South Sudan

Primary Science 3

Primary Science has been written and developed by Ministry of General Education and Instruction, Government of South Sudan in conjunction with Subjects experts. This course book provides a fun and practical approach to the subject of Science, and at the same time imparting life long skills to the pupils.

The book comprehensively covers the Primary 3 syllabus as developed by **Ministry of General Education and Instruction.**

Each year comprises of a Pupil's Book and teacher's Guide.

The Pupil's Books provide:

- Full coverage of the national syllabus.
- A strong grounding in the basics of Science.
- Clear presentation and explanation of learning points.
- A wide variety of practice exercises, often showing how Science can be applied to real-life situations.
- It provides opportunities for collaboration through group work activities.
- Stimulating illustrations.

All the courses in this primary series were developed by the Ministry of General Education and Instruction, Republic of South Sudan. The books have been designed to meet the primary school syllabus, and at the same time equiping the pupils with skills to fit in the modern day global society.

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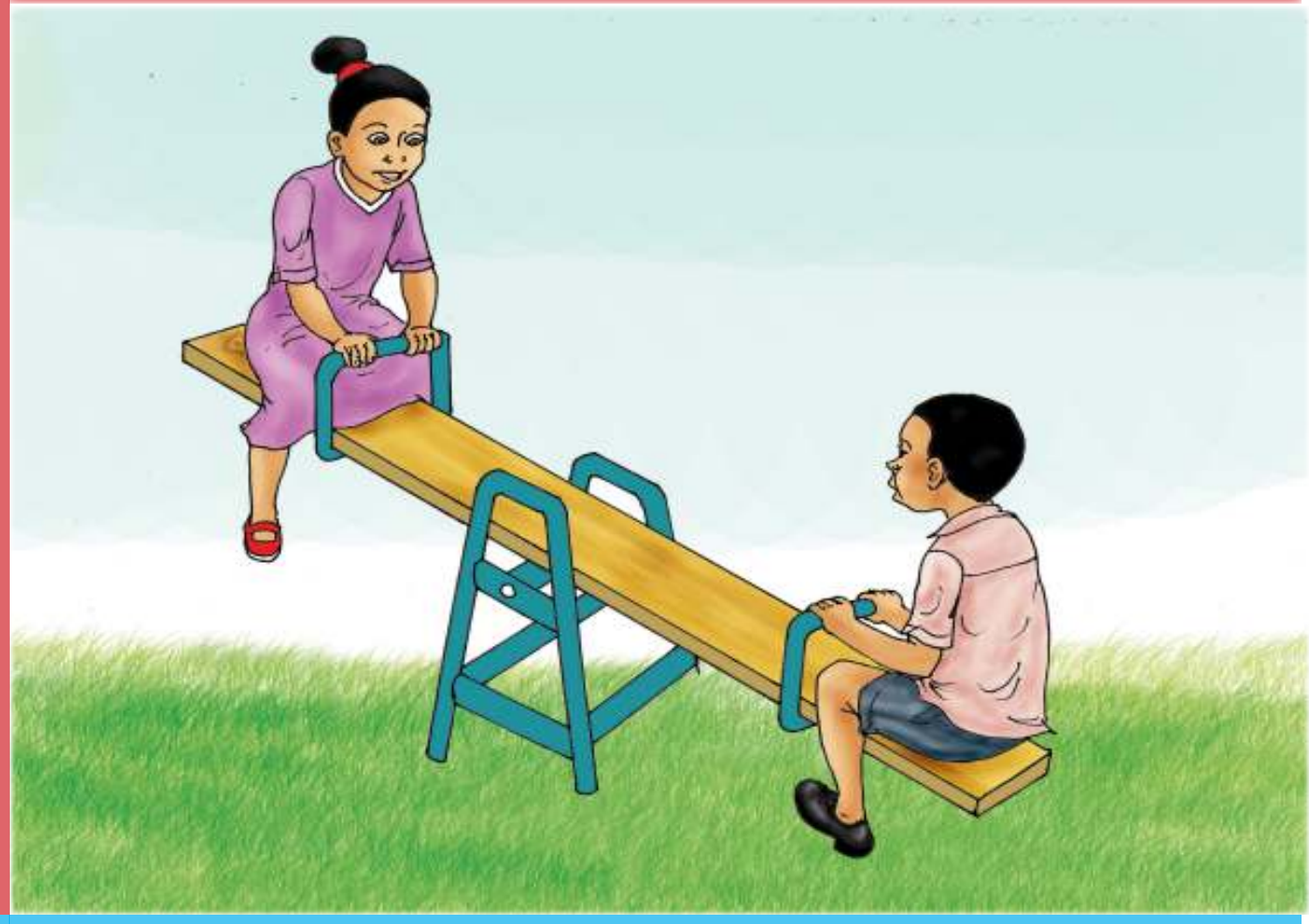
South Sudan

Primary Science 3

Pupil's Book



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South Sudan

PRIMARY
3

Science

Student's Book 3

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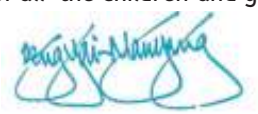
FOREWORD

I am delighted to present to you this textbook, which is developed by the Ministry of General Education and Instruction based on the new South Sudan National Curriculum. The National Curriculum is a learner-centered curriculum that aims to meet the needs and aspirations of the new nation. In particular, it aims to develop (a) Good citizens; (b) successful lifelong learners; (c) creative, active and productive individuals; and (d) Environmentally responsible members of our society. This textbook, like many others, has been designed to contribute to achievement of these noble aims. It has been revised thoroughly by our Subject Panels, is deemed to be fit for the purpose and has been recommended to me for approval. Therefore, I hereby grant my approval. This textbook shall be used to facilitate learning for learners in all schools of the Republic of South Sudan, except international schools, with effect from 4th February, 2019.

I am deeply grateful to the staff of the Ministry of General Education and Instruction, especially Mr Michael Lopuke Lotyam Longolio, the Undersecretary of the Ministry, the staff of the Curriculum Development Centre, under the supervision of Mr Omot Okony Olok, the Director General for Quality Assurance and Standards, the Subject Panelists, the Curriculum Foundation (UK), under the able leadership of Dr Brian Male, for providing professional guidance throughout the process of the development of National Curriculum and school textbooks for the Republic of South Sudan since 2013. I wish to thank UNICEF South Sudan for managing the project funded by the Global Partnership in Education so well and funding the development of the National Curriculum and the new textbooks. I am equally grateful for the support provided by Mr Tony Calderbank, the former Country Director of the British Council, South Sudan; Sir Richard Arden, Senior Education Advisor of DfID, South Sudan. I thank Longhorn and Mountain Top publishers in Kenya for working closely with the Ministry, the Subject Panels, UNICEF and the Curriculum Foundation UK to write the new textbooks. Finally, I thank the former Ministers of Education, Hon. Joseph Ukel Abango and Hon. Dr John Gai Nyuot Yoh, for supporting me, in my previous role as the Undersecretary of the Ministry, to lead the Technical Committee to develop and complete the consultations on the new National Curriculum Framework by 29 November 2013.

The Ministry of General Education and Instruction, Republic of South Sudan, is most grateful to all these key stakeholders for their overwhelming support to the design and development of this historic South Sudan National Curriculum. This historic reform in South Sudan's education system is intended to benefit the people of South Sudan, especially the children and youth and the future generations. It shall enhance the quality of education in the country to promote peace, justice, liberty and prosperity for all. I urge all Teachers to put this textbook to good use.

May God bless South Sudan. May He help our Teachers to inspire, educate and transform the lives of all the children and youth of South Sudan.



Deng Deng Hoc Yai, (Hon.)
Minister of General Education and Instruction, Republic of South Sudan

Table of contents

UNIT 1

Health habits

Words to learn

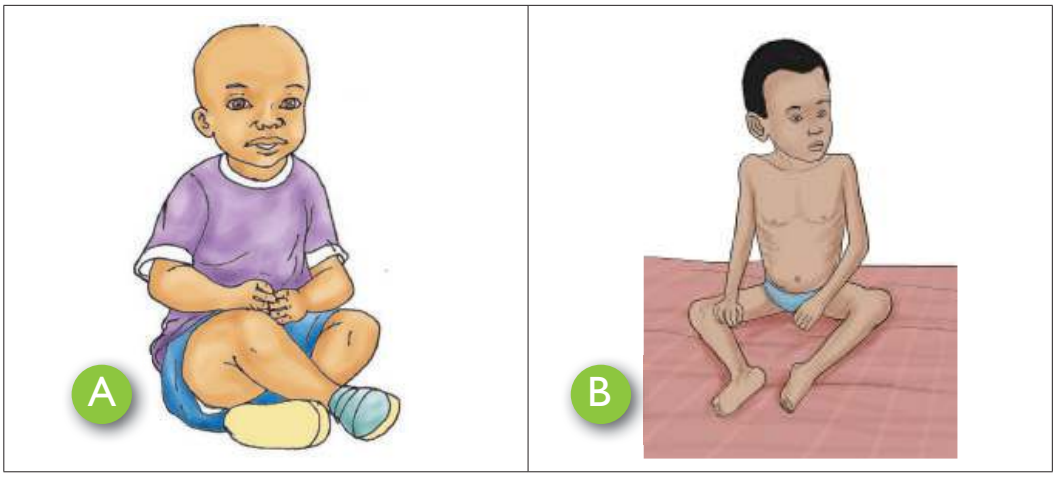
Energy, exercise, deficiency, detergent, soap, nutrient

Importance of food to our bodies

Before you came to school, you ate some food. Can you tell your friend the food that you ate? Do you eat the same food every day?

Let us talk

Look at the pictures below.



Which of the two children is healthy? Which one is unhealthy? What should the parents of unhealthy child do?

Learning point

Our bodies need food. Food gives us the energy to grow and develop, to be healthy and active, to move, to work, to play, to think and to learn. The food that we eat in the morning is **breakfast.** The food we eat at noon is **lunch** and the food we eat in the evening is **supper.**

Check your progress 1(a)

1. When we eat food we become _____. (healthy, unhealthy)
2. You are provided with the food below.








Come up with menu for a healthy day.

Foods we eat in the locality

Activity 1

Work in groups of four

What to do

1. Use the chart provided by your teacher to group food items according to colour, taste and smell.
2. Draw and colour food items found in the chart.
3. Use the chart to fill the table below. Draw the table in your exercise book.

Food eaten locally	Food grown locally
	

Learning point

Some of the foods that we eat from our locality are:

 Avocado	 Bananas	 Tomatoes
 Chicken	 Pawpaw	 Eggs
 Cabbage	 Cassava	 Glass of milk
 Peas	 Beans	 Meat

Local foods

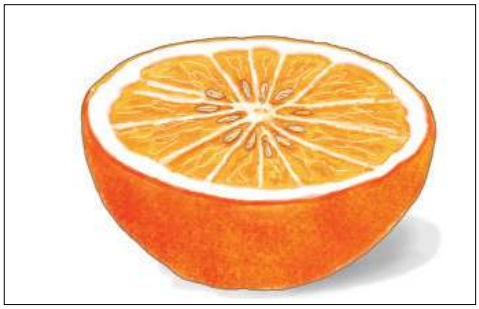
My health my life

You should avoid eating take away foods such as chips, chicken and bugger. They can cause diseases like obesity.

Check your progress 1(b)

1. Name and describe features of the foods drawn.

a) _____



b) _____

c) _____

d) _____

e) _____

Foods for body building and growth (Grow foods)

Activity 2

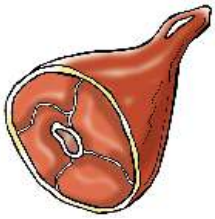
As a class

What to do

1. Collect a variety of foods.
2. Observe the foods.
3. Use the chart provided by your teacher to identify body-building foods.
4. Draw and colour the foods.

Learning point

Body building foods help us to **grow** and stay **healthy**. We are able to move, run, and exercise when we eat body building food. We get body building foods from a variety of animals and plant based foods. Examples of body building foods are:

 Chicken	 Eggs	 Lentils
 Beans	 Meat	 Glass of milk
	 Fish	

Body building foods

Check your progress 1(c)

1. Draw and name two body building foods from animals.
2. Draw and name two body building foods from plants.

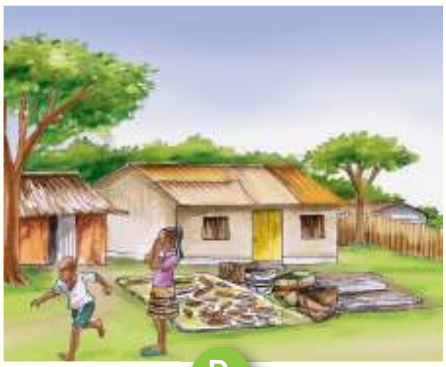
Foods for energy in movement, work and exercise (Go foods)

In our lives, we do many things.

Let us talk

Look at the pictures below.

A



B

C

D

Can you give other activities that we do at school and at home?

Role play different activities that you do at home and at school.

Learning point

The pictures above show some activities that we do in our lives. We work, play and study at home or at school.

We can work, play and study when we eat food that provide bodies with energy. When you do not eat enough energy containing foods, you will feel very tired when playing or working.

 Maize	 Posho	 Irish potatoes
 Cassava	 Sugarcane	 Rice
 Bread	 Yams	 Sweet potatoes

Energy giving foods

Check your progress 1(d)

1. Draw and colour three foods that give us energy.
2. Name three activities that you do at school.
3. Name three activities that you do at home.

Importance of exercises to our bodies

Activity 3

Work in groups of four

What to do

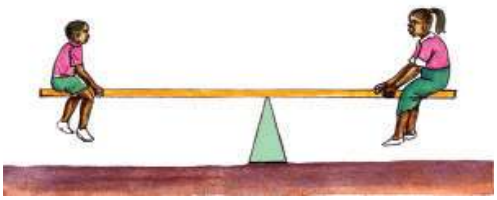
1. Your teacher will put you into different groups to play a game of your choice.
2. Play with your friends in the group.
   - How did you feel after playing?
   - What should you do after playing?

Learning point

Exercise is important to our bodies. Exercises help all the parts of the body. The exercises should not be difficult or too long for us. Exercises make us do our work well. They make our bodies stronger.

We regularly exercise by playing games. Some games that we play at school and at home are given below.

Remember! Exercise daily to remain physically fit.



Balancing on a seesaw

Skipping

Playing football

Dancing

Remember! We should have enough rest after exercising.

My health my life

You should exercise daily to be physically fit!

Check your progress 1(e)

1. Write **true** or **false**
   a. Exercises should be difficult.
   b. We should exercise more often.
   c Exercising make us become physically fit.
   d. Sleeping is an exercise.
2. Write two exercises that you like doing either at home or school.

Foods that help the body work well (Glow foods)

Activity 4

Individually

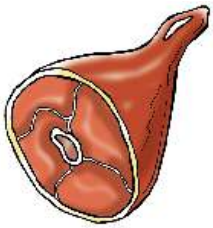
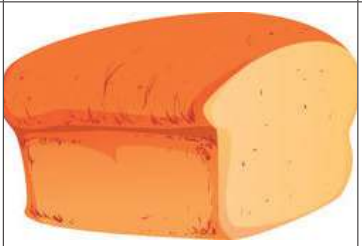
Your teacher will provide you with a chart containing different food.

What to do

Draw and label the foods in the chart.

Learning point

Some of the foods that help our body to grow well are given below.

 Cabbage	 Onions	 Tomatoes
 Pawpaw	 Chicken	 Milk
 Meat	 Fish	 Raw bananas
 Sweet potatoes	 Bread	

Deficiency (lack) of food

Let us talk

Look at the two pictures below. What can you see?

A

B

Say what is wrong with picture **B**.

Activity 5

Work in pairs

Recite the poem below

To stay healthy we should always eat good food.
You need apples, you need peas!
You need bananas and green beans!
You need lots of fruits and vegetables in your diet.

You need cereals, bread, rice and porridge!

They are all energy–giving foods!

You need food to make your body grow!

You need fish, meat and eggs!

Yes you need body–building foods to make you grow.

Answer the questions below

1. What did you learn from the poem?
2. Compose a similar poem replacing the foods described above with your favourite food.
3. Use the poem to fill the table below in your exercise book.

Healthy food	Tasty food

Learning point

All foods are important to the body. Lack of any of them may result in **diseases.** Eating all food helps us to keep our bodies healthy. A healthy person is not **sick,** able to **work,** is **strong** and is **happy.**

Check your progress 1(f)

1. Fruits and vegetables come from_____

2. Write if it is a fruit or a vegetable

 a) _____	 b) _____
 c) _____	 d) _____
 e) _____	 f) _____

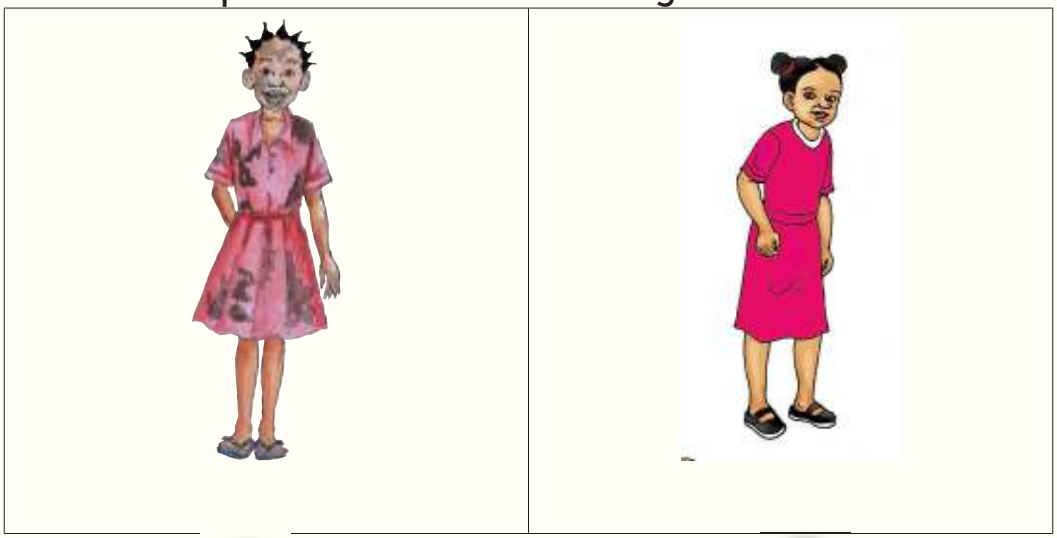
Advice !

We should drink at least eight glasses of water everyday!.

Importance of washing dirty clothes

Let us talk

Look at the pictures below. What do you see?



A

B

What should the girl in picture **A** do?

Learning point

The girl in picture **A** is putting on dirty clothes and sandals. The girl in picture **B** is putting on clean clothes and shoes. We should always put on clean clothes and clean shoes . When we put on clean clothes we look **smart** and **neat.** Dirty

clothes smell bad. Dirty clothes can also make us sick. After wearing clothes we should wash them.

What do we need when washing clothes? What should we do when washing clothes?

Activity 6

Cleaning school uniform

As a class

What you need

Clean water, soap, basin and pegs

What to do

1. Soak your school uniform in soapy water.
2. Using your hands, rub the school uniform to remove dirt.

3. Rinse the school uniform in clean water.

4. Hang them out on a clothesline using pegs to dry.

Learning point

Clothes become clean when they are washed. Clean clothes are free from germs that cause diseases. Clean clothes last longer and smell good. When we wear clean clothes, we look neat and smart.

Did you know!

If we put on clean clothes, we protect ourselves from diseases.

Check your progress 1(g)

1. Dirty clothes smell _____ (good, bad)
2. Name three items we use when washing clothes.
3. We wash clothes to remove_____

Types of soaps and detergents

Let us talk

Look at the pictures below. What do you see? Do you know with the things in the pictures?

A 	B 
C 	D 

Learning point

Picture **A** shows a bar soap, picture **B** shows a powder soap, picture **C** shows a bathing soap and picture **D** shows a liquid soap. Picture **A** and Picture **B** are used in washing clothes; they can also be used in washing utensils.Washing dirty clothes requires adequate clean water, detergents (solid or powdered soap) and washing materials.

Activity 7

Cleaning school uniform

Work in group of ten

What to do

1. Divide yourselves into groups.
2. One group to wash dirty clothes without a detergent.
3. The second group to wash dirty clothes with a powder soap.

4. The third group to wash dirty clothes with bar soap.
5. Change roles and wash again.
   - In which case was it easier to clean the clothes?

Learning point

Soaps and detergents help us to remove dirt from dirty clothes with ease. It becomes difficult to wash clothes without soap. Powder soaps are better in washing clothes than bar soap.

Check your progress 1(h)

1. _____ make it easy for us to wash clothes.

2. Which soaps are in the pictures below? What are they used for?

a) _____

b) _____

c) _____

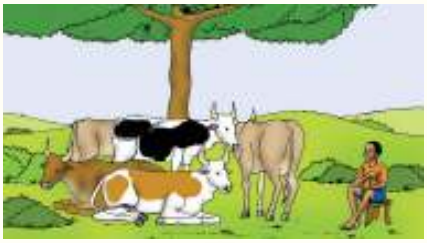
3. We should always wear _____ clothes. (clean, dirty)

Importance of rest and sleep

Let us talk

Look at the pictures below. Talk to your friend about what is going on in the pictures.

A



B

C

D

Learning point

Pictures above show some ways of resting after working or playing. Resting helps our bodies to regain energy in order to work or play next time. Young children need rest in order to grow. Getting enough sleep at the right time helps you work well throughout the day.

Activity 8

1. Write a list of activities that makes you tired. Share what you have written with your friend.

Learning point

Some of the tiring activities include:

 Playing	 Walking for a long distance
 Running	 Cleaning

Check your progress 1(i)

1. When we get tired, we _____.
2. Resting makes our bodies to _____. (feel pain, relax)
3. Name the various ways in which we rest.
4. When we get enough sleep, we are _____ in class. (active, inactive)
5. Copy and complete the table below in your execise book.

Most tiring activities	Least tiring activities

UNIT 2

Plants and animals

Words to learn

Environment, plant, land, habitat,

farm, seed, fruit,

Let us talk

Look around you. What can you see? Name them.

Learning point

When we look around us we see plants, animals, water bodies such as lakes and other things such as buildings. Common plants and animals that are found around us include:

		
Cow	Maize plant	Grasshopper

 Cat	 Dog	 Mango plant
 Butter fly	 Coconut plant	 Bee
 Bull	 Bean plant	 Tsetse fly

Name other plants and animals around you that are not listed above.

Check your progress 2(a)

1. Draw and name at least three animals and three plants you can see around you.
2. Using a table, list living and non-living things in your area.

Habitats of different plants and animals

Let us talk

Look at the pictures below. Name the things you can see?

A

B

C

D

Did you notice different places in which animals and plants above live? Can you name the places?

Learning point

Different animals and plants live in different places.

Examples of places where animals and plants live are:

a. Water

Some living organisms live in water. Water environments where plants and animals live are rivers, oceans, dams, lakes, ponds and swamps.

Activity 1

Work in group of five

What to do

1. Under parents or teachers guidance, visit a river, lake, fish pond, ocean, swamps or dam.
2. Name the animals and plants that live in those places.
3. Write them down in your exercise book.

Some of the plants and animals that live in water include:

 Fish	 Water hyacinth
 Lobster	 Seaweed
 Octopus	 Lotus

 Water lily	 Hippopotamus
 Frog	 Whale

Characteristics of plants and animals that live in water

Activity 2

1. Check activity 1 on page 29 can you remember the plants and animals that you saw.
2. Write down some of the observable features of the plants and animals.

Learning point

Plants that live in water have large and broad leaves.

Most of them have many leaves and floating flowers.

Animals that live in water have fins, gills and they are able to swim.

Check your progress 2(b)

1. Write two characteristics of plants that live in water.
2. Draw and name a plant that lives in water.
3. List observable features of animals that live in water.
4. Draw and name two animal that lives in water.

b. Land

We live on land. Land is made up of soil. We step on soil as we go to school. Depending on the location of the land, where we stay, land has different characteristics.

Activity 2

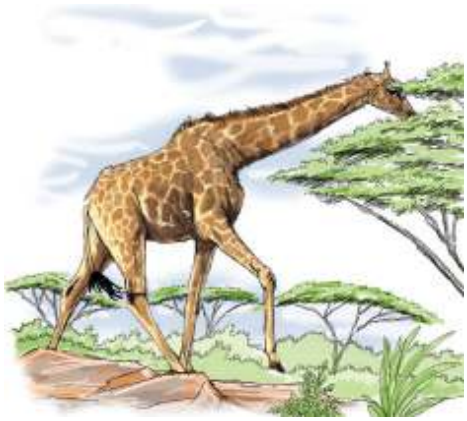
As a class

What to do

1. Go outside class and observe the plants and animals in their environment.
2. Back in class, group them as plants and animals found in gardens, farms, forests and bushes.
3. Draw and name plants found in different habitats.

Learning point

Some of the plants and animals found on land include:



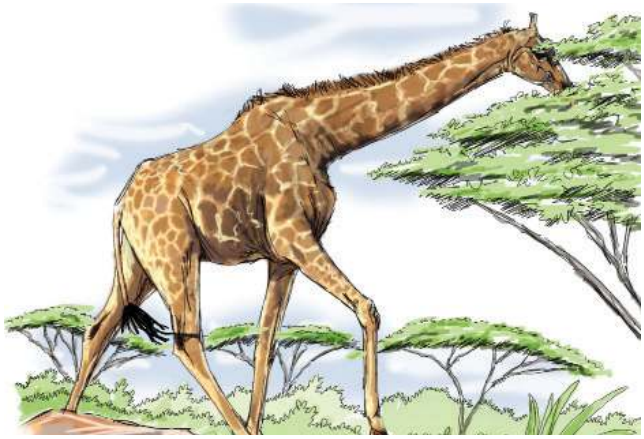
 Maize plant	 Beans plant
 Sunflower plant	 Coconut tree
 Cactus	 Mango
 Lion	 Gazelle

 Zebra	 Cheetah
 Cow	 Goat
 Dog	 Cat

Name other animals that are found on land that are not listed in the above pictures.

Characteristics of plants and animals found on land

Some animals that live on land have long necks to enable them to eat. Example is giraffe.



Giraffe

Others have Long legs enabling them to run while others have fur to keep them warm.

Baboons with fur on their body

Some of the animals such as lion has strong and sharp claws that catch and tear flesh from prey.

Activity 3

1. Go for natural walk.
2. Observe plants and animals around you.
   - What is common with plants around you?
   - What about animals around you?

Learning point

(i) Plants

- Have long roots because of need for water.
- Some plants have big leaves, others have small leaves.
- Some plants have very few leaves, some have many.
- Some plants have thick stems that are soft. Others have hard stems.

(ii) Animals

Some have long necks to enable them reach leaves high up on tree.

Check your progress 2(c)

1. Hippopotomus, baboon, lion, seaweed, fish, camel, water lily, whale, octopus, dog, goat, and lotus.

   (a) Use the table to group the above as either a plant that live on land or water.

   (b) Copy and fill the table below.

Animal that live on land	Animal that do not live on land

(iii) Forest

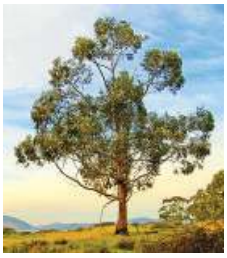
Activity 4

As a class

With the guidance of your teacher, visit a forest and identify plants and animals that live there. Draw and colour them in your exercise books.

Learning point

In the forest, there are many types of plants. Many animals also live in the forest. Some of the plants that are found in the forest are:

 Oak	 Liverworts
 Cactus	 Eucalyptus
 Lichens on a tree	 Mosses

Name other plants that are found in the forest that are not in the listed pictures.

On the other hand animal that are found in the forest are:

 Lions	 Monkey
 Buffallo	 Elephant

Name other animals found in the forest that are not in the pictures above.

Check your progress 2(d)

1. Draw two trees that grow in the forests.
2. Draw two wild animals that you know.

My environment my life

We should avoid polluting our land and water.

Fruits and seeds

Activity 5

1. Collect a variety of seeds and fruits.
2. With the guidance of your teacher, group fruits in one column and seeds together. Use a table like this.

Fruit	Seed

3. Draw and colour the fruits and seeds in your exercise book.

Learning point

We have a variety of fruits and seeds. They include:

Common fruits

 Orange	 Tomatoes	 Avocado
 Pineapple	 Mango	

Common seeds

 Beans	 Maize	 Groundnuts
 Millets	 Cashewnuts	

Check your progress 2(d)

1. Young plants grow from _____.
2. A mango fruit has _____ seeds.
3. Draw, name and colour 3 fruits.
4. Identify the seeds below.

a) _____

b) _____

c) _____

d) _____

UNIT 3

Using our senses

Words to learn

Senses, organs

The five senses

Let us talk

What are sense organs? How many are they? Can you draw all the sense organs?.

Learning point

The eye, ear, nose, tongue and skin are **sense organs.** Different sense organs helps in detecting different things around us:

- We use our eyes to **see**.
- We use our nose to **smell**.
- We use our skin to **touch** and **feel** things.
- We use our ears to **hear**.
- We use our tongue to **taste**.

Activity 1

As a class

1. Which sense do you think is the most important?
2. Write your answer and share your answer with your deskmate.

Learning point

Taste, smell, touch, sight and hearing are the five senses.
Our senses tell us about the world around us.
All the five senses are important to us.

Investigation using our senses

1. Sense of sight

Activity 2

What you need

- Pencil, pen, textbook, exercise booK, stick glue

Work in groups of four

What to do

1. Cover your eyes with your hands and identify the items above.
2. Now remove your hands and check if you identified them correctly.
3. Look at the shapes below.


- What colours are they?

4. Draw same shapes in your exercise book then colour them using different colours.
   - How were you able to detect the colour and shape of the pictures?

Learning point

Eyes are the sense organ of seeing. You are able to see the shapes and colours using your eye. Also identify the items correctly using eyes.

Eye

2. Sense of hearing

Activity 3

Work in groups of three

What you need

- A bell, a piece of clean cloth, flute, whistle and drum

What to do

1. Let one of the pupil ring a bell.
   - Did you hear the bell ring? What about others?
2. Cover the eyes of your friend with a clean piece of cloth.
3. Play the instruments provided above.
4. Ask your friend to say what they heard. Record the results in a table like this in your exercise book.

Instrument	Did your friend get it right
Flute	
Bell	
Whistle	
Drum	

5. Change roles and say what you heard as your friend records.
6. Try creating your own sounds using available instruments around.

Learning point

The ears are our organs of hearing.

Ear

Ears are found on the head. Whatever the ear hears is known as sound. **Sound** is produce by different objects. When you talk you produce sound. Different animals produce different sounds too.

3. Sense of taste

Activity 4

As a class

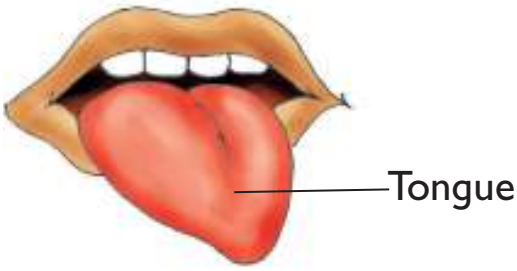
What to do

1. Come up with different items. Use the items to fill the table below in your exercise book .

Item	Taste				
	Sweat	Sour	Tasteless	Bitter	Salty

Learning point

Tongue is the sense organ for taste.



Mouth showing tongue

We use our tongue to tell if something is **sweet, bitter, salty** or **sour**. There are things which have no taste, as well. We say that they are **tasteless.**

4. Sense of smell

Activity 5

In pairs

Recite the poem below

If you smell,
You have got a nose,
I do not mean smell,
Like stinky toes,
Like what I meant,
Your nose knows smelling
It knows scent.....
Yes, noses! noses!.
What we use for sniffing things
Like smelly shoes...

Answer the questions below

1. Compose another poem with the theme 'Sense of smell'.
2. Copy the trend of the above poem.

Learning point

Nose

Nose is the sense organ of smell. It smells both bad and good things

5. Sense of touch or feeling

What organ do we use to feel things?

Activity 6

Work in pairs

What to do

1. Select different items from the chart provided by your teacher.
2. Use them to fill the table below in your exercise book.

Item	Texture					
	Hard	Hot	Soft	Rough	Smooth	Cold

Learning point

We use our skin to touch and feel things.

We can know about things by feeling them. For example:

- We can feel **hot** things.
- We can feel **cold** things.
- We can feel **smooth** things.
- We can feel **soft** things.
- We can feel **rough** things.
- We can feel **sharp** and **pointed** things.

Check your progress 3(a)

1. Match the sense organs with the correct sense.

Sense organ	Sense
 Eye	Taste
 Ear	Sight
 Nose	Touch
 Tongue	Smell

2. We feel with our _____

3. Copy and fill the table below in your exercise book.

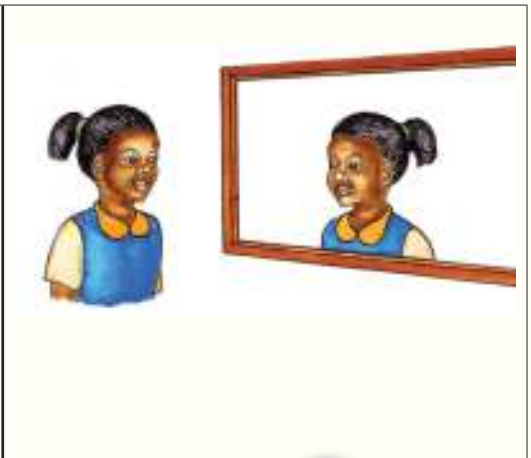
How it feel	object
Rough	
Hot	
Sharp	
Cold	
Smooth	
Hard	

Image formation

Let us talk

Look at the pictures below with a friend. What can you see?

A



B

In picture **B,** why is the girl able to see herself on the mirror?

Activity 7

Work in a group of four

What you need

- A shiny silver coin, cardboard, mirror and wall.

What to do

1. Hold the mirror up against the sun.
2. Move the mirror around.
3. Repeat this with soft board and shiny silver coin.
4. Observe and record the observation.
    - What did you find out about light by doing this experiment?

Learning point

Image is formed when there is bouncing back of light ray on a shinny surface.

Check your progress 3(b)

1. Write 3 sources of light.
2. The bouncing back of light is called _____.
3. _____ is formed when light is reflected.
4. Copy the table below in your exercise and tick in the right box.

Material	Reflects	Does not reflect
Still water surface		
Book		
Piece of cloth		
Polished metals		
Shiny mirror		
Coin		
Piece of wood		

Echoes

Let us talk

Try playing with the ball as shown below.

What happens? Now throw the ball against a wall. What happens?

Learning point

When the ball is thrown against the wall, it bounces back. This also happens, when the sound comes across a barrier such as a wall, it bounces back. This is the sound which follows after the first sound is heard. It is normally heard when the first sound has been reflected by a hard surface. This sound is known as **Echo**.

Activity 8

Work in pairs

What you need

- Wall

What to do

1. Stand in front of a large wall.
2. Clap your hands once at a time as you listen carefully.
   - Can you hear a second clap?
   - If yes, what has caused it?

Learning point

When you clap, the sound waves travel away from your hands in all directions. On reaching the wall, the waves are bounced back.

Therefore, echo refers to sound that bounces back when it encounters a **barrier.**

Check your progress 3(c)

1. An echo is heard when _____ reaches a hard surface and bounces back.
2. Write whether **true** or **false**
   a. An echo sounds the same as the original sound.
   b. Sound will be reflected when it hits a soft surface.
   c. Sound will be reflected when it hits a wall.

UNIT 4

Water

Words to learn

Solubility, dissolve, substance, solution, conserve, mixture, solute, solvent.

Dissolving solids in water to make solutions

Activity 1

Work in groups of four

What you need

Clear glasses, salt/sugar, stir stick/rod , water

What to do

1. Put some water in a glass.
2. Add some sugar/salt in the water.
3. After a while, stir.
4. Observe carefully what happens and discuss.

5. Record your observation.

   - What can you conclude from your observation?

Learning point

When sugar or salt is mixed with water and stirred well, the sugar or salt disappears. We say sugar or salt **dissolves** in water.

Check your progress 4(a)

1. Can rice be dissolved in water?
2. Which of the following substances, when mixed with water will dissolve

   (Rice, salt, coffee, sugar, sand flour)

Insoluble substances in water

Activity 2

Work in pairs

What you need

Clear glass, grains of rice/maize, flour/soil, rod/stick

What to do

1. Mix the following substances in a clear glass:

   Rice or maize and water

   Soil or flour and water
2. Stir the mixtures using a rod/stick.
3. Record observation in your exercise book.
4. Discuss what happens in every step.

Learning point

You may have observed that rice grains, maize grains, soil or flour did not dissolve in water. They settled at the bottom of the container. Solids that do not dissolve in water are called **insoluble substances.**

Check your progress 4(b)

1. Copy the puzzle in your note book. Identify common words used when dissolving substances in liquids. Example is shown in the puzzle.

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

Dissolving and disappearing

Activity 3

Work in groups of four

What you need

- Salt/sugar, clear glass, stirring rod.

What to do

1. You are provided with the above items.
2. Set up the apparatus to come up with something like the one shown in the picture below.

- Can you see the sugar/salt?

Learning point

While we may not be able to still see the substances like sugar or salt in water, it doesn't mean it has disappeared, it just means it has dissolved into the water.

The water becomes either salty or sugary, hence the salt/ sugar hasn't disappeared, it just dissolves and becomes part of water.

Check your progress 4(c)

Write whether **true** or **false**

i. Sugar disappears when you add it to water.

ii. Salt is visible when you add it to water.

iii. Salt added to water makes the water salty.

iv. You can taste sugar when you add it to milk.

Increasing solubility of substances in water

Activity 4

Work in groups of four

What you need

Sugar, water, two glasses, stirring rod

What to do

1. Pour equal amount of water in each glass.
2. Add equal amount of sugar.
3. In one of the glasses stir while the other one do not stir.

4. Observe and discuss.

Learning point

Stirring speeds up the dissolving process because it helps distribute the solute particles throughout the solvent.

When you add sugar to water or tea, and then stir the water, the sugar will dissolve faster. If you do not stir the tea, the sugar may eventually dissolve, but it will take longer.

How hot water makes a difference to dissolving

Activity 5

Work in groups of five

What you need

Cold water, hot water, two containers, stir stick, salt

What to do

1. Fill one container with cold water and another with hot water.
2. Add equal amount of salt in each container. Stir in enough salt leaving excess salt undissolved.
3. Stir both containers for a short time.
4. Observe and discuss findings of both containers.

Learning point

Salt dissolves faster in hot water, than it does in cold water.

Solubility of a substance is increased when the solvent is hot.

Uses of water at home

Let us talk

Look at the pictures below. What can you see?

Can you mention other ways in which water is used that is not in the pictures above?

Learning point

The pictures above show some ways in which water is used. Others uses include:

Cooking

Washing

Drinking

Ways of conserving water

Let us talk

Look at the pictures below. What can you see?

A

B

Learning point

Picture **A** shows harvesting of rain water and storing it in a water tank. Picture **B** shows water stored in a dam. These are examples of ways in which we can conserve water. You can also conserve water by:

- Reusing water used in washing clothes to clean latrine and bathroom.
- Reusing water used in cleaning utensils to mop the house.
- Reusing water used in mopping the house to irrigate kitchen garden.
- Closing running taps and fixing leaking taps and pipes.

Check your progress 4(d)

1. Draw three ways in which we can store water.
2. Copy the following sentences in your exercise books. **tick** where water is used well and a **cross** where it is not.
   i. A tap left running and water is overflowing.
   ii. Harvesting rain water.
   iii. Leaking pipe.
   iv. A boy brushing teeth.
3. List down ways in which we can reuse water at home.

UNIT 5

Weather and wind

Words to learn

Temperature, weather, sunny, rain cloudy, wind, forecast.

Weather changes

Today's Weather

Let us talk

Look outside at the weather. Talk to your friend about the weather today. Is it the same as yesterday's?

In which weather does the school flag fly?

In which weather do clothes dry?

Learning point

Weather refers to the day to day changes in the atmosphere. The weather is not always the same. The changes may be described as:

 Sunny	 Cloudy	 Windy
 Rainy	 Calm	

Activity 1

As a class

Recite the poem below.

Whatever the weather.
We have it each day.
It's hot or it's cold,
Or it's sunny or rainy,
It's windy or calm,
There is some kind of weather,
Each day of the year!

Answer this question

1. What do you learn from the poem?
2. Come up with a poem of the same type that include different days of the weak.

Learning point

A change in weather influences our daily activities. We also dress according to different weather. Some of the activities influenced by weather include:

 Puttting on a short and vest on a sunny day	 Using an umbrella when its raining
 Flying a kite under influence of wind	 Putting on warm clothes

Check your progress 5(a)

1. We see the sun during the _____
2. Match the weather symbols with their names correctly.

Weather symbol	Name
a) 	Calm
b) 	Rainy
c) 	Cloudy
d) 	Windy
e) 	Sunny

3. Name three types of clothes we wear on a cold day and during a hot day.
4. The best day to fly a kite is when the weather is _____.
5. When it is rainy we cover ourselves with _____.

Air pressure

Activity 2

In pairs

What you need

Balloons, balls

What to do

1. Blow air into a balloon and hold the neck tightly

2. Put the balloon in front of your face an release the neck.
   - What do you feel?
3. Put air in the balloon.
4. Release the baloon and observe how far it will travel.

Learning point

When you release a balloon full of air onto your face, you will feel some force from the balloon. This shows that air exerts pressure. We inflate a balloon with air. Air is a a mixture of different gases. A balloon will burst if too much air is inflated into it. Baloon will burst because the air in it is at higher pressure than its surrounding.

Check your progress 5(b)

1. We inflate balloons with _____
2. What causes bursting of the baloons?

Recording weather changes

Activity 3

Work in pairs

What to do

1. Your teacher will help you to make a wall chart on a hard paper.
2. Use weather symbols to show the weather conditions for each day of the week.

Mon	Tue	Wed	Thur	Fri

Learning point

We use table to record different weather condition. Different weather symbols are used.

Check your progress 5(c)

At the end of the week, answer the following questions

i. What kind of weather did you see the most? The least?

ii. What other kinds of weather could you have seen?

iii. How many days did it rain?

iv. How many days had the same kind of weather?

v. How many days had more than one kind of weather?

vi. Predict the weather for next week, monitor it and then note down the accuracy of predictions.

UNIT 6

Simple machines

Words to learn

Lever, wheelbarrow, load

Let us talk

Look at the pictures below. What is going on in each picture?

A

B

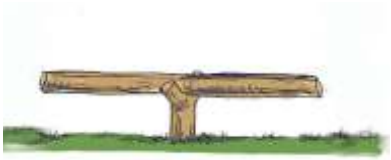
Whose work is easier?

Learning point

In picture **A,** the boy finds it difficult to transport sack of potatoes, in picture **B,** it is easy for the girl to transport sack of potatoes. The girl in picture **B** is using a simple machine which is the wheelbarrow.

A simple machine enables people to do work with less effort and faster.

Examples of simple machines include:

 Wheelbarrow	 Hammer
 Screwdriver	 Spade
 Seesaw	 Spanner

Constructing simple levers

Activity 1

Work in groups of four

What you need

Match box, ruler, and matchstick

What to do

1. Place the matchbox on its side. Try to balance your ruler on it.
2. Place the ruler so that it balances. Now place one matchstick near each end of the ruler. Does it still balance?
3. Add matchstick to one side of the ruler only. Keep adding until the ruler falls.

Learning point

This activity helps to know how to balance. Balancing is very important in our daily lives.

Activity 2

Work in pairs

What you need

50 centimetre ruler

What to do

1. Try balancing the ruler as shown below.
   - Did you manage to balance it

Learning point

From this activity we learn how to make a seesaw. We use seesaw in our daily lives.

Name ways in which seesaw is used in our daily lives.

Activity 3

Work in pairs

What you need

Bottle tops, stones, nails, box, sticks, string

What to do

1. Use a nail and stone to make holes at the center of the bottle.
2. Fix the sticks in the box using the bottle tops.
3. Tie a string and pull your cart along like this.

Learning point

From this activity, you learn how to make wheels. Wheels make work easier. Things using wheels move easily. Wheels are used in

 Car	 Motorbike
 Bicycle	 Wheelbarrow

 Bus	 Lorry
 Aeroplane	 Handcart

Name other things made of wheels that are not in the pictures above.

Check your progress 6(a)

1. Name three simple machine and mention how they make work easier.
2. Which simple machine can you make when provided with: bottle tops, stone, nails, box, sticks and strings?
3. A car has _____wheels.
4. Name three ways in which a seesaw can be used.