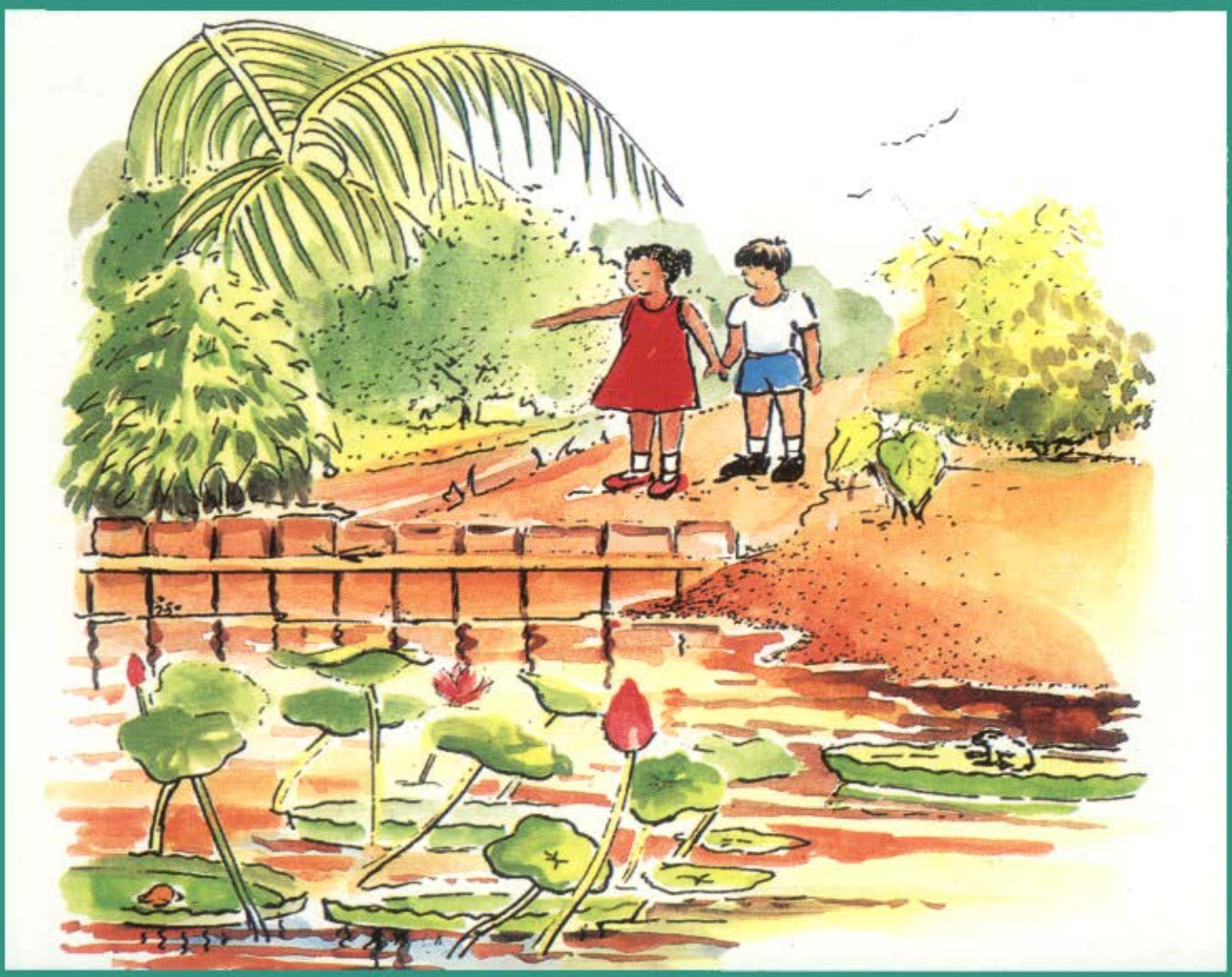
Science Around US

Book 2



Easy Path Series

A GOG/IDB Project

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FOREWORD

One welcomes the publication of this series of textbooks as part of the Primary Education Improvement Project funded by the Inter-American Development Bank and the Government of Guyana.

This series of texts has been long in planning, writing and producing. In the process however, many Guyanese have developed skills in textbook writing and publication. This will serve Education well in the future.

We congratulate all those responsible for the production of these texts. They have done a good job. Guyanese children at the Primary level, and, indeed, the society as a whole, will be the beneficiaries of their labour.

Thanks to the Inter-American Development Bank for its financial support. Primary Education in Guyana will benefit considerably with the availability of relevant reading material.

Hon. Priya Manickchand
Minister of Education

TABLE OF CONTENTS

CHAPTER 1 A HEALTHY BODY

We need to keep our bodies healthy!

Being unhealthy prevents us from doing many of the things we love.

How can you keep your body healthy?

We can keep our bodies healthy by:

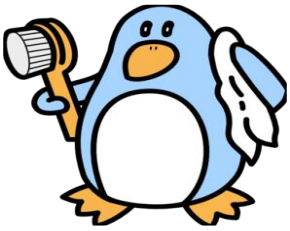
1. Eating **balanced diets –** A balanced diet contains all the right foods we need in the right quantities.
   Activity
   Get pictures of different foods. With the help of your teacher, identify which ones are healthy for you and which ones are not healthy for you.
2. **Exercising-** Exercising helps to keep our bodies fit.

   Can you list some different ways of exercising?
3. **Keeping our bodies and environment clean** – It prevents us from getting ill.

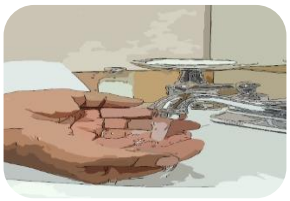
Activities that keep us healthy

Brushing teeth

Sleeping



Bathing



Washing hands

Identify other ways of keeping your body healthy.

GROWTH AND CHANGE

All of us grow. Humans (we) grow from babies to children then to adults.

Baby

Child

Adult

What are the differences among the persons in the pictures? Do they have different body shapes and sizes? What do you notice about their hair?

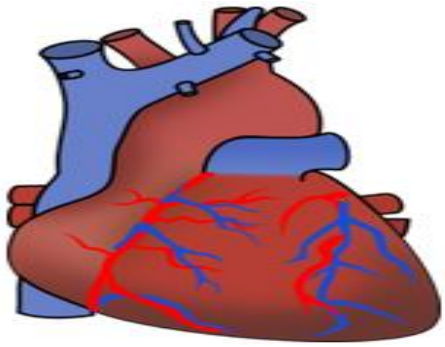
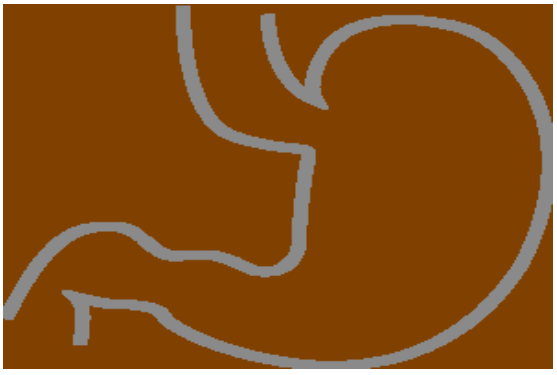
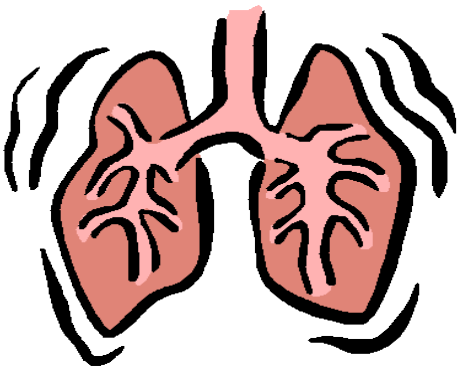
They also eat different **types of food**. We can say that they have different **diets.** What type of foods do you eat? Would a baby eat the same foods as you?

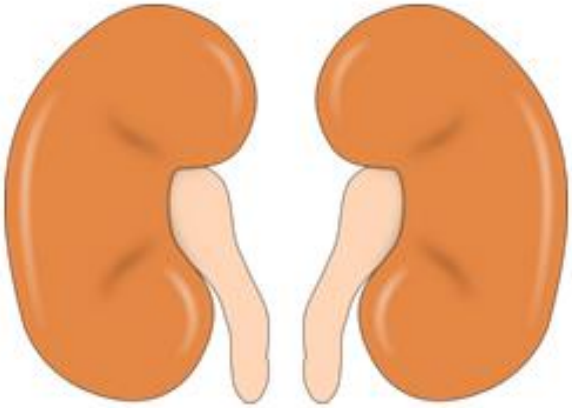
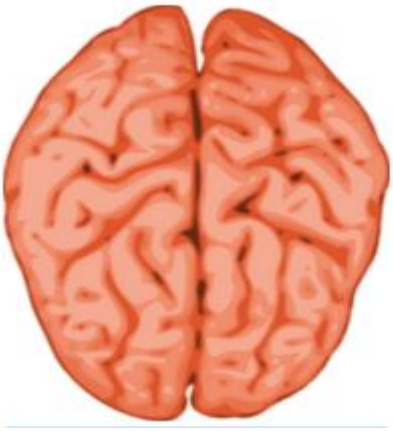
They can also do different physical things. The baby cannot walk but the child and adult can walk.

INSIDE OUR BODY

Have you ever seen inside your body? Do you know what is present inside your body? There are many things present inside our bodies.

Some main or major parts inside our bodies are:

The heart	
The stomach	
The lungs	

The liver	
The kidneys	
The brain	

MEASURING BODY PARTS

How tall are you?

We can measure some of our body parts by using a ruler or a tape. Some body parts are:

- Head
- Waist
- Hand
- Foot
- Arm

Activity

Have your friends use a ruler or tape to measure your height, waist, hand span.

You can measure your friend as well. Record the information in a table like the one below.

Name	Height (cm)
Pat	
Paul	

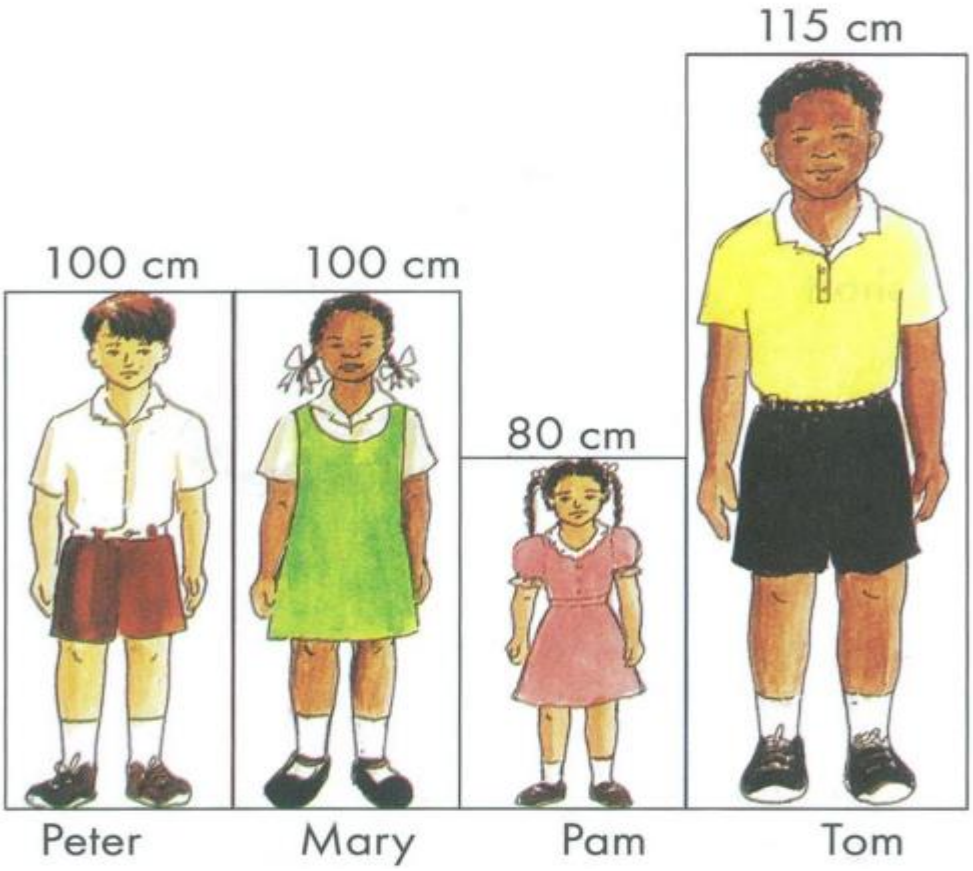
What can you say about the heights of your friends and yourself?

Look at the graph on the next page and answer the questions below.

Who is the tallest?

Who is the shortest?

Which persons have the same heights?



CHAPTER 1 REVIEW

Circle all the healthy habits from the list below.

1. Combing your hair
2. Not sleeping
3. Brushing your teeth
4. Eating a balanced diet
5. Bathing once per week
6. Washing fruits before you eat them
7. Throwing your litter on the floor

What is the missing stage in the growth of humans below?

Baby → _____ → Adult

Name three main parts inside your body

1. _____
2. _____
3. _____

CHAPTER 2 ANIMAL KINGDOM

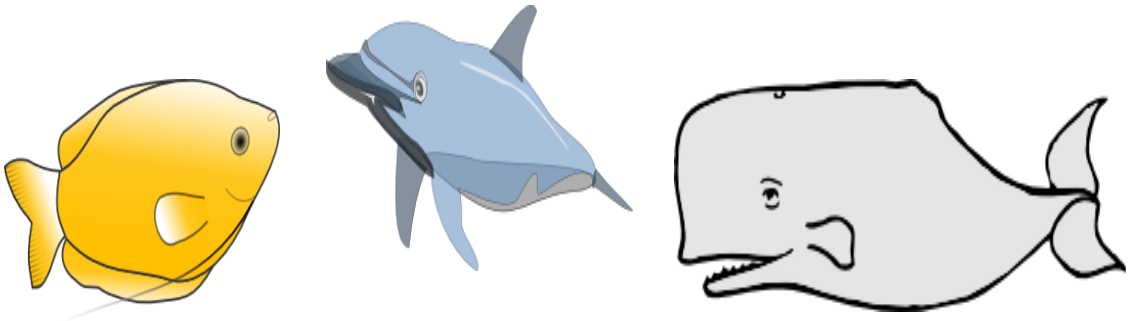
MOVEMENT IN ANIMALS

How do you move from one place to another?

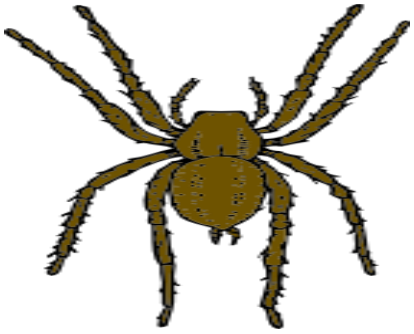
Animals move in different ways.

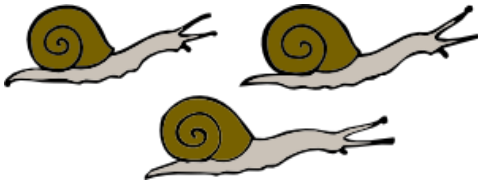
- Some animals fly

- Some animals swim



- Some animals crawl

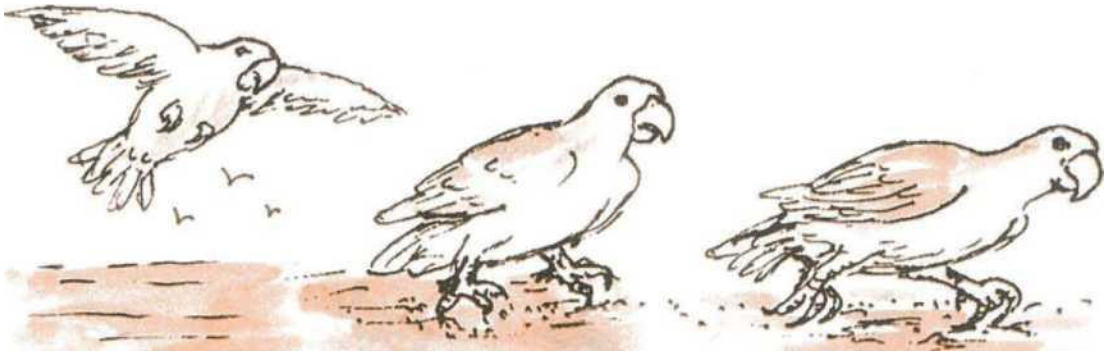




- Some animals walk, run and jump

Some Animals Move In Different Ways

Name the different ways in which you can move.



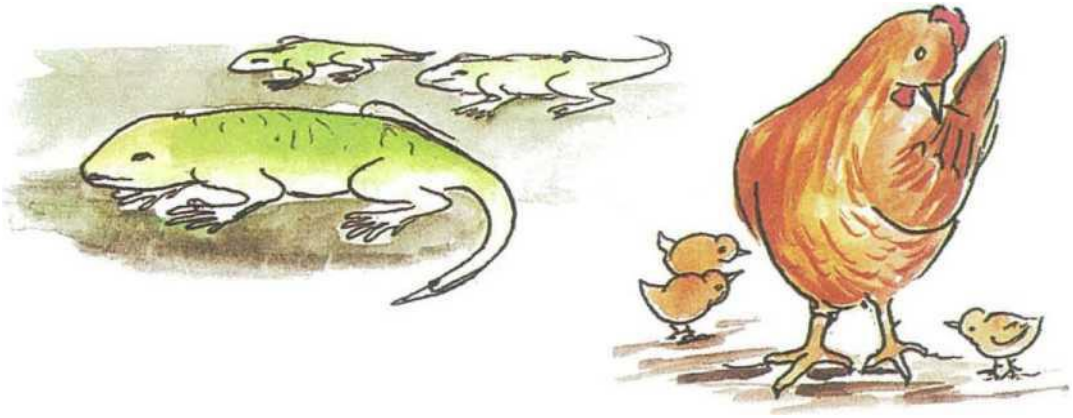
Look at the pictures above. Name the different ways in which the parrot moves.

Look at animals in your community and identify the way or ways in which they move.

BIRTH, GROWTH AND CHANGE IN ANIMALS

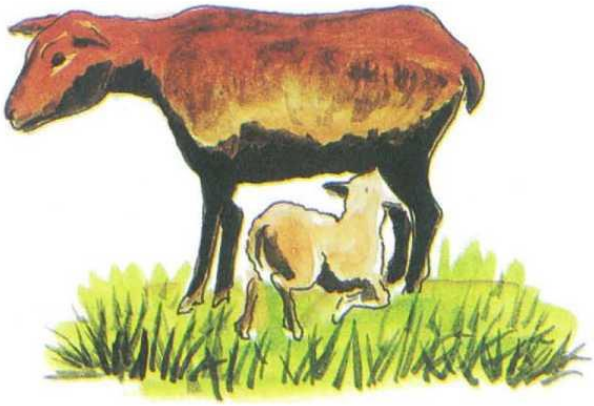
Some animals, like lizards and chickens are hatched.

They develop in eggs, outside their mother, and then hatch.



Humans and animals like the sheep are born.

They develop inside their mothers and are then born



After birth, animals go through many physical changes in their size, shape, colour, covering, teeth etc. The human being is a good example. Are babies born with teeth? Do adults have teeth? Is an adult larger than a baby?

Activity

Look at the pictures which follow and list the differences you notice between the young animal and its mother.

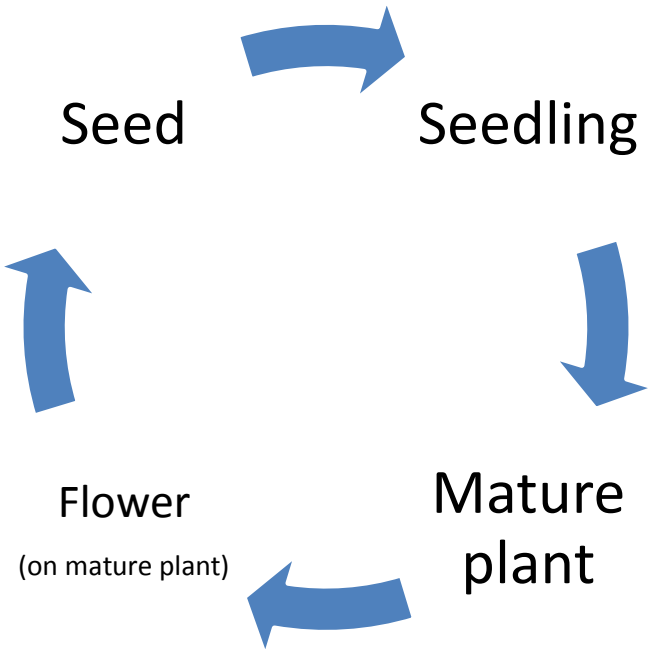
CHAPTER 2 REVIEW

1. Name an animal that
   i. Runs _____
   ii. Jumps _____
   iii. Swims _____
   iv. Flies _____
   v. Crawls _____
2. One animal that is born is the _____.
3. One animal that lays eggs is the _____.
4. After birth animals go through changes like _____, _____ and _____.

CHAPTER 3 PLANT KINGDOM

GROWTH AND CHANGE IN PLANTS

Changes that occur in the life-cycle of a plant



Typical Plant Life Cycle

The seed in the cycle sprouts and produces a seedling which is an immature plant. As a seedling grows into an adult plant several changes occur. It gets bigger in size and produces more leaves. Some plants produce flowers which produce seeds. This is the general life cycle for a flowering plant. Not all plants produce flowers and not all plants come from seeds!

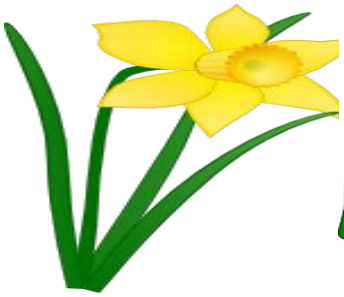
GROUPING PLANTS

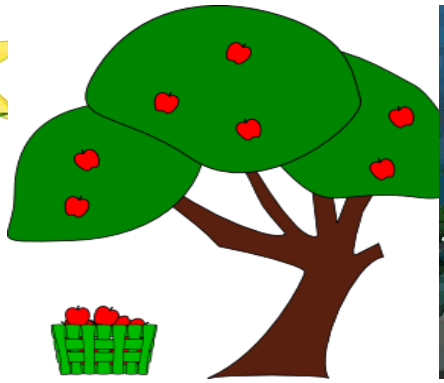
We can group plants differently.

We can separate plants with flowers from plants without flowers. Plants also have different types of leaves.

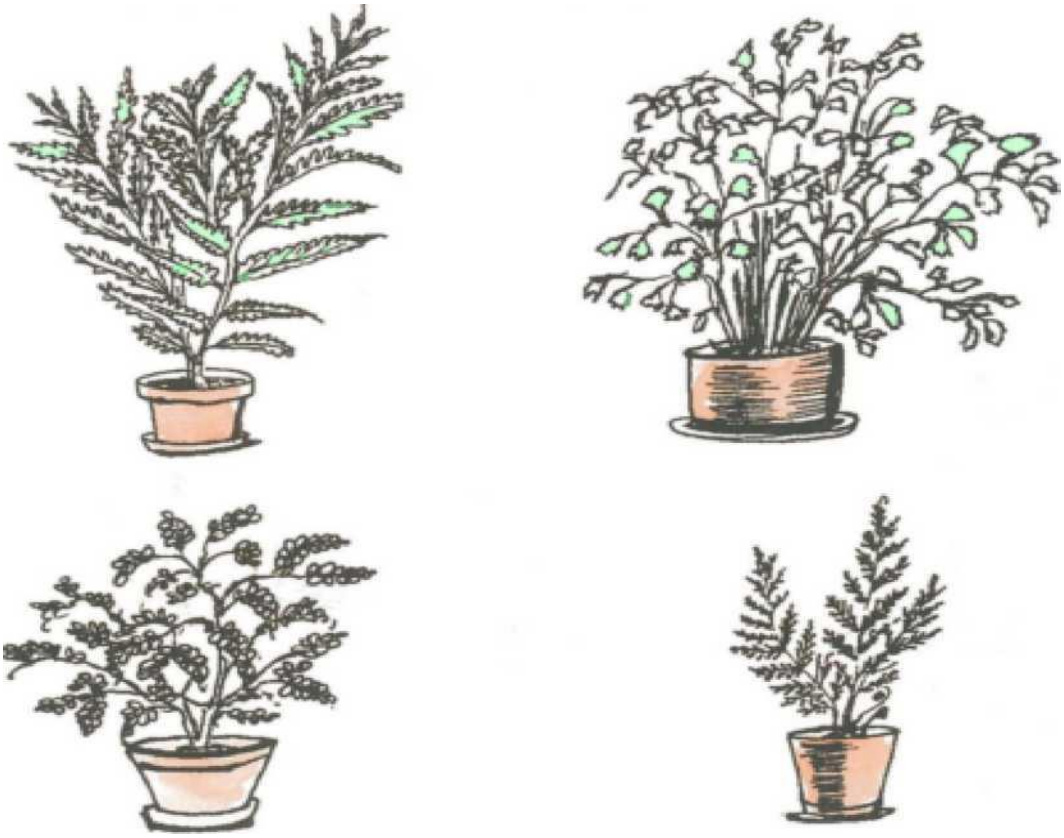
FLOWERING AND NON-FLOWERING PLANTS

Plants that bear flowers are flowering plants e.g. sunflower, daisy and apple tree. Some plants which bear flowers have fruits.





Plants which do not bear flowers are non-flowering plants e.g. ferns, Christmas tree.



PLANTS WITH DIFFERENT LEAVES

We can group plants according to their leaves. There are many kinds of leaves. They may differ in size, shape and colour. Leaves differ in other ways too. Look carefully at the leaves below.

Can you see the lines on the leaves?

These lines are called veins.

Look at the patterns made by these veins.

Are they all the same?

Activity

Things you will need

- A variety of leaves (e.g. mango leaves, banana leaves)

1. Tear a few leaves and observe how they tear.
   What have you found?
2. Put all the leaves that tear straight into one group.
3. Put all the leaves that do not tear straight into another group.
4. Make a record of your observations.

In our activity, the leaves that we could tear straight are called straight-veined or parallel-veined leaves.

The other leaves that did not tear straight are net-veined leaves.

CHAPTER 3 REVIEW

1. When seeds grow into adult plants, they get more _____. (seeds, leaves)
2. Plants have _____ vein and _____ vein leaves.
3. Plants which bear flowers are called _____ and plants which do not bear flowers are called _____.
4. Name three plants with flowers and three plants without flowers.

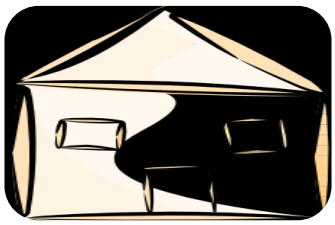
CHAPTER 4 ENVIRONMENT

TYPES OF ENIVRONMENTS

There are different types of environments.

When we talk about the environment, we talk about the **surroundings** in which a person, animal or plant lives.

Some types of environments are:



the home

the yard

the school

the pond

the pasture

the forest

Things found in the environment

Can you list things found in the different environments given above?

Examples

- A pasture contains grass, other small plants, animals and soil.
- A home contains chairs, tables, beds, stove.

Activity

List some things found in the other environments.

CARE FOR THE ENVIRONMENT

Why should we care for the environment?

Look at the two pictures below. In which environment would you like to live?

Having a clean environment will help us to keep ourselves healthy.

How can we care for the environment?

- We can grow plants, making it comfortable for animals to live.
- We can use energy and water wisely.
  Turn off electric appliances when they are not in use. Turn off water taps when they are not in use.
- We can reduce pollution and litter.

Can you list some other things that we can do to keep our environment healthy?

THE IMPORTANCE AND USES OF SOIL

The soil is the upper layer of the earth in which plants grow.

Soil is important for plant growth. Most animals, including humans, depend on plants for food or shelter.

Soil can also be used for building houses, sidewalks and bricks. It is also used in pottery.

CHAPTER 4 REVIEW

Place the following items in their environment in the table. An item can go into different environments e.g. the bench can be placed in the school environment and in the home environment.

Spoon, fish, brick, goat, bench, stick, table, chicken

Home	School	Yard	Pond	Pasture

CHAPTER 5 WEATHER

Look at each picture. What is the weather like?

Keeping records

We can make a chart to show each day's weather.

			
Sunny	Rainy	Cloudy	Windy

Here is the record of the weather for one week.

Monday	Tuesday	Wednesday	Thursday	Friday
	 		 	

What to wear?

Would you wear the same type of clothes on all days? (Look at the picture at the beginning of the chapter.)

Different materials are used to make clothes for different purposes.

Different clothes are appropriate for different weather conditions, e.g. light, cotton clothes for hot weather.

Type of weather	Clothes to wear
 Hot weather	T-shirts, short pants, sandals
 Rainy weather	Raincoats, long boots

CONTAMINATED DRINKING WATER

Drinking water can become contaminated or impure. Contaminated drinking water is the result of drinking water mixed with a material that may, if there is enough of it, be harmful to those who use it.

Water that looks safe may actually be harmful!

Making water safe

The water we get from many sources is not safe to drink because it has germs. Unsafe water could make us ill if we drink it. One way to make water safe to drink is by boiling it to kill germs.

Water could be made safe by removing contaminants such as unwanted solids, bacteria and other forms of impurities.

One way to remove unwanted solids is by straining/filtering. However, water that appears free of unwanted solids may still be unsafe because of other impurities present that cannot be seen by the eyes.

Another way of making water safe is by adding bleach. Adding bleach to the water helps to kill germs.

CHAPTER 5 REVIEW

In what weather can we use the following?

umbrella raincoat long sleeve jersey

Name two ways of making water safe for drinking

1. _____
2. _____

CHAPTER 6 MATERIALS

PROPERTIES OF SOLID MATERIALS

Hold a piece of cotton wool in one hand and a stone in the other. What differences can you observe?

Let us note the differences in the stone and cotton wool.

The cotton wool is soft, smooth and light.

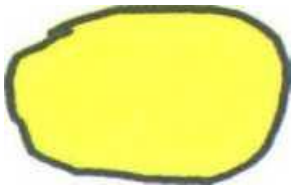
The stone is hard, rough and heavy.

Solid materials have different properties such as hardness, colour, texture, mass and shape.

Some materials have regular shapes like an ice-cube. Some materials have an irregular shape like the stone.

MIXING COLOURS

There are three colours which we can mix to produce other colours. These colours are blue, yellow and red. They are called the primary colours.



yellow

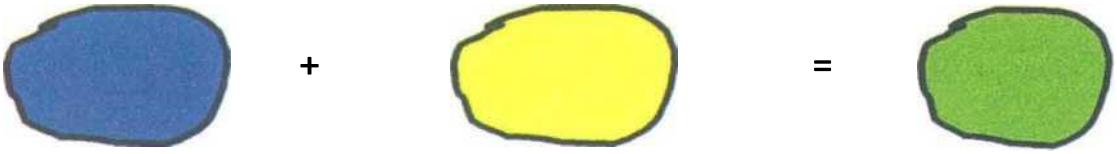
blue

red

Different colours can be made by mixing primary colours.

Yellow + Red = Orange

Red + Blue = Purple



Blue + Yellow = Green

CHAPTER 6 REVIEW

Blue, yellow and _____ are the primary colours.

When we mix red and yellow we get _____.

Blue and yellow gives us the colour _____.

CHAPTER 7 EARTH AND SPACE

DAY AND NIGHT

	
Night	Day
At night when there is no sunlight and the moon and stars are in the sky, humans and other animals usually sleep and rest. Plants close their flowers.	At daytime we have sunlight. Humans mainly work and play during the daytime. Some animals search for food and play while some plants open their flowers.

CHAPTER 7 REVIEW

1. List five things you can do during the day.
   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
2. How do you know when it is night?

   _____
3. What happens to the flowers on plants at night?

   _____

   _____

   _____

CHAPTER 8 ENERGY

SOUNDS AND THEIR SOURCES

You know many things around us make sounds

The  ticks

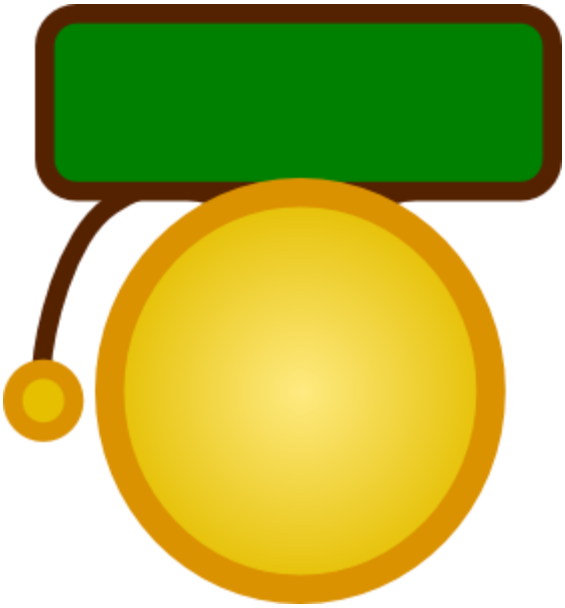
The  crows

Each sound has its own source, that is, what produces or makes it. We produce sounds when we talk/sing.

RESPONSE TO SOUNDS

Do you respond the same way to all sounds?

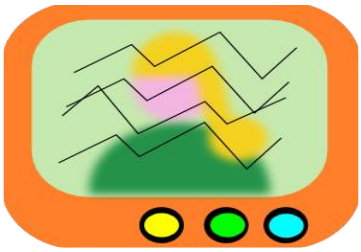
How do you respond to an alarm bell or a dog barking?



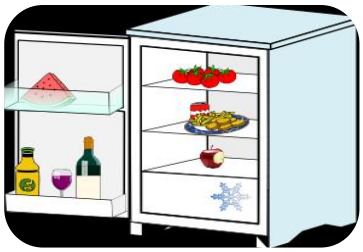
ELECTRICITY AS A FORM OF ENERGY

WAYS IN WHICH ELECTRICITY IS USED

To get light



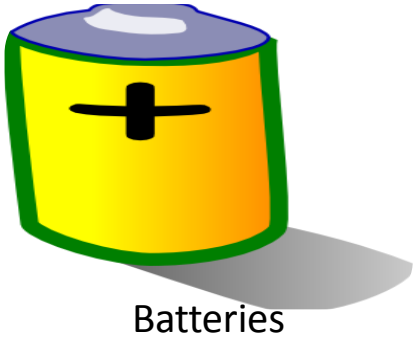
To operate gadgets



To operate appliances

HOW CAN WE GENERATE ELECTRICITY?

We can generate electricity from



Batteries

Wind Turbines

Electrical generators

Why do we need to use electricity wisely? Using electricity wisely is important because of the following reasons.

- It lowers our energy bill.
- It helps to protect the earth from pollution.

HOW CAN WE USE ELECTRICITY WISELY?

- Turn off lights and appliances when not in use.
- Lower volume of music set/radio.
- Use fluorescent tubes or energy savers instead of ordinary light bulbs.

USING ELECTRICITY SAFELY

What are the dangers of using electricity?

- Electric shocks

- Fires

- Burns

Safe use of electricity includes

- Not over-loading plug or sockets
- Not playing with electrical appliances, sockets or points
- Not touching exposed wires
- Not using broken/damaged appliances, wires, etc.
- Not handling electrical connections and or appliances with wet hands or near water

CHAPTER 8 REVIEW

Complete these

1. Do we respond to different sounds in the same way? (YES) (NO)
2. List two ways of using electricity wisely.
3. List two safe ways of using electricity.
4. Electricity gives us light in the _____.
5. Two dangerous things that can happen to us when using electricity are
   a. _____
   b. _____

CHAPTER 9 FORCES

DIRECTION OF FORCES

A force is a push, a pull or a twist. Forces can be applied in different directions, such as upward, downward, sideways, forward and backward

THE EFFECTS OF FORCES

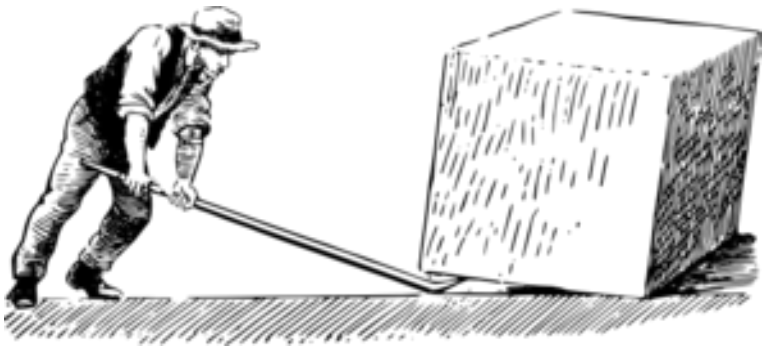
Forces have different effects on things. Forces can:

- Make things move
- Change the speed and direction of moving things
- Stop things from moving
- Change the shape of things

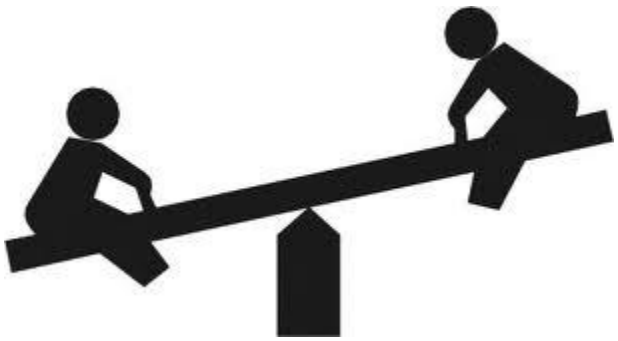
SOME SIMPLE MACHINES

Some heavy objects are hard to move. We can make them easier to move by using some simple machines like

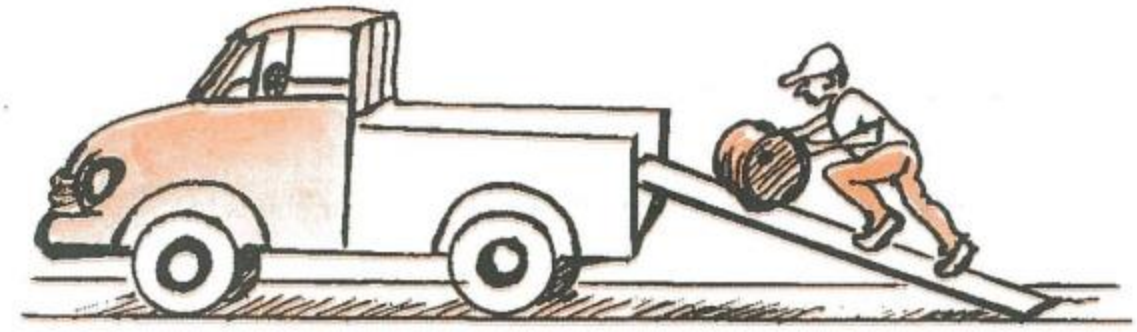
- The lever



A lever is a bar resting on a point, used to help move a heavy load at one end when pressure is applied at the other end. Another example of a lever is the seesaw. A bottle opener is also a lever.



- An inclined plane



In the picture above, the man is using a plank to move a heavy barrel into the truck. The plank is being used as an inclined plane. An inclined plane is a sloping surface that makes it easier to push or roll a heavy load up or down instead of lifting it.

CHAPTER 9 REVIEW

a. What is a force?
b. Name two effects that forces can have on objects.
c. An example of a lever is the _____.

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with corresponding teachers' manuals.
This series helps pupils to develop and apply process and content skills
as they explore and come to understand their environment.
Each pupil's book contains review exercises which
can be used to evaluate
pupils' progress.

'Science Around Us Book2'
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- Living and non-living things.
- Plant and animals.

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