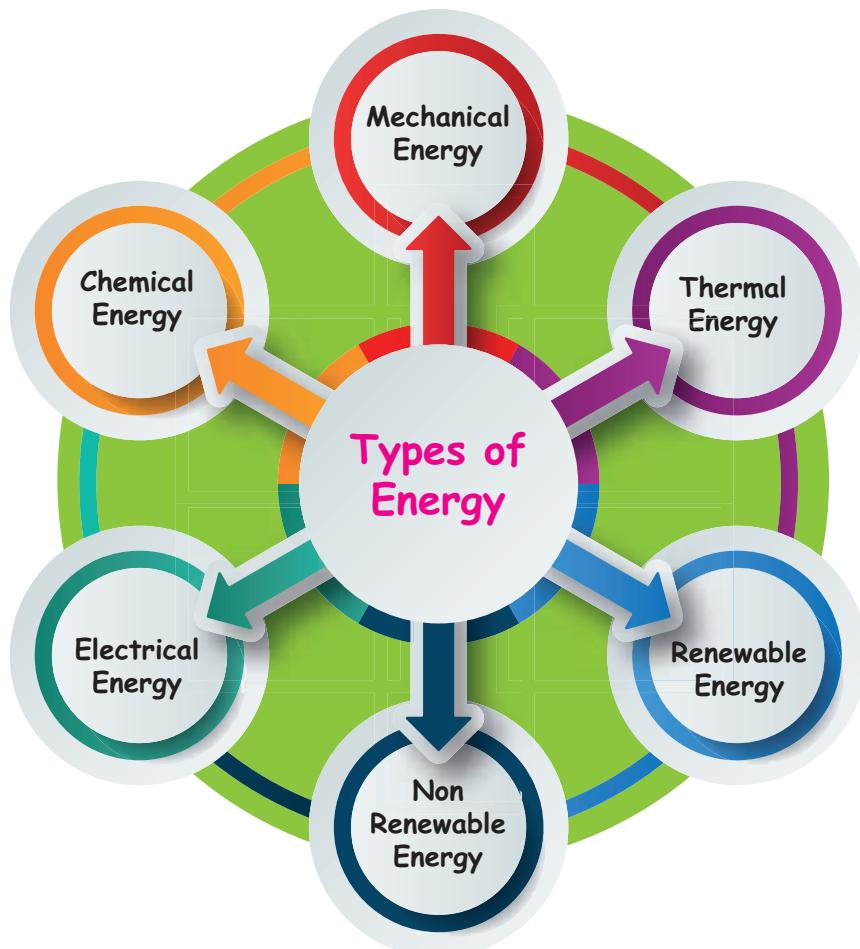


In the above picture

- ★ A man pulls a luggage. To do so he needs some energy. What is the source?
Food gives energy to humans.
- ★ The car moves by the obtained from the burning of fuel.
- ★ The escalator moves by using electricity as energy.

Energy is defined as capacity for doing work.

Energy must be **transferred** to an **object** in order to do **work**.



1. Renewable Resources

Renewable sources of energy are replaced naturally over a period of time. We can keep using these sources for a long period of time. Since the beginning of human life, we have been using these resources. We use these resources for light, transport, cooking, heating. Eg: Sun, Wind and Water.



2. Non-renewable Resources

The resources which are not easily replaced once used are called the non-renewable resources. Eg: Petrol, Coal and Natural gas



More to know

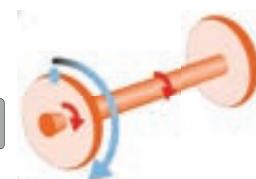
The law of conservation of energy states that energy cannot be created nor destroyed. It can be converted from one form to another.



The SI unit of energy is **joule**.

It is named after James Joule who explained about energy.

III. Simple machine



Observe the above pictures.
What are they used for?

In our daily life our effort is saved with the help of some simple machines.

We draw water from the well with the help of a wheel and a rope.

Simple machines are tools which are used to make our work easier. **Some examples for simple machines** are pulley, wedge, inclined plane, screw, lever, wheel and axle.

1. Pulley



Observe the picture. Which is easier? Lifting the load with the help of a pulley or without a pulley?



A pulley is a machine made up of a wheel with a cut around it. A rope or chain passes around the pulley. It rotates in the direction with more force.
Eg: crane



2. Inclined Plane



Observe the picture and discuss. Is lifting a box easier than rolling it on a ramp?



An inclined plane is a flat sloping surface with one end higher than another.

Eg: ramp, slide and slope for wheel chair.



3. Wedge

A **wedge** is a tool with a sharp edge which can be used to split materials. It is used to break wooden logs into two pieces.

Eg: knife, scissors and axe.



4. Screw

The **screw** is used to raise weights and to hold objects together.
Eg: pencil sharpener, screw-jack, bottle cap and windmill.



The screw in the bottle cap holds the cap and the bottle together.
The blade and sharpner are held together by screw.

5. Wheel and Axle

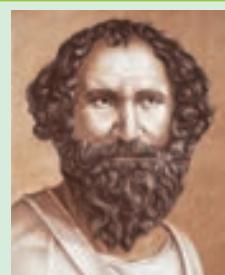
Wheel and axle consist of a wheel attached to a small rod so that these two parts rotate together.

Eg: bicycle wheel, door knob, grinder, axle wheel.



More to know

Simple machines usually exchange a smaller force to move a heavy object. The work required is the same, but the force required is less. The idea of a simple machine originated with the Greek philosopher Archimedes around the 3rd century BC.



6. Lever

A lever is used to multiply the force we give on an object.
Eg: see saw, nut cracker and plier.



Try to Answer

Identify and mention the types of simple machines.



Try to Answer

Complete the table.

S. No	Types of Simple Machine	Example
1.	Pulley	
2.	Wheel and axle	
3.	Wedge	
4.	Inclined plan	
5.	Lever	
6.	Screw	

IV. Types of Lever

To understand the lever, we must know the following terms.

Load is the object on which the force is applied.

Effort is the force we apply on the lever.

Fulcrum is the point on which the lever rotates.

Lever is classified into three types according to where the load and effort are located with respect to fulcrum.

The three types of lever

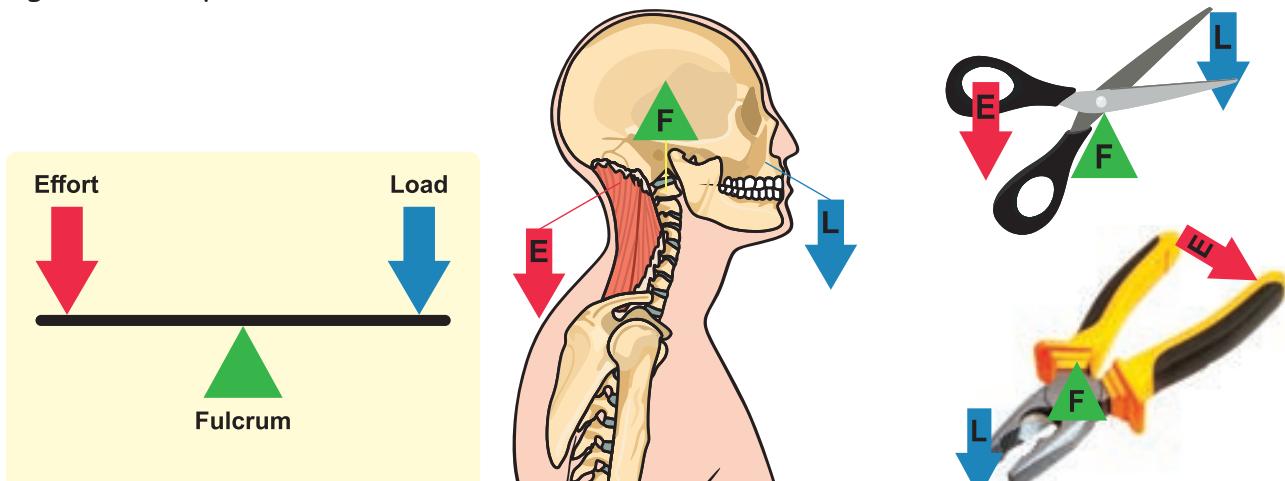
Class I lever

Class II lever

Class III lever

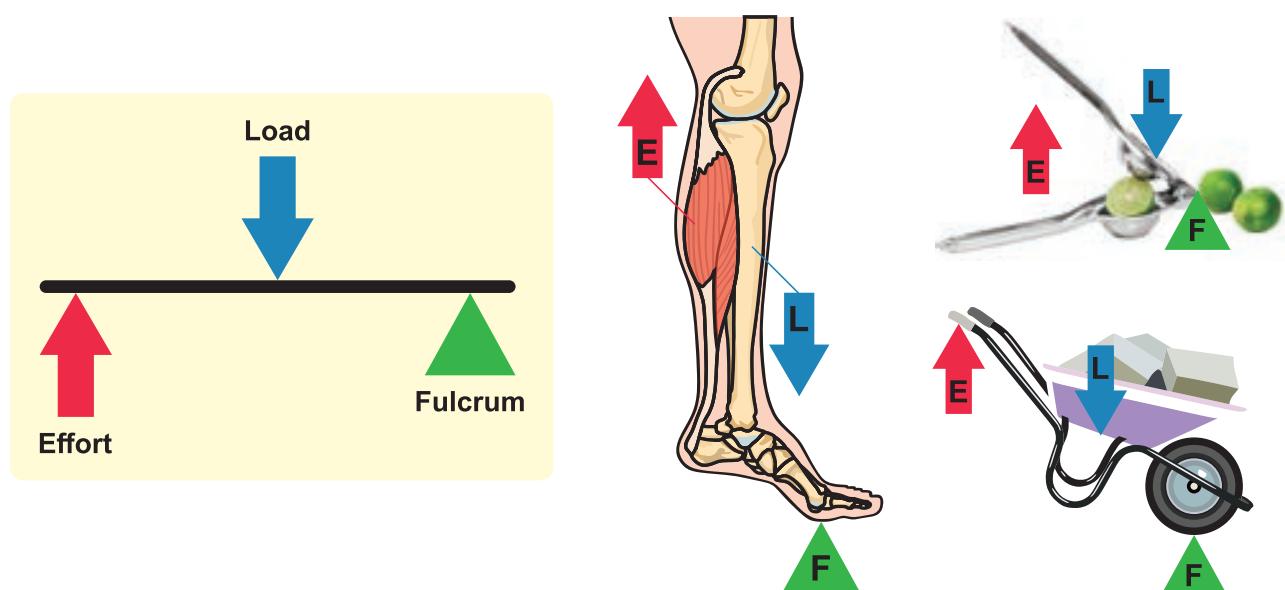
1. Class I Lever

When the fulcrum is between the effort and the load, it is known as Class I lever.
Eg: scissors, pliers, seesaw.



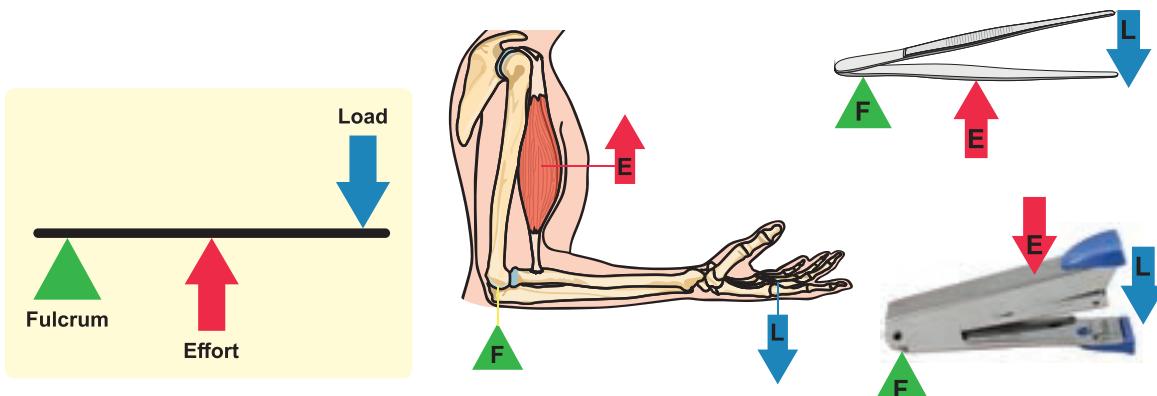
2. Class II Lever

When the load is between the effort and the fulcrum, it is known as Class II lever.
Eg: wheel barrow, lemon squeezer, nut cracker.



3. Class III Lever

In this lever, the effort is between the load and the fulcrum.
Eg: stapler, tongs, broom stick, hockey stick.



Try to Answer

Name the load, effort and fulcrum.

1. _____
2. _____
3. _____

1. _____
2. _____
3. _____

1. _____
2. _____
3. _____

Evaluation

I. Use the correct word to fill the blanks.

(Ramp, Simple machines, Work, Energy, Pulley)

1. _____ is said to be done when a force is acting on it.
2. The ability to do work is _____ .
3. _____ is a machine made up of wheel and rope.
4. _____ help us to make work easier.
5. An example for inclined plane is _____ .



II. Rearrange the letters and find out the names of the tools.



EDGEW

--	--	--	--	--



RLEVE

--	--	--	--	--



EWCRS

--	--	--	--	--

III. Match.

- | | |
|-----------------------|-----------------|
| 1. Class II lever | - Drawing water |
| 2. Pulley | - Bicycle |
| 3. Class I lever | - Nut cracker |
| 4. Wheel and axle | - Wind |
| 5. Renewable resource | - Seesaw |

IV. Classify the things below.

Sl. No	Examples	Class of Lever
1.	Spade	
2.	Seesaw	
3.	Wheel barrow	
4.	Plier	
5.	Nail cutter	

V. Answer the following.

1. What is the unit of energy?
2. Name some simple machines.
3. What is a first order lever?
4. Lemon juicer belongs to which type of lever? Why?
5. Define work.
6. Write any three types of energy.

Science in Everyday Life

Unit
4



Learning Objectives

- After learning this lesson, students will be able to
- ❖ know the nutritional value of milk
 - ❖ explore the benefits of cooking
 - ❖ learn about baking of bread, biscuit and cake
 - ❖ know about gadgets used in daily life



Let us Recall

Teacher : What do you have as soon as you get up?

Students : Tea, coffee and milk .

Teacher : Good. What do they contain?

Ram : Milk, tea dust, coffee powder and sugar.

Teacher : Very good. Do you know why we drink milk in the morning?

Ram : Yes. It is good for our health.

Teacher : Correct, let us learn more about milk in this lesson.



I. Milk

Milk is produced by some animals for nourishing their young ones. Milk from many animals is used by humans. Cow's milk is used commonly.



1. Sources of Milk

Milk is primarily obtained from mammals. They are obtained from other sources too. Examples: Soya milk, nut and seed based milk.

Based on the amount of fat present in the milk, it can be classified as Whole milk, Low fat milk and Fat free milk.



People all over the world get their milk from mammals like sheep, goat, camel, donkey, horse, yak, water buffalo, reindeer and even moose.

2. Nutritional value of Milk

Milk contains water, sugar, protein, fat, vitamins and minerals.



Sugar : Milk has sweet taste because it has a special sugar called lactose.

Protein : It helps to build muscles.

Fat : Fat present in the milk is called butter. Butter is more delicious than any other fat.

Vitamins : Vitamin-D in milk helps to maintain the bones.

Minerals : Calcium is a mineral. It helps to build healthy bones and teeth.



Primary food for babies.

Gives curd, butter, butter milk and ghee.

Health drink for adults and sick people.

Used for making cheese, paneer and milk sweets.

Used in Ice cream and Chocolates.

Used during festivals and ceremonies.

3. Health Benefits of milk

1. It strengthens bones and teeth.
2. It maintains blood pressure.
3. It reduces the risk of heart disease.
4. It is a source of energy.

Try to Answer

1. Milk is a rich source of _____ . (Calcium / Iron)
2. Milk contains _____ , _____ and _____ .

II. Food materials

What is food? Food is one of the basic needs of our life. Food provides energy. It is usually made by cooking plants or animals. It contains essential nutrients to keep our body healthy.



Food can be classified into two types:

- 1. Raw Food** - Raw food is the food that does not have to be cooked to eat.
Examples: Fruits, carrot, ground nut seeds.



- 2. Cooked food** - Cooked food is the food that has been cooked to eat.
Examples: Rice, vegetable curry, bread.



Let us Do

Simple tasks such as pouring liquid into the bowl, sprinkling pepper on the omelet or dosa, peeling off onions, powdering coriander seeds can be done by you. Always help the elders in the kitchen.



1. Cooking

Do you know how many food items are there that you will not be able to eat without cooking? Cooking is important. It makes food suitable for consumption.



Methods of Cooking



Boiling



Steaming



Frying



Deep frying



Roasting



Grilling

Benefits of Cooking

Cooking causes many useful changes in food.

1. It makes nutrients ready for **digestion**.
2. It helps to make food in the desired texture, flavour and taste.
- 3 It destroys harmful microbes.

Try to Answer

1. _____, _____ are examples of raw food.
2. _____, _____ are examples of cooked food.

Let us discuss

Look at the things shown in the picture and discuss their uses with your friends.



III. Baking of Bread, Biscuit and Cake

Baking is a method of cooking. We use dry heat to bake. Bread, biscuit and cake are some examples of baked food items.

1. Bread

Bread is a common food product prepared from dough by baking. It is an important source of energy for **sick people**. It is also one of the **ancient foods made by humans**. Bread is a **low fat food**.



Bread has the nutrients required for normal development and good health.

To make bread we need wheat flour, yeast, water, sugar and salt.



Bread spoils six times faster when kept in fridge than at room temperature.

2 Biscuit

Biscuit is a small, flour - based baked food. They are generally made of wheat flour or oats and sweetened with sugar.

The main ingredients of biscuit are flour, sugar, butter, water, milk, baking powder and flavours.

Biscuits are salty or sweet. Some biscuits have cream in between.



Biscuits are made with baking powder to make it airy.

3 Cake

Cake is a baked dessert. It is like a sweet bread. There are many varieties of cake with specific ingredients. We

use cake during celebrations. The common ingredients of the cake are flour, sugar, eggs, oil, baking powder and flavouring agent.



Try to Answer

1. Bread is _____ (low / high) fat food.
2. Biscuits are made from _____ (wheat flour / rice flour).
3. _____ is associated with birthday celebrations (cake / biscuit).

Activity

Visit a bakery near you and learn about baking of bread, biscuit and cakes.

IV. Gadgets



Think of the electronic devices we use everyday.

The phone that we use, the camera that goes with us on every vacation, the TV that we watch for fun all these devices that we use are called gadgets.

A gadget is a small electronic machine or device which does something useful. Number of gadgets have changed our lives. They make our life enjoyable.

Examples: Laptop

Phone

Camera

Pen drive

Speaker

Smart Phones



Apart from communication, smart phones have the ability to access the internet and store files, take photos, track location and much more.



Portable Music Player

It stores and plays thousands of songs.
We can listen to songs anywhere, anytime.



Tablets

People use tablets to read books, play games and watch videos.





Pen Drive

It is a small gadget used for storing and transferring any type of file in / from a computer.



Electric Torch

Portable hand-held electric light. Torch is used to provide light in the dark places when it is switched on.

Try to Answer

Write the names of the given gadgets.
(Web cam, Remote, Speaker, Camera, Headphone)



Evaluation

I Choose the correct answer.

1. Primary source of energy for the young ones of some animals is
a) water b) fruits c) milk
2. Vitamin present in milk that helps us to maintain our bones is
a) Vitamin-E b) Vitamin-C c) Vitamin-D
3. One of the ancient food items made by human is
a) noodles b) cake c) bread
4. _____ is a raw food.
a) Cucumber b) Chappatti c) Bread
5. A gadget that plays songs is called
a) pen drive b) camera c) music player



II Fill in the blanks.

1. Cheese and paneer are made from _____ .
2. Nutrients are made ready for digestion by _____ .

III Match the following.

- | | | |
|-------------------|---|-----------------------------|
| 1. Music player | - | Communicates with the world |
| 2. Smart phone | - | Stores data |
| 3. Electric torch | - | Plays games |
| 4. Pen drive | - | Provides light |
| 5. Tablet | - | Plays music |

IV Answer in a sentence or two.

1. Name the food products derived from milk.
2. Write the names of any three baked foods.
3. In what ways a smart phone will help you?
4. What is food?

V Answer in detail.

1. Cooking removes harmful microbes. Write down other benefits of cooking.
2. Why should we drink milk?

VI Projects.

1. List the gadgets you have used.
2. Tabulate different kinds of milk products.