

SCIENCE

IV STANDARD

Term I

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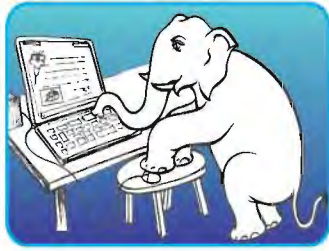
ILLUSTRATION

M. CHINNASAMY, A. KASI VISWANATHAN,
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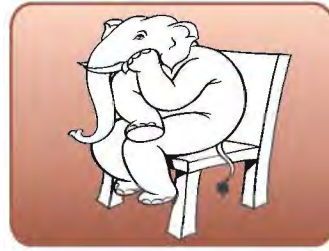
LAYOUT

S. SIVAKUMAR SRINESH
(ANNANUR)
K. BALAMURUGAN

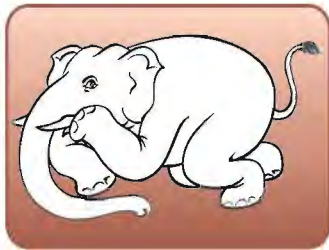
What these icons stands for !



Do you know ?



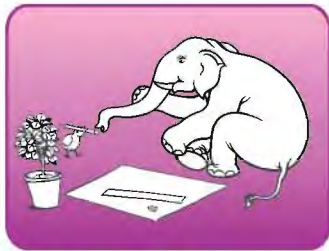
Think and write



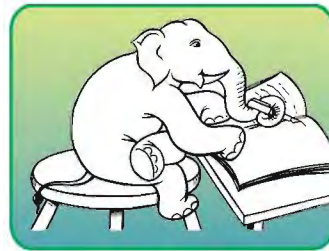
Think it over !



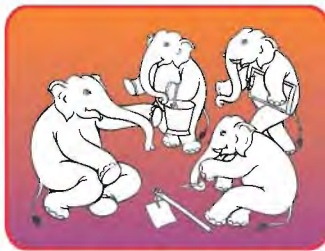
Activity



Project :



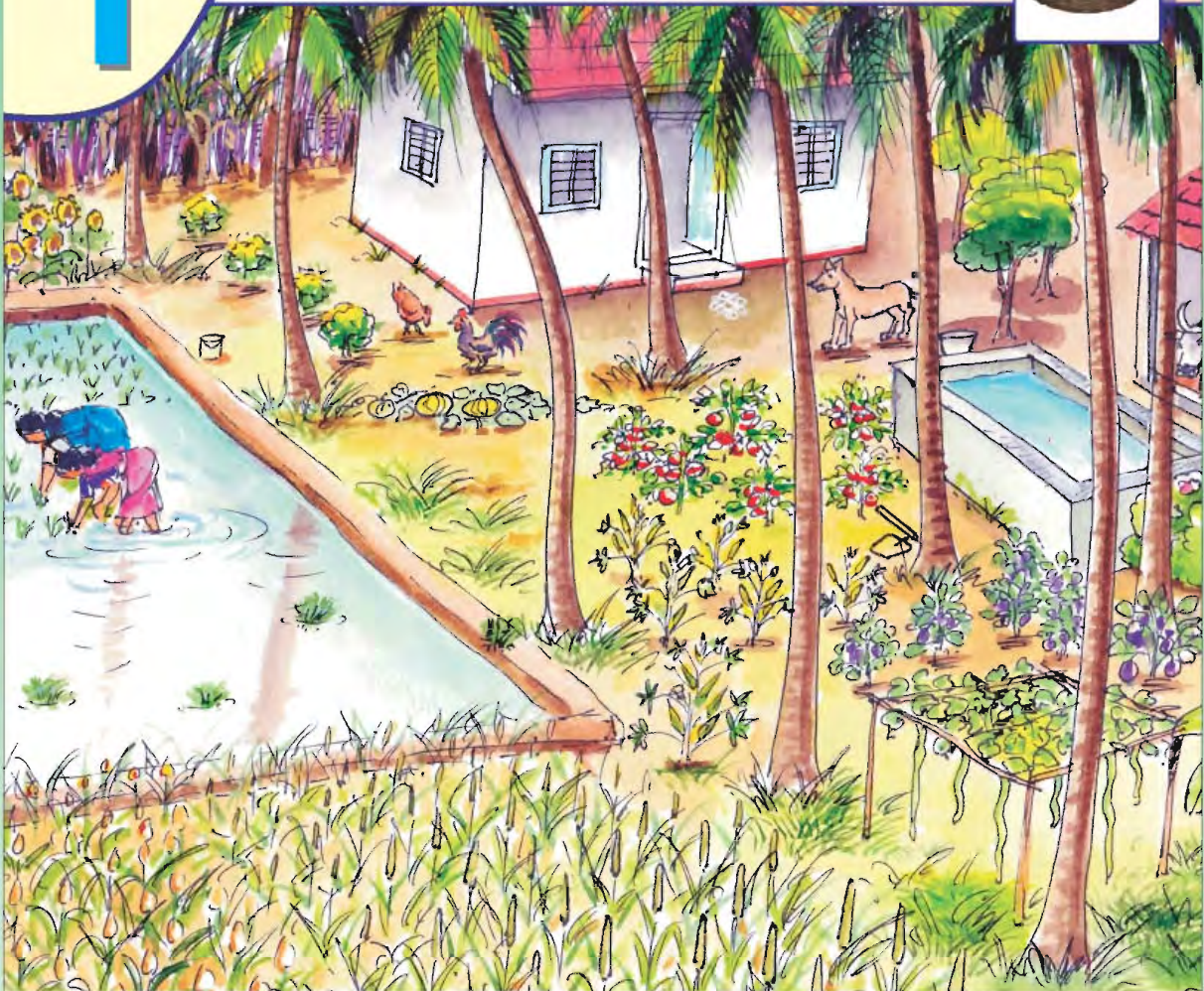
Evaluation



For Teachers... / Field Trip

1

FOOD FROM PLANTS



Observe the vegetable garden keenly and answer the following.

Name the various plants in the garden.

Name the vegetables that have grown above the ground.

Name the vegetables that you like to eat.

One morning Mani and his grandfather were in the garden...



Mani asked his grandfather, “While tomato and brinjal grow above the soil, why does the groundnut grow under the ground?” Grandfather answered that the groundnut plant stores its food in the roots as groundnuts.

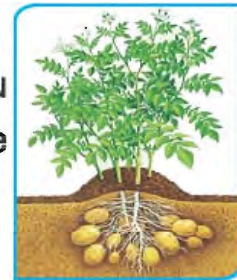
They walked towards their home talking all the way. Mean while...

Mani's father left home to buy provisions. Mani went along with him.



In the vegetable shop, Mani saw a variety of vegetables. He took one potato and asked “Why is there mud on the potato?”

“Potato grows under the ground; that's why you see mud on the potato”, father replied. “Does the potato plant also store its food in the root?”

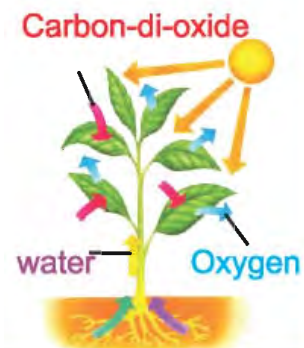


Father answered, “Not in the root, but in the underground stem. Plants store their food in different parts, like the roots, the stem, the leaf, the flower, the fruit and the seed.”

Do you know?



Plants prepare their own food with the help of sunlight, water and carbon-di-oxide using chlorophyll present in their leaves. This process is called **photosynthesis**.



Edible parts of a plant.

From root to fruit....



For example



Food	Parts
Cabbage, Greens, Mint leaves.	Leaves
Sugarcane, Onion, Potato, Ginger, Turmeric.	Stem
Banana flower, Cauliflower.	Flowers
Lady's finger, Bitter gourd, Drumstick.	Unripe fruits
Guava fruit, Banana, Grapes.	Ripe fruits
Beetroot, Carrot, Radish, Tapioca.	Roots



Plants prepare and store their own food.
Food stored by the plants is useful for all living organisms.

Seeds as food

Cereals like paddy, wheat, millet, maize, ragi, corn; Pulses like red gram, green gram, black gram and Oil seeds like coconut, sesame, groundnut are used as food. All these are obtained from the seeds of the plants.

Activity



Put for the edible parts of a plant. Put for the others.

Plants	Edible parts				
	Root	Stem	Leaf	Flower	Fruit
Banana Tree					
Sugarcane					
Greens					
Carrot					
Orange					

“Waste land” turned into a tomato garden...

As Mani and his father were returning home, they continued to talk about various parts of the plant as they reached home. Mani gave all the vegetables to his mother.

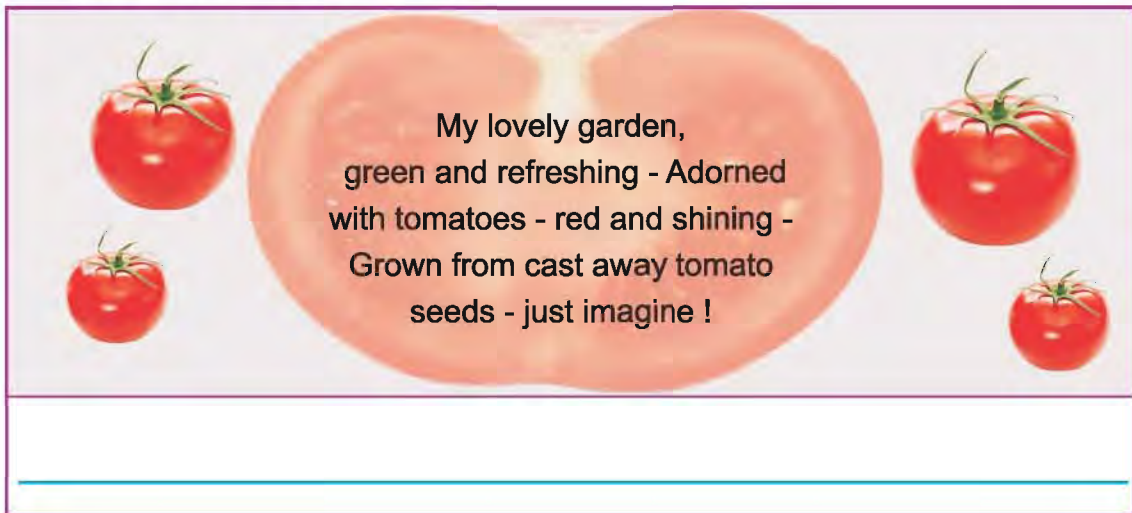
Mani's mother started to cook the food. For preparing rasam, she squeezed the tomatoes and threw away the waste into the waste land.

Few days later, the seeds were covered with soil. Since it rained the seedlings emerged from the seeds. With the help of water, air, waste manure and sunlight, they grew into beautiful plants.

After a few days, they bloomed into yellow flowers. The flowers slowly changed into green fruits and then into red ripe tomatoes. Mani eagerly plucked some tomatoes from the plants and ate them. Some tomato seeds fell on the ground. The seeds were scattered once again and they grew into plants. Thus the waste land turned into a tomato garden.

Mani sang in excitement.

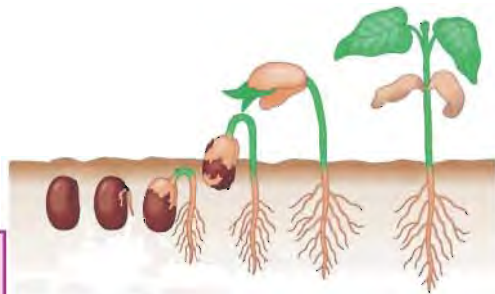
Complete the song and sing.



My lovely garden,
green and refreshing - Adorned
with tomatoes - red and shining -
Grown from cast away tomato
seeds - just imagine !

Seed germination

- **Germination** is a process by which a plant emerges from the seed.
- Soil, air, water and sunlight are essential for the germination of seeds.



Draw and colour the various stages of seed germination.

Activity



Collect different types of dry seeds in small polythene packets, stick them on a chart and write their names.

Project:



Take four glass tumblers of the same size. Put equal number of bean seeds into them. Keep them in different places as given.



1

Place it in the sunlight. Allow air to enter into it. Don't pour water.



2

Place it in the sunlight. Fill the tumbler with water in such a way that air does not come in contact with the seeds.



3

Place the seeds in cotton. Pour the required amount of water on it and place it in sunlight. Allow air to enter into it.



4

Pour the required amount of water. Cover the tumbler with a black cloth so that sunlight cannot enter into it.

What are the factors available to the seeds for germination in the four tumblers?

In the given table put for the available factors and for the factors that are not available.

Tumbler	Water	Air	Sunlight
1.			
2.			
3.			
4.			

- Do the seeds in all the tumblers germinate?
- Seeds in which tumbler will germinate?
- What are the factors needed for the germination of seeds?

Activity



Take three types of seeds, like paddy, mustard, pea in three different glass jars. Fill half of the jars with soil till the seeds get covered. Find out for yourself which of the seeds will germinate first with the help of air, water and sunlight.

Do you know?



Coffee seeds were from Africa.



Pea and cabbage were from Europe.

Green chilli, potato and tomato were from South America.

Paddy was from China.



Tea Plant



Tea Leaves



Tea



On a field trip...

After knowing a little about plants, Mani was eager to know more. He hurried to school the next day. In order to make the students learn about the lesson "Plants In society", the teacher took them for a field trip during the first period. Students listed out the names of all the plants around the school.



Coconut tree, Jack fruit tree, Teak tree, Neem tree, Tamarind tree, Peepal tree, Banyan tree, Poria tree, Shoeflower plant, Lady's finger plant, Brinjal plant, Snake gourd climber.

Medicinal plants: Tulsi plant, Thumbak, Keezhennelli, Malabar nut (Aardulthode) Thuthuvaki.

Write the plants seen in your area...

1. Medicinal plants _____, _____
2. Plants used for construction purpose _____, _____
3. Plants used for festivals _____, _____

World Environment Day.

Vanamahotsav (Planting saplings) was celebrated in the school on June 5th. The students planted their own saplings which they had brought. Mani planted a neem sapling in the school campus and watered it everyday.



June 5th is celebrated
as World Environment Day all over
the world.



Field Trip



Organise a field trip to know more about the uses of plants.

Evaluation



(a) True / False

1.	Ginger is the root of the plant.	<input type="checkbox"/>
2.	Groundnut is the stem of the plant.	<input type="checkbox"/>
3.	Sunlight is essential for the germination of seeds.	<input type="checkbox"/>
4.	We use banana leaf as food.	<input type="checkbox"/>
5.	Tulsi is a medicinal plant.	<input type="checkbox"/>

(b) Fill in the blanks.

1. In sugarcane the _____ is used as food.
2. Plants prepare their own _____.
3. In cauliflower the _____ is used as food.
4. Grains are the _____ of a plant.
5. In cabbage the _____ are used as food.

(c) Match the following.

- | | | |
|-----------|-------------|--------------------------|
| 1. Root | Mint leaves | <input type="checkbox"/> |
| 2. Seed | Beetroot | <input type="checkbox"/> |
| 3. Stem | Cauliflower | <input type="checkbox"/> |
| 4. Flower | Sugarcane | <input type="checkbox"/> |
| 5. Leaf | Wheat | <input type="checkbox"/> |

(d) Draw the picture of a banana tree, colour it and write the names of the edible parts.

(e) Answer the following.

1. What are the factors needed for the germination of seed?
2. Write down the names of medicinal plants .
3. Name a few flowers that are used as food.
4. Which are the roots used as food?
5. What are the uses of Tulsi plants?
6. Name some vegetables that are mostly used for cooking at home?
7. Plants ask , “How will you conserve us as we provide food for all living beings?” What will be your answer for this question?

(f) Project:

Divide into groups. Each group must plant a bean seed in a pot filled with garden soil. Place it in the sunlight and pour water daily. The seed will germinate. Measure the height of the seedling after every 5 days and enter the data in the tabular column.

Day	Height	Changes in the plant
5th Day		
10th Day		
15th Day		
20th Day		

For Teachers...

Ask the students to observe the changes of seed germination. Draw them in the notebook and discuss in the class.

(g) Write the ingredients needed to prepare the following food, the plants from which they are obtained and which parts of the plant they belong to, in the table given below.

Food	Ingredients	Plants	Parts used
Idly	Rice Black gram	Paddy Black gram plant	Seed Seed
Sambar			
Poori			
Sweet pongal			



Do you know?



There is a 500 year old Neermarudhu tree at Eeshanthimangalam near Nagercoil. It is about 150 feet high and has a circumference of 85 feet. Its leaves and barks are used as medicine.

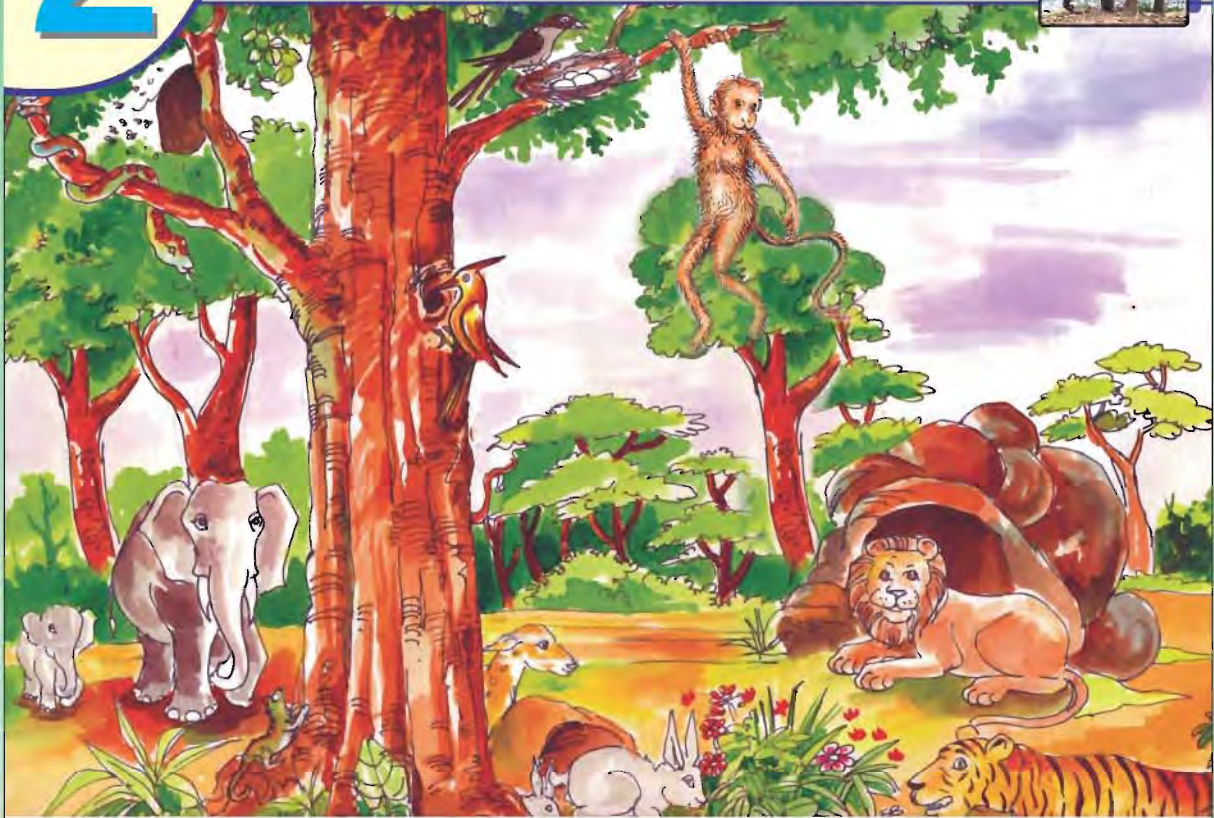
Project:



Collect some of the latest information about plants from newspapers and write.

2

SPECIAL SENSES OF ANIMALS



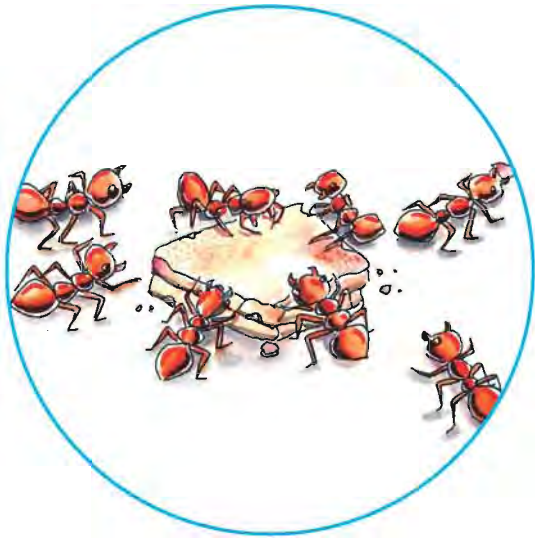
Observe the picture keenly and answer.

Write the names of animals seen in the picture.

Compare the features of an elephant and the monkey.

Write something that you know about the lion.

Have you seen these activities?



Ants gather around the food that fall on the ground. **Why?**

Even if you walk quietly near a dog that sleeps, it quickly raises its ears. **Why?**



When we eat food under a tree, which are the animals that come around us?

Animals and their senses

Like us, animals too have senses - such as sight, hearing, smell, touch and taste. All animals identify their surroundings and habitat through their sense organs. Some animals have highly developed sensory organs which help them to search for food and for self protection.

Eye Sight of animals!



There are a lot of differences between the way we see an object and the way animals see the same object. Animals' vision differs in colour, distance and clarity of the object that they see.

Birds, like eagle and vulture, can see objects **four times** the distance seen by man.

A chameleon can see two objects simultaneously, one through its left eye and other through its right eye.



Rabbit can see all the objects around it without turning its head.



Which bird has eyes on the face like the human beings?

Write the names of the birds which have eyes on the side of their heads.

Do you know?



During night time the eye sight of a tiger is six times greater than that of the man.

The roaring sound of a tiger could be heard upto three kilometers away.

The tiger can turn its ears in all possible directions. It is talented in hearing the sound of the swaying of leaves and the sound of animals walking on the grass and can also differentiate them.

It can feel the vibration in the air through its whiskers. By this, it finds its prey and walks about at night.



Can animals see colours?

Animals cannot see most of the colours as we see them.

Oxen can see all the objects only in black and white. It is the same with crocodiles too.

Honeybees cannot see red.

Activity



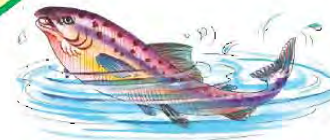
Don't the animals in the picture look funny?

- An artist has drawn the ears differently!
- Match the ears with the animals.

Do you know?



Can you see the ears of
animals given in the picture?
Do they have ears?



What noise is that ?

Animals can hear through ears. For some of the animals, the ear lobe is present externally like it is for us. But for birds and reptiles, ears cannot be seen. They do not have ear lobes; instead, they have small holes.

Activity



Among the animals you have seen, write down the name of any three animals with external ear and three with internal ear.

Animals with external ear.	Animals with internal ear.
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

Project:



Collect the pictures of animals having external and internal ears and make an album.

Hearing sensation

- Hearing capacity of a dog is 40 times greater than ours. It is 90 times greater for rats.
- The bat can know an object which is at a distance of 18 feet through its ears.
- The elephant can feel the vibration through its trunk.
- Hearing sensation is more for animals like elephant, deer, monkey, rabbit, dog and bat.



Activity



Write the name of any six animals that have ears bigger than yours.

_____ ; _____ ; _____ .

_____ ; _____ ; _____ .

Think it over!



Tsunami occurred on **December 26, 2004**. Many people lost their lives in this disaster. How did some animals manage to escape from that place without being harmed?

Do you know?



- ★ Animals like monkey, ant and dog are capable of knowing about the occurrence of earthquake before the event.

Sense of smell in animals.

Do you know the animals which have greater sniffing capacity?

Butterfly, mosquito, ant, dog and honeybee.



Sense of smell in a dog

- ★ The sense of smell in a dog is one lakh times greater than that of man.
- ★ Dog knows its territory with its sense of smell.
- ★ Dog can sense explosives through its sense of smell.



German Shepherd

Think and write



How is a dog's sense of smell useful to man?

Mosquitoes can locate human beings by odour and temperature of the body by using their sense of smell.

Which are the objects that we can identify by using the sense of smell only?

Smells which I like	Smells which I do not like
<hr/> <hr/>	<hr/> <hr/>

Do you know?



- ★ The snake smells through its tongue.
It does not have ears.



Sense of taste

We sense taste such as sweet, bitter, sour, etc., with the tongue.
Which are the organs used by animals to sense taste?

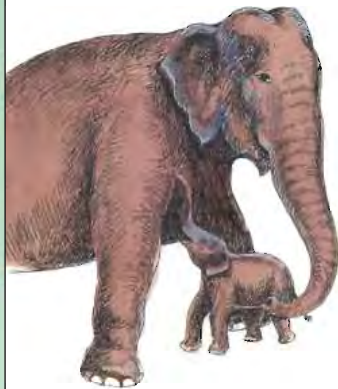
- ★ Butterflies sense taste with the help of their legs.
- ★ Honeybees sense taste with the help of their jaws, forelimbs and antennae.
- ★ An earthworm sense taste through their whole body.

Sense of touch

- * We feel the sense of touch through the skin. But the cat can feel it through its whiskers.

Care of young ones

New born baby elephant cannot see anything for some time. The elephant's family leads the young one by the sense of touch.



Hence animals not only protect themselves but also take care of their young ones using their special sensory powers.

How long do animals take care of their young ones?

- * Goat - one year.
- * Lion - three years.
- * Gorilla - 4 to 5 years.
- * Birds - a few weeks.
- * Dog - _____
- * Cat - _____



Birds protection



Birds train their young ones to fly and to search for food. Parental care in birds is shared equally by the male and female birds.

Female birds protect their young ones by keeping them in nests.
Male birds get food for them.

Reptiles do not show much care in nursing their young ones. But crocodiles keep their young ones in their jaws and nurse them.

In the **rabbit** family, the young ones are taken care of only by the mother rabbit.

Mother rabbit is very cautious. When its young ones are under attack, the mother rabbit bravely defends them without bothering about its own life.



Young one in the pouch...



Newly born Kangaroo is pink in colour. They are very small in size, around 3 cm. Immediately after its birth, it climbs slowly and reaches its mother's pouch. It grows there for the next six months.

Do you know?



Kangaroo grows up to six feet.

Jumps upto 15 feet.

It hops and runs very fast.



Animal Communities

Animals, by nature, live in communities as we do. Animals like elephants, deer, bison and monkeys live in communities. They share the food and water in the place where they live. Moreover in order to select their home, to protect their race, they live together.



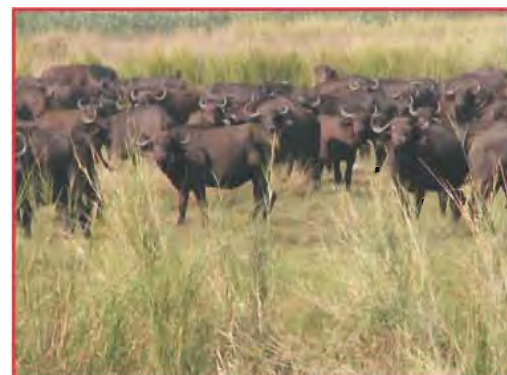
Field Trip



Visit a zoo and write a report on the special features of animals with their pictures.

Activities of animals in communities.

- Selection or making of shelter.
- Search for food
- Caring and protecting their race.



Tree to tree

In general the monkey lives on trees. Every night it changes its place on trees. The mother monkeys take care of their young ones.



The young ones stay with their mother upto six years and learn all the skills from the mother.

Project:



Make an album by collecting the pictures of animals with their young ones and write about the characteristics of animals which attracted you.

Do you know?



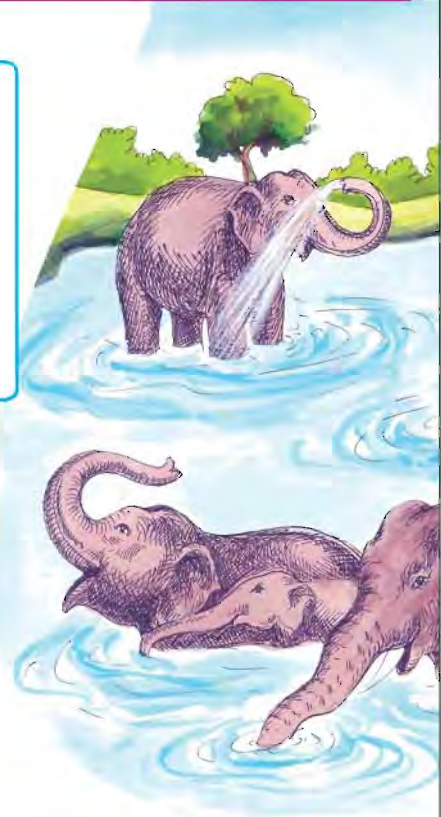
- * Elephants can hear and sense the ultra sounds which cannot be heard by man. It can find out the animals that come on the way with the help of these sounds.
- * Elephants sleep by standing.

Weight of a three month old elephant is 200 kilogram.

What is your weight?



How many of your friends like you must join together to get the weight of a three month old elephant's weight?



Write the names of animals which live in communities.

Do you like to live in a joint family?

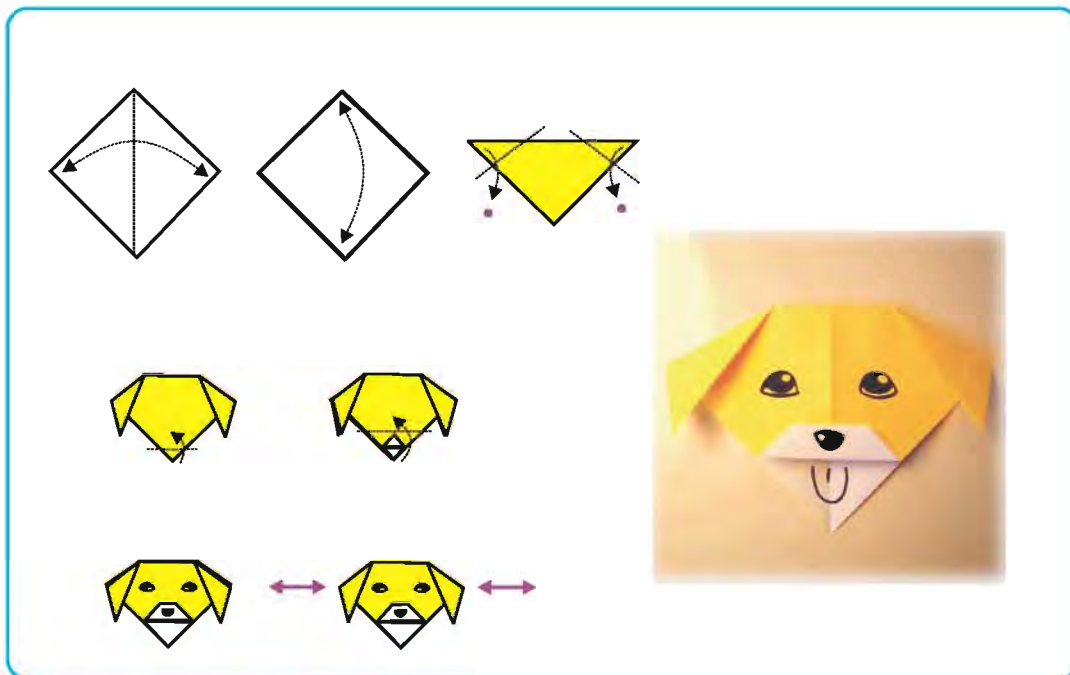
What are the benefits you get when you live in a joint family?

What are the qualities that can be developed when we involve in group activities?

Activity



Take a one sided colour paper. Fold the paper as shown in the picture and get the shape of a dog. Draw eyes, nose and tongue in that. Pull the dog's ears sideways and play.



Project:



With the available things make the animals and their shelters in order to make a model of each.

Evaluation



(a) Fill in the blanks.

1. _____ bird can see the objects four times the distance seen by man.
2. Oxen can see all the objects in _____ colour.
3. The garden lizard has ears but no _____.
4. Crocodiles keep their young ones in their _____ and nurse them.
5. Goats take care of their young ones for _____ years.

(b) Write about the parental care of the following animals.

- a) Cat b) Hen

(c) Answer in one or two sentences.

1. What are senses?
2. Write a few lines about the sense of smell in a dog.
3. How do elephants take care of their young ones?

(d) Identify the animals hidden in the given picture and colour them differently.



3

INSECTS



Identify the insects in the picture and write down their names.

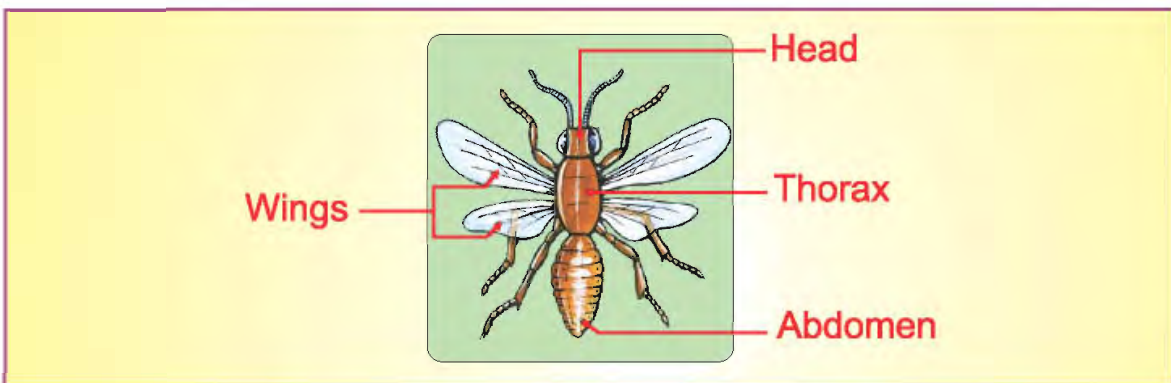
Write down the places where insects are found in abundance.

Write down the names of insects that are common in your area.

We can see insects in places like house, garden, river, and pond. There are about 10,00,000 insects found in the world.

Structure of an insect

Most of the insects have similar body structure. All insects have similar body structure. In general, the body of an insect is divided into three parts namely head, thorax and abdomen. The antennae are seen on the head. Insects have two pairs of wings to fly.



Are you eager to know about the insects around us, their food and habitat? Ananthi was looking at her neighbour Anisha's album about "Different types of insects". Shall we also take a look?



Different types of insects

Dragon Fly

Structure : Dragon flies have four wings and they can fly forward and backward.

Food : They eat small insects

Other Facts : There are about 30,000 lenses in their eye.



Flea

Structure : It has no wings. It is small in size.

Food : It sucks blood from animals.

Other Facts : It lives for two to three months on the body of cats and dogs.



Different types of insects

Bedbug

Structure : It has no wings. It has a flat body and is oval in shape.

Food : It sucks blood from man and animals.

Other Facts : It lives for four to six months. It is seen in pillows, beds and wooden chairs.



Silver Fish

Structure : It is a white coloured, fish shaped insect
It has no wings.
It has long antennae.

Food : It feeds on starch and paste used for book binding.

Other Facts : It lives for about 9 months. It lives in old books, behind mirrors and in clothes.



Different types of insects

Moth

Structure : Moth has four wings.



Food : They feed on green leaves, small insects and nectar from flowers.

Other Facts: They fly at night. They usually do not have bright coloured wings like butterflies. It is seen in forests, gardens and meadows and they usually come out at night.

Activity



Collect a picture of any insect and write the details about it in the given box.

Structure :

Food :

Other Facts :

Paste the
picture

Anisha did not write the details about the insects given below. Can you help her?

Activity



Grasshopper



Structure :

Food :

Other Facts :

Activity



Butterfly



Structure :

Food :

Other Facts :

Activity



Draw and colour the picture of an insect and enjoy.

Nocturnal insects

Insects which are active only during the night are called nocturnal insects.

Firefly

Firefly has the capacity to produce light. Female Fireflies give the maximum light.



May fly

We can see these insects at night during the rainy season. Its life span is only for one day.



Cockroach



The cockroach moves in search of food at night. It is found in places like kitchen, toilet, etc., It can survive without food for nearly one month.

Activity



Discuss about how we can protect ourselves from the nocturnal insects in our home.

Life of Ants

Geetha kept the peanut candy on a plate and went out to play. When she returned she saw the peanut candy surrounded by ants. At once she realised that ants have a good sense of smell. She was eager to know more about the life of ants. So she watched a compact disc on the computer.



Ants live together in colonies. In their family they have queen ants, worker ants and male ants.



The queen ant is large in size and it has a pair of wings. It lays eggs.

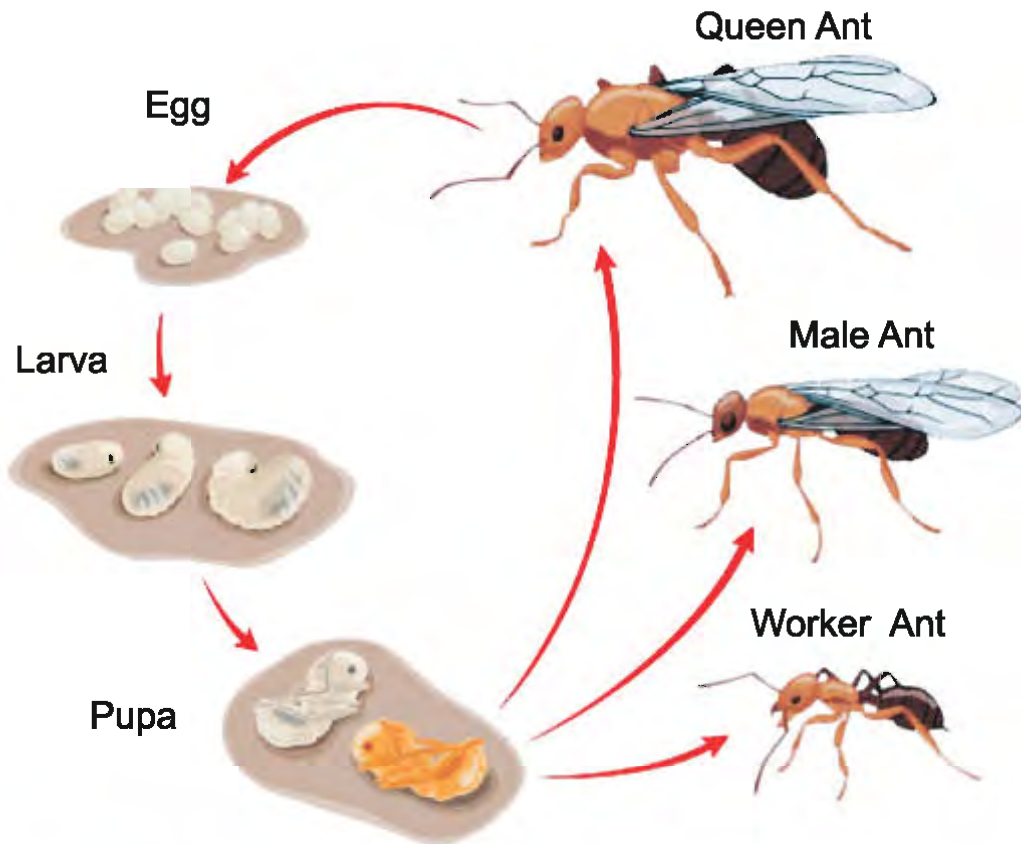
The worker ant performs its duties by collecting food, defending the colony and enlarging the nest.



Male ant has a pair of small wings. It lives for a short time.

Life cycle of an ant

Life cycle of an ant consists of four stages. They are egg, larva, pupa and adult.



Activity



Observe the insects like ants and lice using a simple microscope.

Think it over!



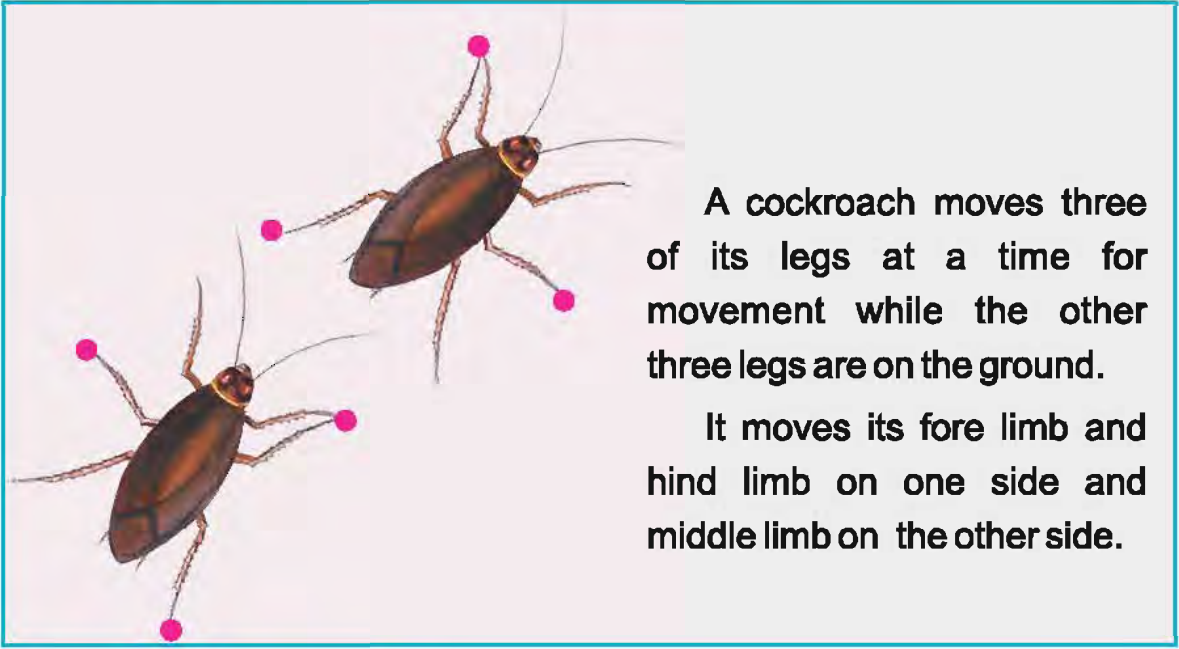
Let us also work together actively like ants and live in unity with love.



Activity



Observe the leg movement of a cockroach as it moves. Likewise find out the movement of the other insects.



A cockroach moves three of its legs at a time for movement while the other three legs are on the ground.

It moves its fore limb and hind limb on one side and middle limb on the other side.

Evaluation



(a) Find out and write whether the given ant is queen, male or worker ant.



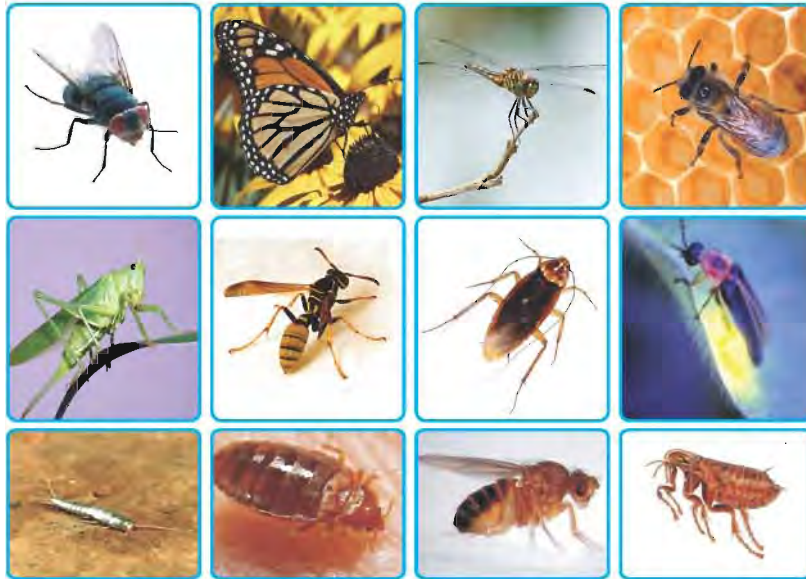
(b) Write a few lines about the ants given below:

Queen ant : _____

Worker ant : _____

Male ant : _____

(c) Answer the following questions by seeing the given pictures.



1. Name the insects that are useful to us.

2. Name the insects that are harmful to us.

3. What are nocturnal insects?

4. Name an insect which cannot fly long distances though it has wings.

5. Which insect can jump faster than the others?

Project:



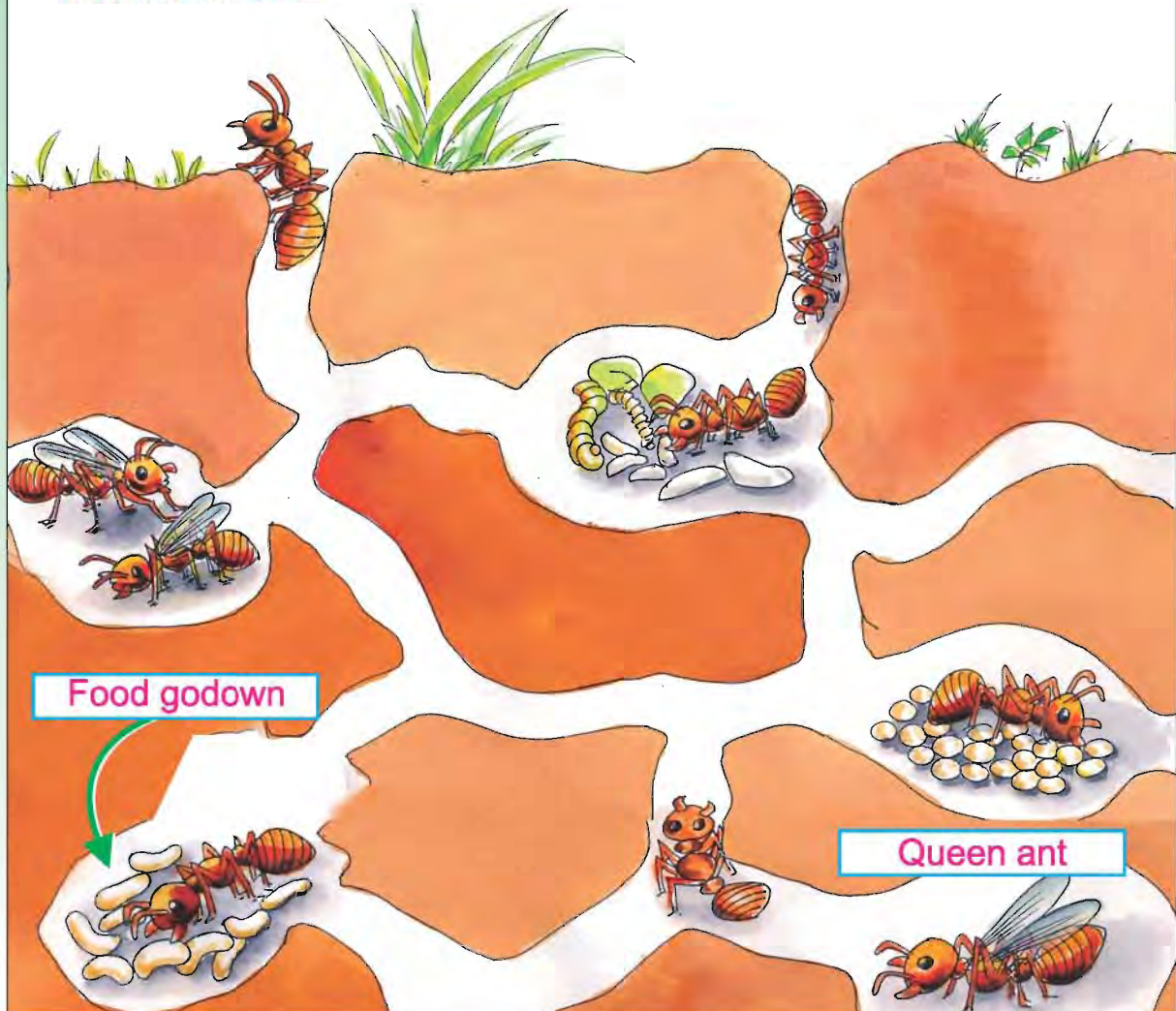
- Collect the pictures of insects detailing on structure, food and other facts. Make an album.
- Under your teacher's guidance get into groups and make an insect box.

Do you know?



1. Ants can lift weight 20 times greater than its own weight.
2. Ants sense smell through their antennae.
3. The length of ants ranges from 2 mm to 7 mm.
4. Some ants sleep for 7 hours a day.
5. When a worker ant comes to know about the place of food, it produces a particular smell, there by other ants will come to know about that place easily.

Habitat of ants



4

VISIT TO A FARM

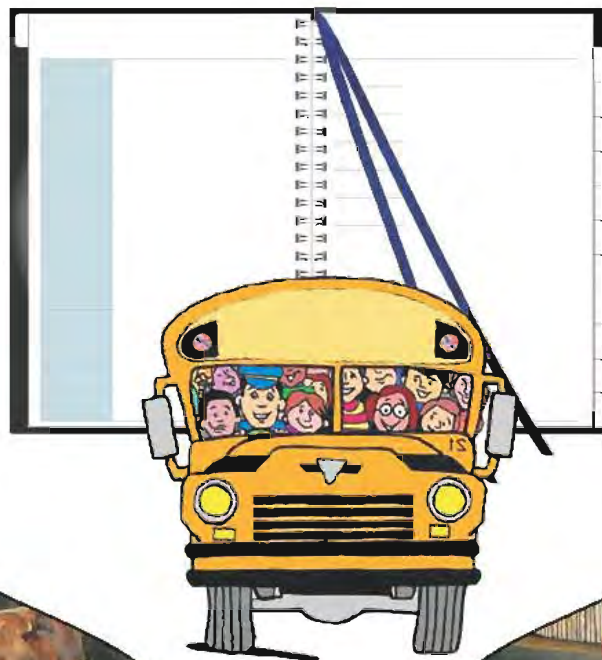


Mary and Bharathi were to be very excited. The reason was that they had planned to visit the agricultural farm on an educational tour.

There were only two more days to go. The teachers had given some instructions regarding the visit.

The next day Mary had fever. The doctor had advised her to take rest for two days.

So Mary said to Bharathi "Note down in your diary all that you see on the way and share your experiences with me after coming back."





My diary

Date:

Today.....

A happy day of new experience in my life.

We 39 students were ready at 8.00 a.m. for the tour. As soon as the bus arrived, we got into the bus one by one. Our tour started towards Anaimalai. After an hour, we reached Muthu's Agricultural farm. Mr. Muthu invited us heartily.

The farm was a beautiful sight. Green fields, tall trees, bushes, plants and vines seemed to go on and on.

There were a lot of coconut trees and banana trees. Some workers were gathering tomatoes, brinjals and lady's fingers in baskets. There was a good fragrance from the Jasmine garden. Some were plucking the jasmine buds. Paddy was planted in a large area and the whole area looked green. It looked very pleasant to see the paddy swaying in the breeze. We all walked on the field path one after the other. Crabs scampered hurriedly away from us.

A rat ran and hid itself.

some were plucking coconuts and some were peeling the coir from coconuts.

Mr. Muthu asked them to give us tender coconuts. We all drank the tender coconut water and quenched our thirst.



Suddenly some of the students started shouting. There were some monkeys jumping from the near by trees. Students took sticks to chase the monkeys.

Mr.Muthu came running and shouted “Don’t chase the monkeys”. “Do not scare the animals which are living around us”, I like them very much.

On seeing him, some dogs came to him wagging their tails. We were frightened and thought of running away.

But he said, “Do not run and don't be afraid. They will not harm us if we let them free . These are the night guards for my farm.”

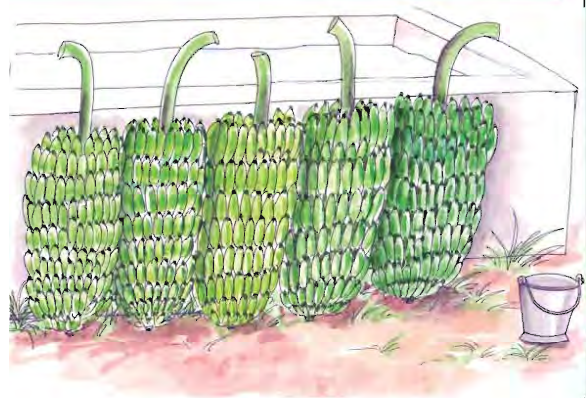
In which vehicle did Bharathi go for the tour?

Name the plants seen in Muthu's farm?

What will you do when someone torture animals?

He invited us to his banana grove.

There were bunches of bananas cut from the banana tree and arranged in order.



Field Trip



Visit a nearby orchard, vegetable and flower garden and write a report on it.

As it was time for lunch, we went to a shady place where there were a lot of trees. We sat in groups and ate our food. After eating they started throwing leaves and papers everywhere.

The teacher noticed that and said “Dear students, we have to keep our surroundings clean. See, there is a dust bin. Put the waste in that.” Only then we noticed the bin.

After lunch some people were loading rice bags into the vehicles. Some were carrying the hay on their heads.

Where were they carrying the hay to?

They replied that they were going to the nearby cattle field. We also went behind them.



There were cows, calves, ox, **murrah** type buffaloes and goats in the cattle farm. We were surprised to see cows of different types like **Gir, Sindhi, Jersey and Caronswiss**.

Do you know?



India stands first in milk production.



murrah



sindhi

The worker at the cattle farm said “Jersey cows give around 25 to 30 litres of milk. If we give required quantity of hay, grass, cotton seeds, cake fodder, we will get more milk. Murrah type of buffalo alone gives 30 litres of milk.”

“Is it so?”, We were all surprised to hear it.

1) What types of cows are seen in the cattle farm?

2) How many litres of milk a Jersey cow can give?

3) What food should be given to the cow to get more milk?

4) How many litres of milk are required in your house per day?

We visited the nearby poultry. Some hens were pecking at the food. Rice, broken rice and rice bran are given as food for poultry. There were hundreds of hens there.

Do you know?



- * Sharp edge of an egg should point downward in a refrigerator.
- * Now Emu is grown in Government animal husbandry farms. Emu hen's meat is 98% fat free.



Hens seen in white colour are called white leghorns. White leghorns lay around 200 eggs in a year. They are the egg laying hens.

Tamilnadu Government is supplying eggs for five days along with their mid-day meals in a week to the school children.

In Tamilnadu, Namakkal district stands first in the production of eggs.

On another side we saw broiler hens. They give us meat.

- 1) White Leghorns may lay approximately _____ eggs per year.
- 2) Hens reared for meat are _____.

It was around, 3 'o' clock in the evening. We all sat in groups under the tree. We cleaned and cut fruits like banana, papaya, apple, grapes and pineapple into small pieces. We put them in a vessel. Sugar was added and mixed thoroughly. We all enjoyed the delicious fruit salad.



When we were returning from the farm in the evening some people collected cow dung, branches and leaves, vegetables, wastes and put them into a pit. We peeped inside the pit and saw some worms.

People were preparing manure by adding waste, cow dung, earthworm and soil. If we use them for the plants, we will get better yield of cereals, vegetables and fruits. They did not waste even the waste. This activity attracted me a lot.

We thanked Mr.Muthu for allowing us to visit the farm and also for his valuable advice.

On the way back some people were distributing pamphlets. It was printed as follows.

- ✘ Do not beat the animals with stones, sticks or whip.
- ✘ Do not overload the animals or the vehicles pulled by these animals.
- ✘ Do not burst crackers near the animals.
- ✘ While going to sanctuaries, animal parks, bird sanctuaries, etc., do not feed the animals with what you have.
- ✘ Do not throw plastic materials in such places.



Do not harm the animals!



Do you know?



Blue cross does the service of helping and saving animals.

When we were coming out with the pamphlets, we saw a wall poster.
In that...

Let us save our environment!

- * Keep the public places such as parks, sanctuaries, hospitals, bus stand, railway stations, schools, etc., clean.
- * Do not throw wastes in public places.
- * Throw the waste into dust bin and see that it does not spill out.
- * Do not spit in public places.
- * Do not smoke in public places.
- * Plant trees to protect the environment.
- * Do not urinate in public places.



Activity



Write your answers for the questions asked about your pets.

1. Which is your pet animal?
2. What is the name of your pet?
3. What does it like to eat?
4. When does it go to sleep?
5. What are the qualities you like in it?
6. Draw your pet animal and colour it.

The bus came to school at 6 pm in the evening. All returned home. Bharathi had noted down her experiences in a diary.

She shared that with her friend Mary. Mary was also happy and thanked Bharathi.

When you go to a rabbit farm as a field trip, list out the questions that are to be asked.

- 1) What are the types of rabbits grown in a rabbit farm?
- 2) What are the methods to be followed for rearing the rabbit?
- 3) Write about the temperature needed for the growth of the rabbit?
- 4) Write about the measurement of the rabbit's cage.
- 5) How many rabbits can be grown in a cage?
- 6) What are the foods to be given to the rabbit?
- 7) What is the approximate weight of an adult rabbit?
- 8) In general, how many young ones can a rabbit give birth to at a time?
- 9) Name the diseases that affect a rabbit.
- 10) How will you clean the rabbit farm?

When you visit a cattle farm, list out the questions that are to be asked.

Field Trip



A visit to a cattle farm and a poultry farm.

Record your observation.

Evaluation



(a) Fill in the blanks.

1. In the farm _____ and _____ are the plants seen in the garden.
2. _____ and _____ are the types of cows seen in the farm.
3. Murrah type buffalo gives _____ litres of milk .
4. _____ and _____ are mixed together to form natural manure.
5. Don't throw _____ in public places.

(b) Answer the following.

1. Write down the names of the trees seen in the agricultural farms.
2. Mention some milk products.
3. Which type of buffalo will give us more milk? How many litres of milk can it give?
4. List the food products we get from the Agricultural Farms.
5. Write about the farms seen in your place.

(c) Answer in detail.

Visit an agricultural farm and write about your experience.

5

HUMAN BODY



Our body is a wonderful machine. There are various organs present in our body. Eyes, ears, nose, hands and legs are seen outside the body. They are used for various activities.

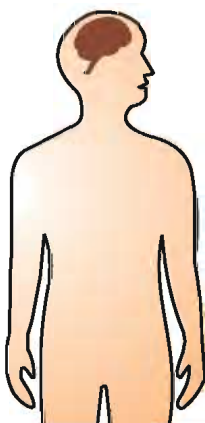
Organs of the body	Functions
Eyes	To see
Ears	
Nose	
Hands	
Legs	

Organs like brain, heart, lungs, kidneys and liver are inside the body. These are called internal organs. They perform various functions.

BRAIN

Brain is used for thinking, imagining, storing information.

Brain is an important organ and it is protected by the skull

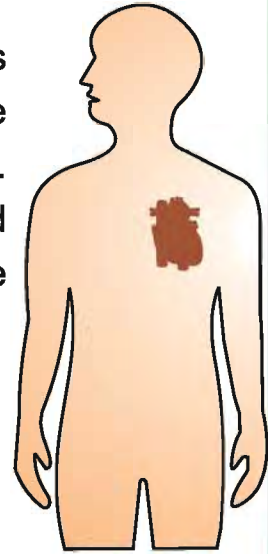


Human brain weighs about 1.36 kg. Standing, walking, running, singing, writing, speaking etc., are controlled by the brain.

HEART



Our heart is made of muscles. It is located in between the lungs in the chest. Human heart has four chambers. The two upper chambers are called auricles and the two lower chambers are called ventricles.

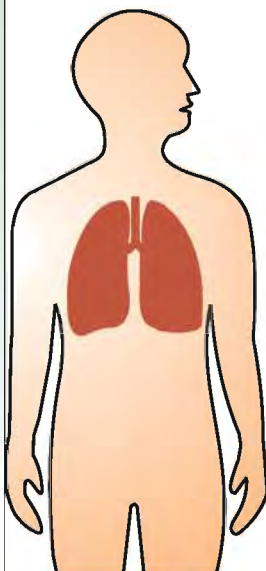


Heart sends oxygenated blood to all parts of the body.

The size of your heart is the size of your fist.

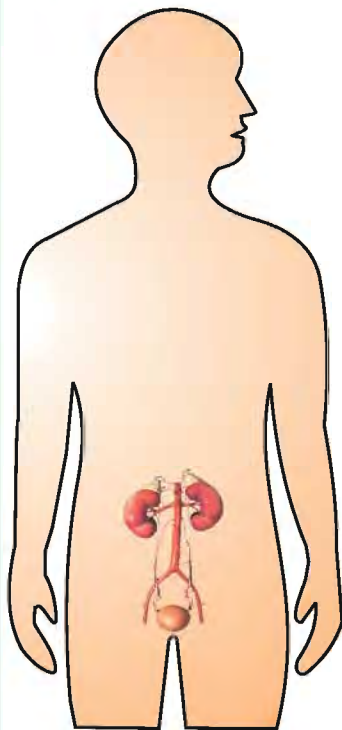
LUNGS

We have a pair of lungs which consists of thousands of air sacs called alveoli. During respiration the exchange of gas takes place in the alveoli. Exchange of gas means to inhale oxygen and exhale carbondioxide.



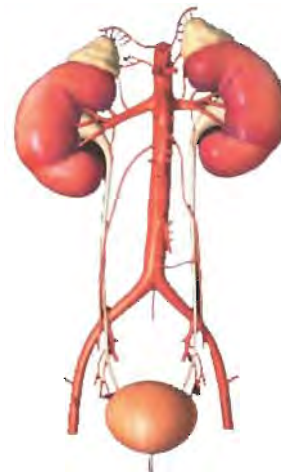
A healthy man respire about 12 to 15 times per minute. More amount of oxygen is needed for the function of muscles. Respiration takes place continuously during day and night.

KIDNEY



There are two bean shaped and pale red coloured, kidneys present in our body.

Their function is to excrete waste from the blood in the form of urine.



The amount of urine excreted from the human body per day is about **1.5 to 2 litres.**

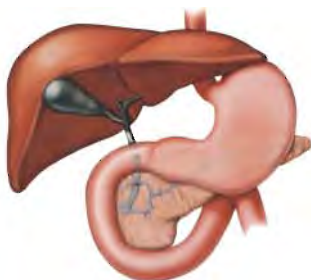
STOMACH

Stomach is a 'J' shaped organ.

It is found in the left side of our body. This organ helps in the digestion of food.



LIVER



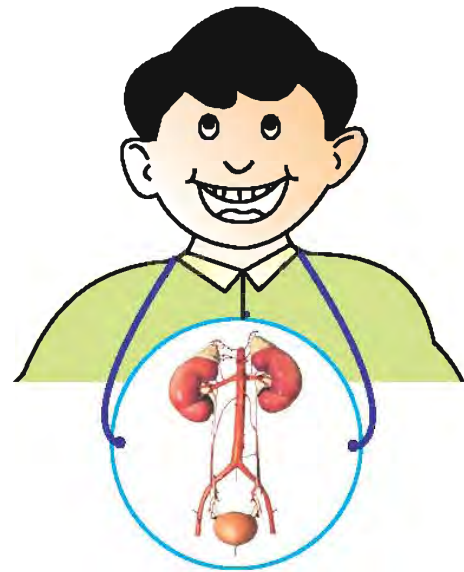
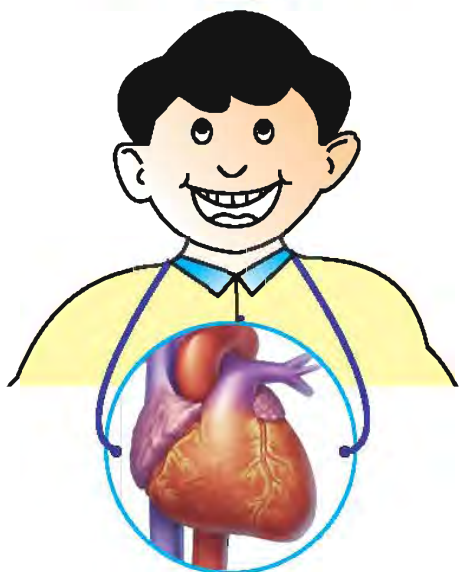
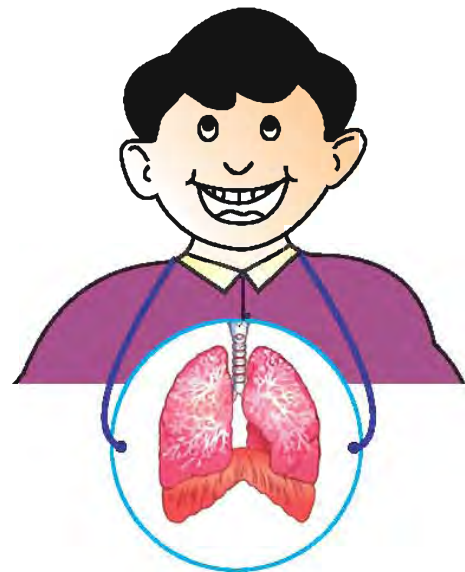
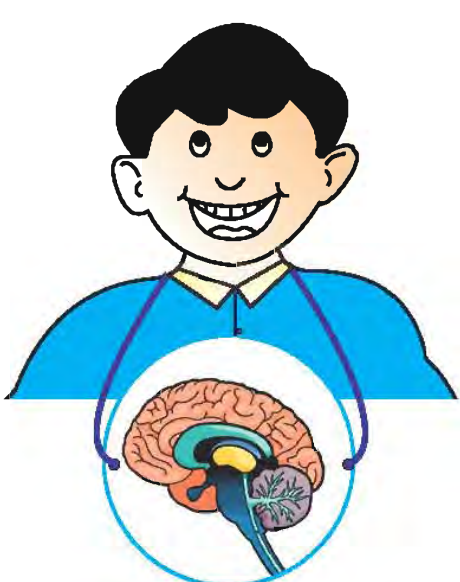
Liver is the largest internal organ of our body. It is dark reddish in colour. It lies above the stomach. It secretes bile, which helps in the digestion of fat.

Liver of an adult weighs about 1.5 kg.

Since the internal organs coordinate and function properly, we are able to lead a healthy life. These organs keep us healthy by working without rest even when we are asleep. We should take care of them.

Activity 

Hang the pictures of the internal organ around your neck. Imagine that you are that organ and enact it.

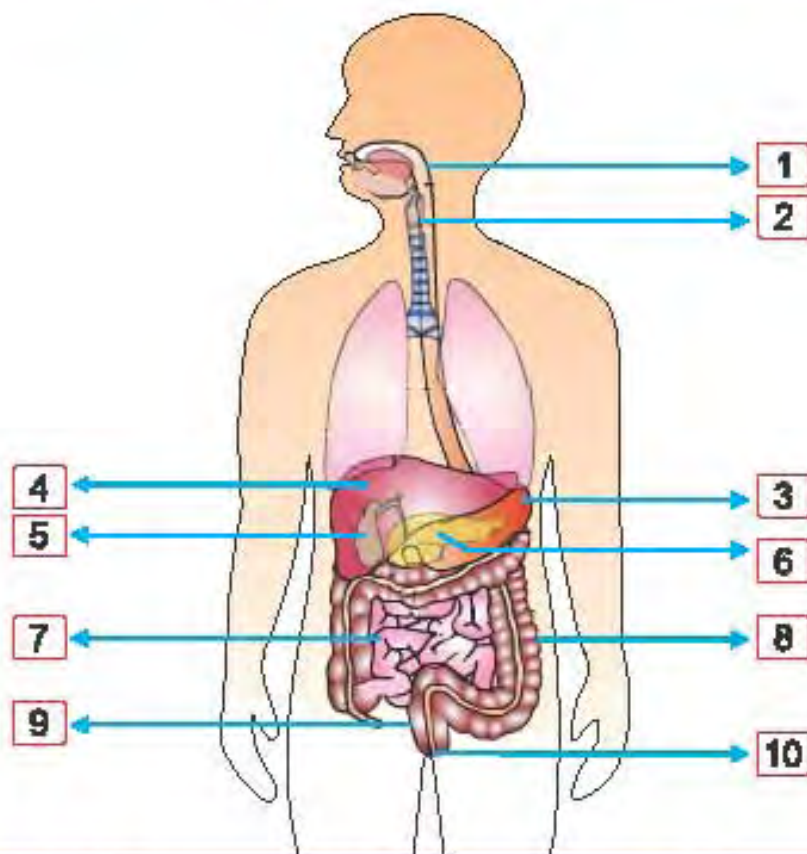


DIGESTIVE SYSTEM

Our body cannot absorb as much of food as we eat. The digestive system helps in breaking the food into simple substances. The process of breaking down food to simple and easily soluble substances is called digestion.

Disgested food mixes with the blood stream and gets stored in the muscles and liver. Energy for the body growth is obtained from food.

Digestive system consists of the following parts.



- | | | |
|--------------------|--------------------|-------------|
| 1. Mouth | 2. Food pipe | 3. Stomach |
| 4. Liver | 5. Gall bladder | 6. Pancreas |
| 7. Small intestine | 8. Large intestine | 9. Rectum |
| | 10. Anus | |

PROCESS OF DIGESTION

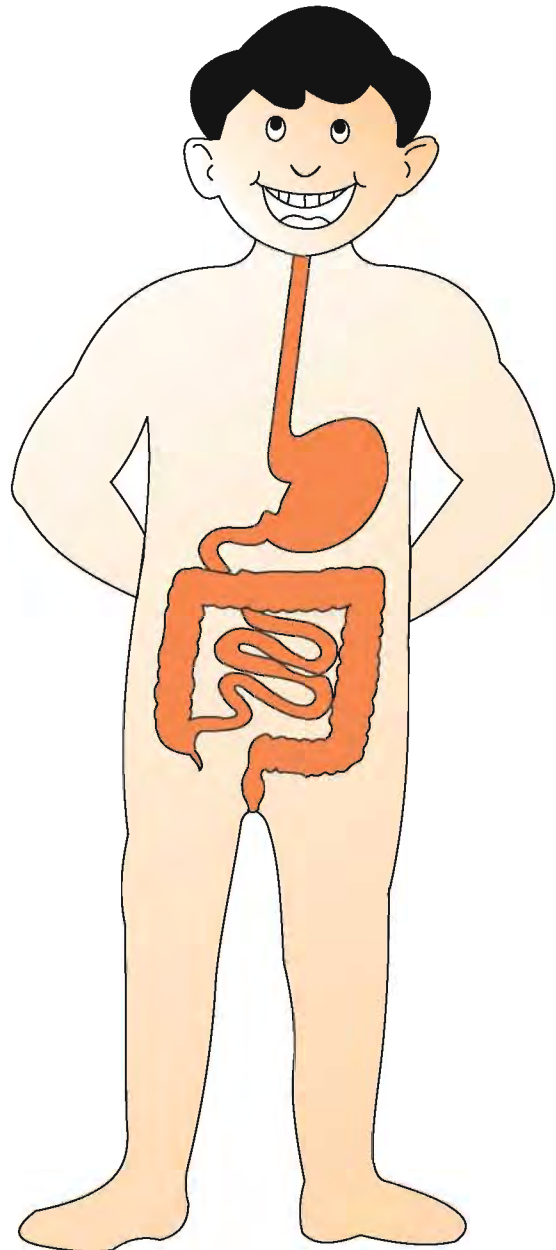
Digestion starts in the mouth. The teeth grind the food we eat. There are three pairs of salivary glands. Saliva secreted from these glands mixes with the food and makes the digestion easier.

Partially digested food enters through the food pipe to the stomach. When the muscles of the stomach contract and relax, the food in the stomach gets churned and the glands in the wall of the stomach secrete digestive juices and hydrochloric acid to make the food digestible.

The digested food passes through the small intestine, mixes with the bile juice, pancreatic juice and enzymes and gets digested.

The digested food is converted into nutrients and transported to various parts of the body through blood.

Undigested waste products pass into the large intestine and are excreted through the anus.



We should eat food rich in fibre such as fruits, greens and Vegetables for better excretion.

Do you know?



Drink around 2.5 litres of water daily.

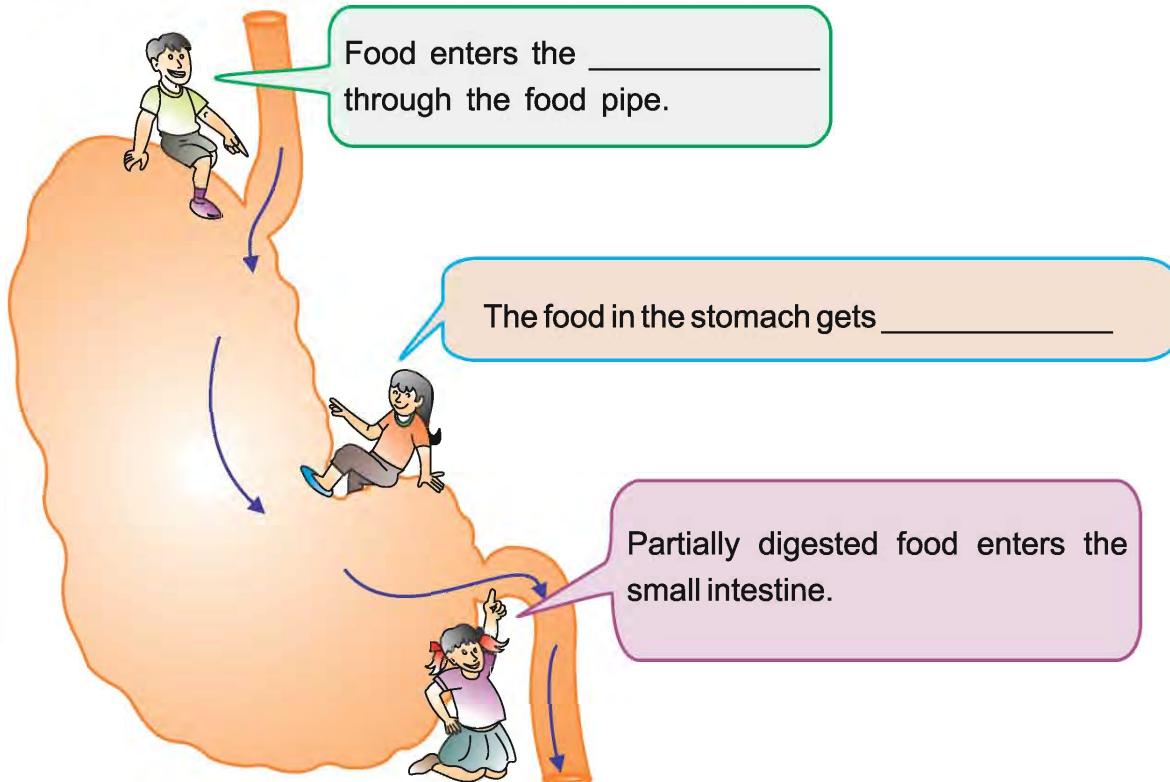
Activity



- a. Tabulate the foods that are easily digestible and not easily digestible.

Foods that are easily digestible	Foods that are not easily digestible

- b. Fill in the box given



This is the small intestine. Here, the enzymes are added to the digested food substances.

The digested food is converted into _____ and transported to various parts of the body through _____.

Here digestion gets _____.

This is the large intestine

This is the small intestine

Undigested food passes into the _____.

Undigested food is excreted through _____.

Project:

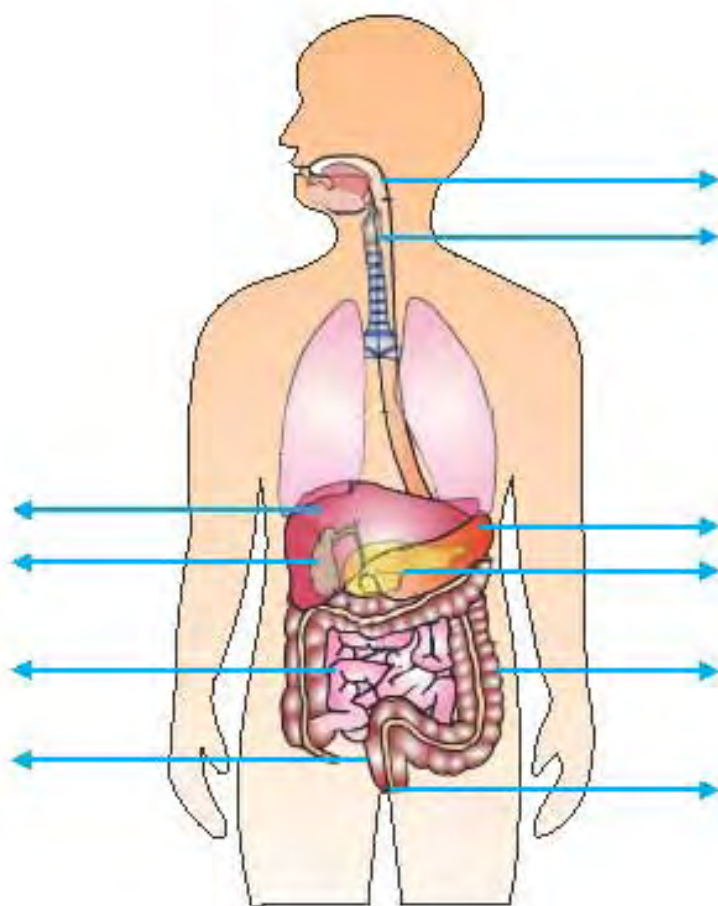


Ask the students to prepare the model of the human digestive system.

Evaluation



(a) Identify the various parts of the digestive system and name them.



(b) Fill in the blanks.

1. Chambers of the heart are _____ and _____.
2. Liver is _____ in colour.
3. Kidney is _____ shaped.
4. Man has _____ lungs.
5. Brain of man weighs _____ kg.

(c) Match the following.

- | | | | |
|------------|---|-------------------------|--------------------------|
| 1. Heart | - | breathing | <input type="checkbox"/> |
| 2. Kidney | - | simpler food substances | <input type="checkbox"/> |
| 3. Lungs | - | bile juice | <input type="checkbox"/> |
| 4. Stomach | - | four chambers | <input type="checkbox"/> |
| 5. Liver | - | excretion | <input type="checkbox"/> |

(d) Answer the following.

1. What are internal organs?
2. Name some internal organs found in the human body.
3. What are the functions of the brain?
4. What is the function of the kidney?
5. How does breathing take place in man?
6. What is digestion?

(e) Who am I ?

1. I sound lubb dubb. _____
2. I expand when I take in air and contract I give out. _____
3. I will make you think and work. _____
4. I excrete waste. _____
5. I digest the food. _____

Activity**Let us make a model of lungs.**

Make a model of the lungs using plastic bottle, "Y" shaped tube, two balloons of the same size and one big balloon which has to be fixed at the bottom of the bottle as shown in the figure. Pull the balloon at the bottom of the bottle downwards. What changes will take place to the balloons inside the bottle?

