

South Sudan

GRADE

2

**COMMUNITY GIRLS
SCHOOL SCIENCE**

GRADE 2

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FOREWORD

I am delighted to write the foreword for this book. The Ministry of General Education and Instruction (MoGE&I) has developed the Community Girls School (CGS) textbooks based on the National Curriculum of South Sudan.

The textbook was written to help learners develop the background knowledge and understanding in the subject. It is intended largely to serve as a source of knowledge and understanding of the subject concerned, but not to be considered as a summary of what learners ought to study.

The National Curriculum is a competency based and learner-centered that aims to meet the educational needs and aspirations of the people of South Sudan. Its aims are manifold: (a) Good citizenship (b) successful lifelong learners, (c) creative, active and productive individuals; and (d) Environmentally responsible members of our society.

This textbook was designed by subject panelists to promote the learners' attainment of the following competencies; critical and creative thinking, communication, co-operation, culture and identity.

No one can write a book of this kind without support from colleagues, friends and family. Therefore, I am pleased to register my thanks to Dr Kuyok Abol Kuyok, the Undersecretary of the Ministry, who emphasized the importance of Alternative Education System (AES) and approved the development of its textbooks.

I also want to record my thanks to Ustaz Omot Okony Olok, the Director General for Curriculum Development Centre (CDC) and Ustaz Shadrack Chol Stephen, the Director General for Alternative Education Systems (AES) who worked tirelessly with the subject panelists to develop the textbooks.

Lastly, but not least, my greatest thanks and appreciation must go to the Global Partnership for Education (GPE) and UNICEF-South Sudan for without their support and partnership this textbook would not have seen light.



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Words to learn

Senses, organs

1.1 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

I. Sense of sight



Activity 2

What you need

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

Work in groups of four



What to do



I.2 Senses



Activity I

Individually



1. Identify sense organs from the picture above.
2. Draw the sense organs and give their functions.

Learning point

Sense is the way we know our surrounding. Our senses enable us to see, feel, hear, smell and taste.



Check your progress 3(a)

1. I can tell what is being cooked by _____ with my _____.
2. I can tell what is in my pocket by _____ using my _____.
3. I can tell there is no sugar in my tea by _____ with my _____.
4. I can hear the bell ringing using my _____.
5. When I look outside, I can _____ the sky using my _____.

1.3 Sense of smell



Activity 2

In pairs



1. Name the part of the body the girl in the picture below is pointing at.
 - What is its function?



What you need

Ripe banana, oranges, perfume, onions, pineapple, lemons, hair oil, lotions, pawpaws, rotten eggs, spoilt food and a piece of cloth for blindfolding.



What to do

1. Blindfold your partner.
2. Let the blindfolded partner smell the assorted items.



3. Let him or her say the name of the item by just smelling.

Learning point

We use our nose to smell things. Things can smell good, bad or can be without any smell.

Remember!

We should not smell items directly.



Fun corner

Name things that do not have any smell.

I.4.Sense of sight



Activity 3

Individually



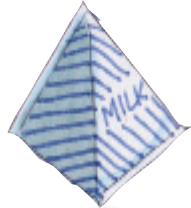
1. Look at the pictures below.



A



B



C



D



E



F



G



What to do

1. Which colours can you identify from the displayed items?
2. Copy and fill in the table below in your notebook.

	Colour of item	Name of the item
a	Green	Unripe banana, grass, etc



b		
c		
d		
e		
f		
g		

Learning point

We are able to identify things of different colours through seeing.
Our eyes are also able to see things that are near and far.



Fun corner

Go outside the classroom and play a game of observing things.

- Are there classmates who are not able to see clearly?



Check your progress 3(b)

1. Name three items that you can identify from their smell only.

a. _____

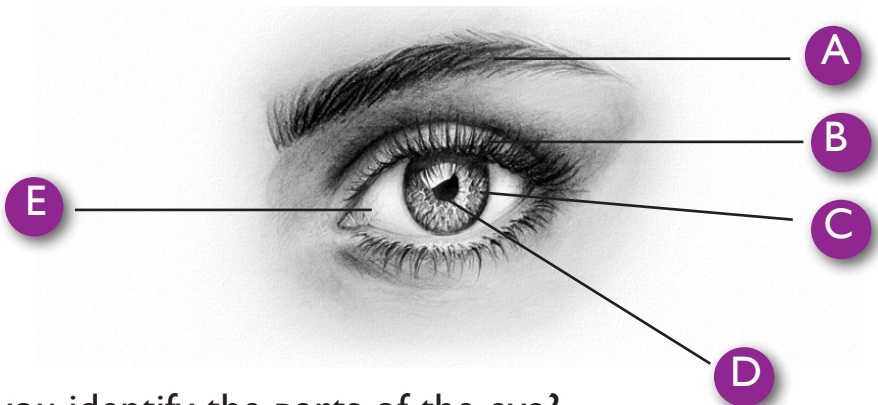
- b. _____
- c. _____
2. Name two items in the classroom that smell bad.
- a. _____
- b. _____
3. People who cannot see are known as _____.
4. People who cannot see well are given _____ by the doctor.
5. Things closer to me appear _____ while things far away appear _____.

Parts of an eye



Activity 4

In pairs



Can you identify the parts of the eye?





Fun corner

1. Turn to your friend. Look at their eyes closely. What is the colour of their eyes? How many parts can you see?
2. With your friend, take turns in blindfolding each other. Let your friend give you directions to follow. Try walking around the class with your eyes blindfolded. Is it easy to find your way?



Check your progress 3(c)

1. Say if each statement is true or false.
 - a. Light enters the eye through the nose.
 - b. We have three eyes.
 - c. The eyeball is the white part of the eye.
 - d. We should not rub our eyes when they itch.
2. Talk to your friend about true or false statements about the sense of sight.

I.5 Sense of hearing



Activity 5

As a class



What you need

A bell

What to do

1. Let one learner, go outside the classroom and ring the bell.



2. Try to cover your ears and listen. Can you hear any sound? Uncover your ears. Can you hear the sound?

Learning point

We hear sounds around us using our ears. When ears are covered we cannot hear any sound.



I.6 Sense of touch



Activity 6

In pairs



What you need



A pumice stone



What to do

1. Touch your friends using your bare hands then touch them using a pumice stone.
2. Can you tell the difference in the feel? Which one is rough?
 - What part of your body did you feel the touch?

Learning point

Our bodies are covered by **skin**. When one touches us we feel it through our skin.

Remember!

Some body parts are sensitive to touch.





Check your progress 3(d)

1. Which body parts are sensitive to touch?
 - a. _____
 - b. _____
2. Say if each statement is true or false.
 - a. The sense organ for touch is hands.
 - b. We should listen to loud music everytime.

1.7 Sense of tasting



Activity 7

In groups



What you need

Sugar, lemon, pepper, ripe mango or banana and honey.



What to do

In groups, taste the items above. Copy and fill in the table on the next page with your findings.



	Item	How it tastes	Name other items with the same taste
1			
2			
3			
4			

Remember!

To wash your hands and the foods properly before tasting.

Learning point

We use the tongue to taste different types of food.



Check your progress 3(e)

1. What is the taste of clean water?
2. How do tears taste?
3. My sweat tastes.



I.8 Sounds of different pitches



Activity 8

In groups



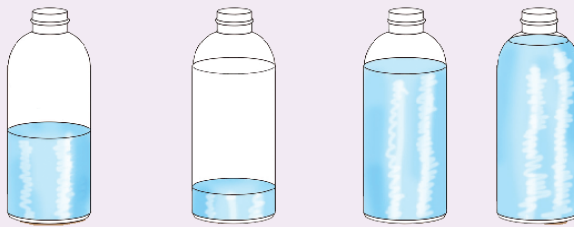
What you need

Plastic bottles, water, sticks, whistle.



What to do

1. Come up with bottles which have different sounds when they are blown into.
2. Did you come up with something as shown below?

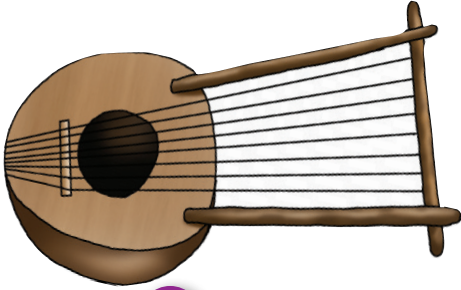


3. Blow each bottle one at a time.
 - Which one produced the lowest sound?
 - Which one produced the highest sound?
 - Arrange the bottles from the one with the highest sound to the lowest.
4. Blow a whistle then clap your hands.
 - What kind of sound is produced?
5. Compare all the sounds produced.

Learning point

Sound is produced when items are hit, plucked, blown or shaken. The sound produced can either be high or low. This is called **pitch**.

- How do the items below produce sound?



A



B



Fun corner

Using small stones and tin containers, make a shaker.



Check your progress 3(f)

1. Match correctly

	Instrument	Produces sound when
1	Shaker	Hit
2	Drum	Keys are pressed
3	Guitar	Shaken
4	Violin	Plucked
5	Piano	Blown





Activity 9

As a class



What you need

Empty room



What to do

1. Take out all the desks and chairs in the class room.
2. Go back to the classroom one by one and speak.

What did you hear?

Learning point

The bouncing back of sound in an empty room is known as an **echo**.



Check your progress 3(g)

1. Clapping your hands in an empty room produces _____.
2. Sound is produced when we _____ an object (hit, throw).

I.9 Shadow formation



Activity 10

In groups



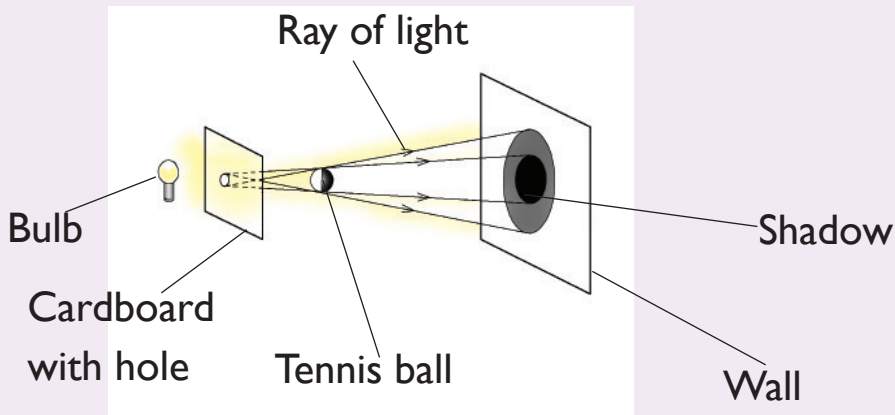
What you need

Torch or bulb, tennis ball, cardboard and pencil



What to do

1. Light a torch or bulb then place the tennis ball in front of the rays of light of the torch or bulb as shown below.



2. Observe what happens.

Learning point

When an object is placed in front of light, a **shadow** is formed.



I.10 Shadows at different times of the day



Activity 11

In pairs



What you need

Ruler



What to do

1. In the morning, measure the shadow of your partner.



2. Mark the position of the shadow and its length.
3. At lunch time, mark the position of the shadow and its length.
4. In the afternoon repeat the above exercise.
 - What did you find out?

Learning point

Shadows are formed in the presence of light. Glasses do not form shadows because they are clear.



Check your progress 3(h)

1. Shadows are formed when something blocks the path of _____.
2. _____ materials do not form shadows.
3. Light helps us to _____ shadows.

Work in pairs



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

- We feel with our _____
- Copy and fill the table below in your exercise book.

How it feel	object
Rough	
Hot	
Sharp	
Cold	
Smooth	
Hard	

1.1 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 shiny surface.



Check your progress I (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		

Words to learn

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

2.1 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 week.

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:



Putting on a short and vest on a sunny day



Using an umbrella when it is raining



Flying a kite under influence of wind








Putting on warm clothes



Check your progress 2(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

2.2 How animals respond to different weather conditions

Animals too are able to sense weather changes.

(a) How animals behave on rainy days



Activity 9

In pairs



1. Talk to your friend about:
 - How animals behave during the rainy season.
 - Where animals go when it is raining.

Learning point

On rainy days, animals hide in caves, holes, nests, under

shades and others go to their houses.

(b) How animals behave on a sunny day.

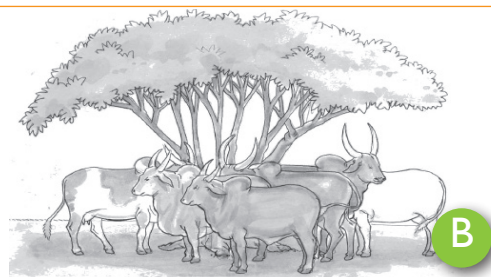


Activity 10

In pairs



Talk to your friend about what the animals in the pictures below are doing.



- Why is the crocodile laying in the sun? Which other animals bask under the sun?
- What are the cattle doing under the shade?

Learning point

When it is sunny, animals bask under the sun. When it gets hot they hide under a shade.

Animals also drink water from rivers and ponds to cool off.

Others roll on water to cool themselves.

(c) How animals behave on a cold day



Activity 11

In pairs



1. Talk to a friend about the pictures below.



A



B

- Why are the animals close together in A?
- Why do chickens have feathers on their bodies?

Learning point

On a cold day, animals stay closely together to produce heat.

Animal bodies contain fur or feathers to protect them from cold.

How plants respond to different weather changes

Look at the trees outside during different weathers conditions. What happens to the trees when it is sunny? How about when it is windy? Now look at the pictures below. Talk to a friend. What can you see?

Learning point

When it is windy, trees move from side to side.



Check your progress 4(c)

d.

1. Say if these statements are true or false.
 - a. When it is too hot animals look for water to cool off.
 - b. Animals hide under shades when it is too hot.
 - c. When it starts raining animals hide under sheds.
 - d. Plants fold their leaves when it gets hot.

2.3 Air



Activity 13

Individually



What you need

Balloons



What to do

1. Take a balloon.
2. Blow air in it.
 - What has happened to the balloon?
 - What does it contain?



Making a kite



Activity 14

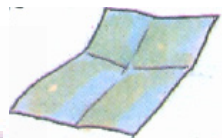
What you need



straws or
light sticks



thread



plastic paper




string

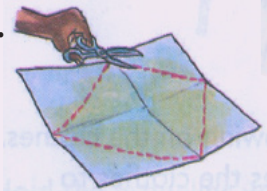
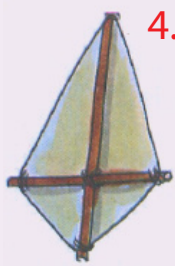



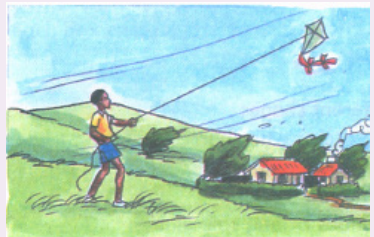
cloth
ribbon



What to do

1. Tie the two straws or sticks with a string tightly to make a frame.


frame.
2. Draw the shape of a kite on the plastic paper.
3. Cut the paper along the lines.

4. Put the frame on the paper. Tie the paper to the frame with the thread.

5. Tie a long string to the frame and a cloth ribbon for the tail.


kite
6. Go outside the classroom and fly your kite as shown.


What makes the kite to stay up?

Learning point

We cannot see air with our eyes. We only feel it passing.

We also get to know there is air when we see trees and other objects around us moving from one point to another.

Effects of moving air



Activity 15

Individually



1. What is happening in the pictures below?



2. What are the effects of moving air?

Learning point

Moving air is important, it helps in:

- drying clothes.
- separating chaff from grains.
- producing electricity.

Moving air is called wind. It is also bad because it:

- destroys trees and houses.
- blows away soil.



Check your progress 4(d)

1. Moving air enables us to _____ and _____.
2. How do we tell there is air around us?
3. Clothes dry faster when the weather is _____.



Activity 16

Which animals are likely to fly? What makes them fly?

A



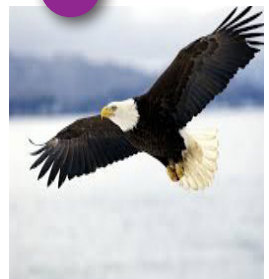
B



C



D



Learning point

All birds fly except the ostrich. Birds fly because they have wings. Animals that do not have wings cannot fly.



Check your progress 4(e)

1. Copy and fill the table correctly in your notebooks.

	Animals that fly	Animals that do not fly
a		
b		
c		
d		

2. What makes an eagle to fly and an ostrich not to fly?
3. How many wings do birds have?

2.4 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.

3.1 Types of soil

Soil is everywhere, in our gardens, along the road, in the school compound and even along river banks.



Activity 1

What you need

Soil from different places, sheets of paper, hand lens



What to do

1. Your teacher will help you to collect soil from different places such as:
 - a garden,
 - a dry river bed or a river bank,
 - along the road.
2. Place the soils from these different places on pieces of paper.
3. Look at the different soils carefully.
Are the soils of the same colour?
4. Rub each soil between your fingers.
 - Which soil feels rough?
 - Which soil feels smooth?
 - Are the soil particles big or small?
 - Which soil has the biggest particles?
 - Which soil has the smallest particles?

Learning point

There are three types of soil. These are loam, clay and sand.



Loam soil



Clay soil



Sand soil



Fun corner

Read aloud.

My name is Mr Soil,
I have two daughters and one son.
My first born is clay,
She is grey in colour,
She lives near river banks,
She has small particles.
My second born is loam,
He lives in the garden,
He has medium sized particles.
My last born is sand,
She has large particles,
She lives along the roads.





Activity 2

Find out which type of soil is most common in your home area?

Remember

We need to take care of the soil because we plant crops in it.

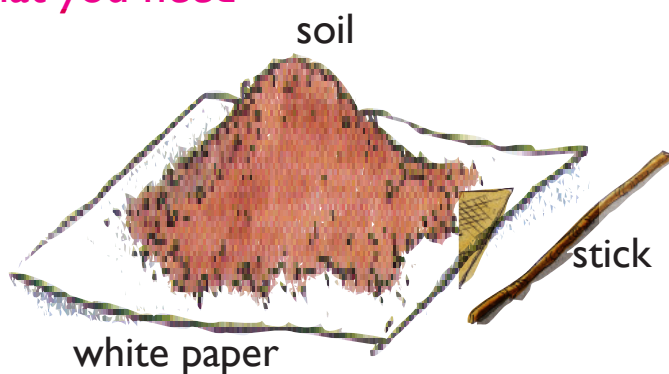
3.2 Soil composition

(a) Things in the soil



Activity 3

What you need





What to do

1. Collect some soil and bring it to class.
2. Put it on a piece of white paper.
3. Using a stick, turn the soil about.
 - What do you see in the soil?
4. Write down all the different things that you see in the soil.

(b) Organic matter in soil

Where do you put waste materials at your home?



Activity 4

What you need

A hoe, a stick and rubbish pit



What to do

With your teacher, visit a rubbish pit in your school or near your school.

1. Get a hoe or stick.
2. Turn the rotting rubbish in the rubbish pit.



- What things do you see there?
 - How is the smell of the rotting plants and animals?
 - What is the colour of the rotting plants and animals?
3. Take some soil from the rubbish pit and some soil from a garden and compare their:
- colour.
 - smell.

Learning point

The things that are found in a rubbish pit are made up of dead plant and animal materials. They are called **humus**. Humus is black in colour.



(c) Air in soil



Activity 5

What you need

A clear glass, some water and a lump of soil.

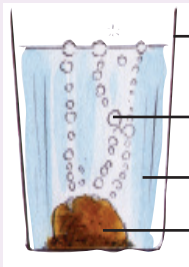


What to do

1. Half-fill the glass with water.
2. Gently drop a lump of soil in the water.
3. Observe what happens.

You may have noticed bubbles coming out.

- Where do the bubbles come from?
- What do we learn from this activity?



glass

bubbles

water

soil

Learning point

Soil has air. This air is needed by plants and animals.

(d) Water in soil



Activity 6

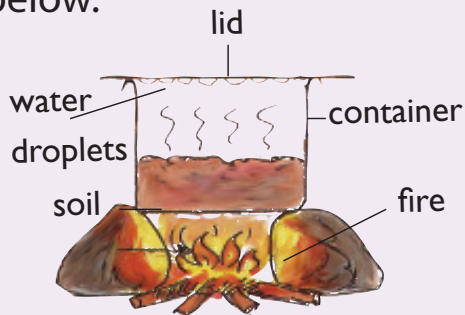
What you need

A container with a lid, a source of heat, sample of soil



What to do

1. Put the soil in the container. Cover the container with a lid.
2. Heat the sample of soil in the container as shown in the diagram below.



3. After sometime open the lid.
 - What can you see on the underside of the lid. What does this show about soil?
 - Where do the water droplets come from?
 - What do we learn from the activity above?

Learning point

Soil contains water.



Check your progress 3(a)

1. Why is clay soil the best for modelling?
2. Humus are _____ materials from plants and animals.
3. Some types of cups and plates are made from _____ soil.
4. Which soil is found in the garden?

3.2 Soil structure



Activity 7

As a class



What you need

Notebooks, pens and pencils



What to do

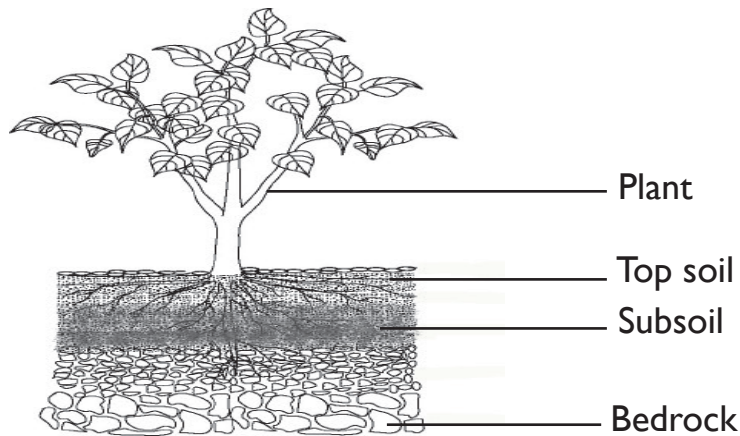
1. Your teacher will organise a visit to a dug up area or a pit.



2. Observe the soil layers.
3. Look closely at the way the soil is arranged.
 - How many layers did you see?
 - What is the colour of each layer?
4. Record your observation in your notebook.

Learning point

Soil has different layers arranged from the bottom to the top. The big stones at the bottom eventually form soil.



Check your progress 3(b)

1. Between the soil particles there are spaces. These spaces are occupied by _____.
2. Before organic matter becomes humus it has to _____ first.
3. The air in the soil is used by _____.

3.3 Importance of soil



Activity 8

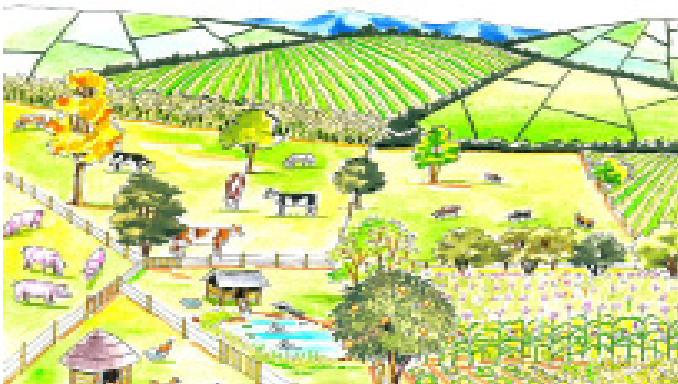
In pairs



A



B



C

1. What is used to make the wall of house in picture A and things in picture B?
2. Where do you think plant roots get food and water from in picture C?
 - Why do we grow crops in soil?

Learning point

- Soil is used for building and construction.
- Soil provides trees with water and mineral salts.



Check your progress 3(c)

1. Draw two things made from soil that you use at home.
2. How do we use these kinds of soil?
 - a. Loam soil _____
 - b. Clay soil _____
 - c. Sand soil _____

We use tools and machines to make work easier. Some of these tools and machines have wheels or rollers.

4.1 Rollers



Activity 1

In pairs



A



B



Compare the amount of work to be done in picture A and B.

Learning point

Rollers make it easier for us to push or pull things.

4.2 Making and using rollers



Activity 2

What you need



sticks



a box



bottle caps



hammer



nail

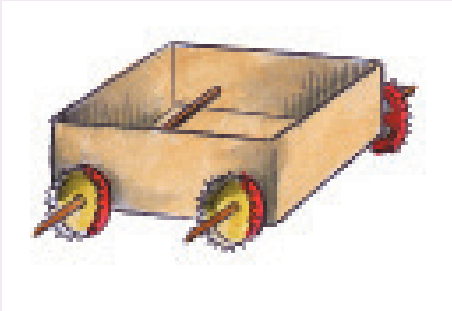
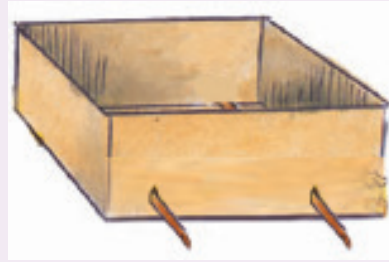


What to do



1. Use a nail to make holes at the centre of every bottle top. Then make four holes on the box.

2. Fix the sticks into the holes on the box.



3. Now, fix the bottle tops with holes on to the sticks to form a cart.

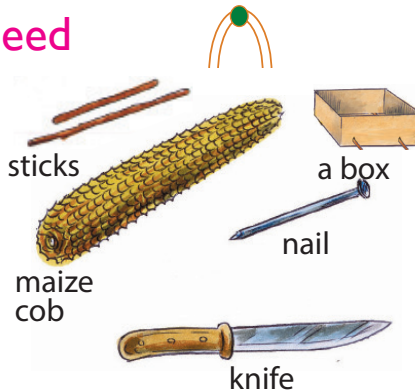
4. Tie a string and pull your toy cart along as in the picture alongside.





Activity 3

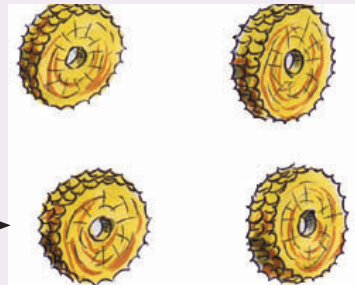
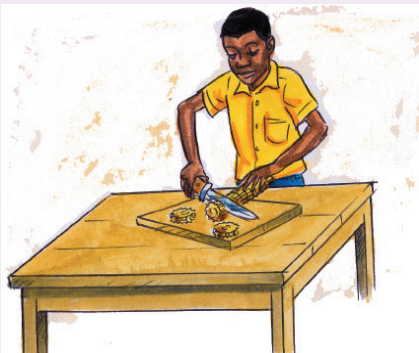
What you need



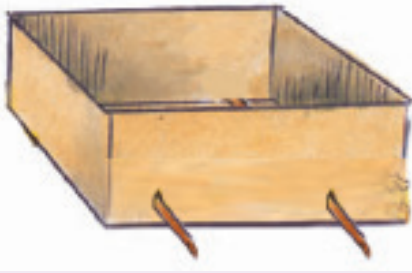
Caution: Be careful when using the knife. It can cut!



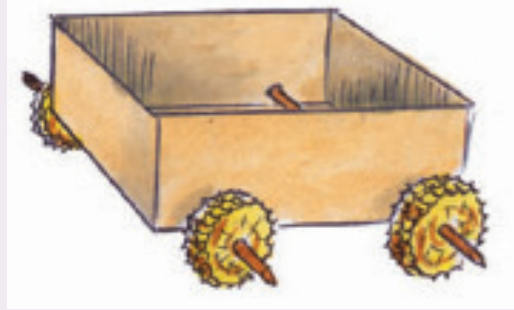
What to do



1. Cut the wheels from the maize cob as shown above.
2. Use a nail to make holes at the centre of the cut maize cob wheels. Then make four holes on the box.
3. Fix the sticks into the box as shown below.



4. Fit wheels onto the sticks like this to form a cart.



5. Tie a string and pull your toy cart along.



Activity 4

What you need



What to do



Long wires

1. Bend a long wire to make wheels as shown below.



2. Bend another wire to make a steering wheel.



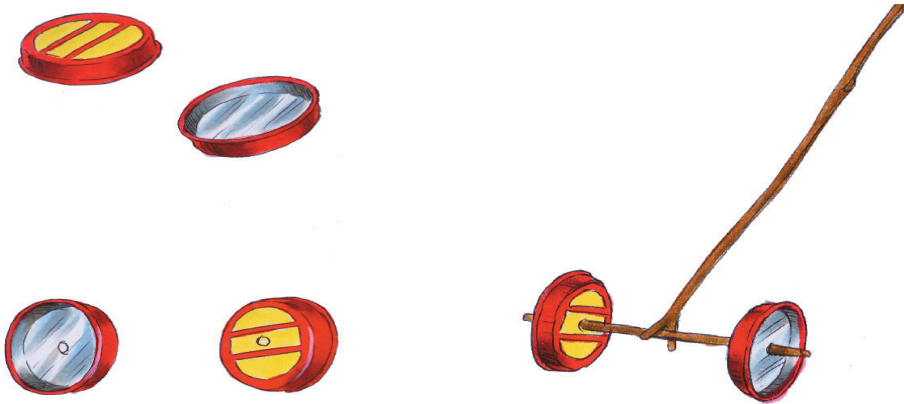
3. Use other wires to make a toy car. Fix the steering wheel onto the toy car.



4. Now, use the steering wheel to push the toy car as shown.

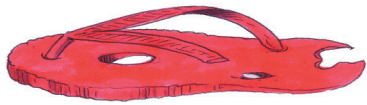
Other things used to make rollers

1. We can make wheels from shoe polish tins.

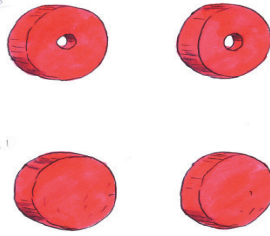


Toy car made from shoe polish tins

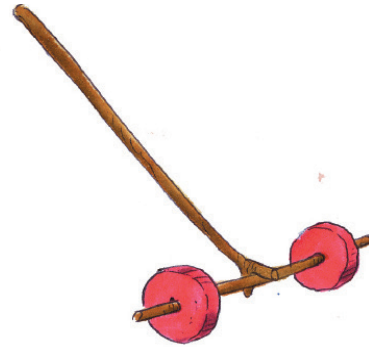
2. We can also make wheels from old slippers.



Old slippers



Wheels made from old slippers



Toy car made from old slippers wheels

3. We can also make wheels using wood or a round stick.



Check your progress 4(a)

1. Name other things that we can use to make wheels.

4.3 Things that use wheels

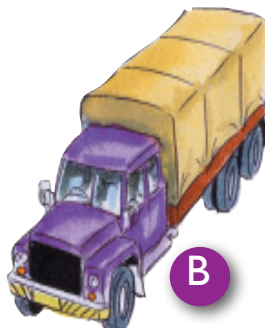


Activity 5

1. Look at the following pictures.



A



B

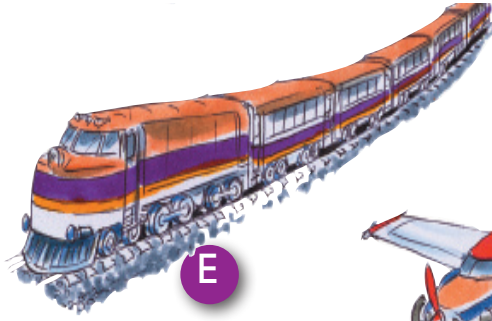


C

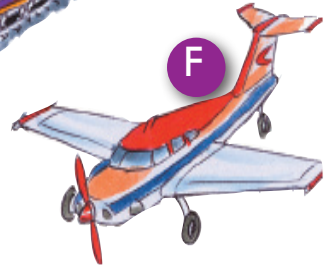




D



E



F

G

H



I

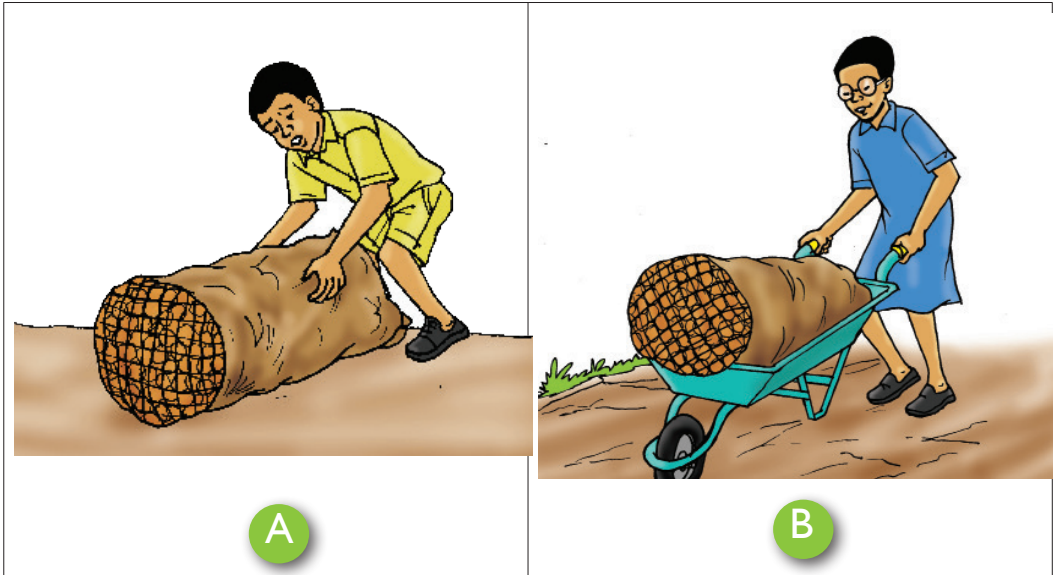
2. Copy and fill the table below in your notebook.

Name	Number of wheels	Use
A	4	transportation
B		
C		
D		
E		
F		
G		



Let us talk

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



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



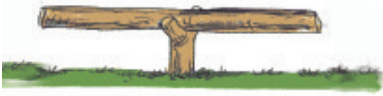
Hammer



Screwdriver



Spade



Seesaw



Spanner

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



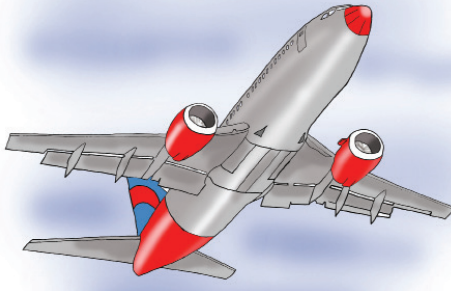
Wheelbarrow



Bus



Lorry



Aeroplane



Handcart

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



Check your progress 5(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.

Words to learn

Energy, exercise, deficiency, detergent,
soap, nutrient

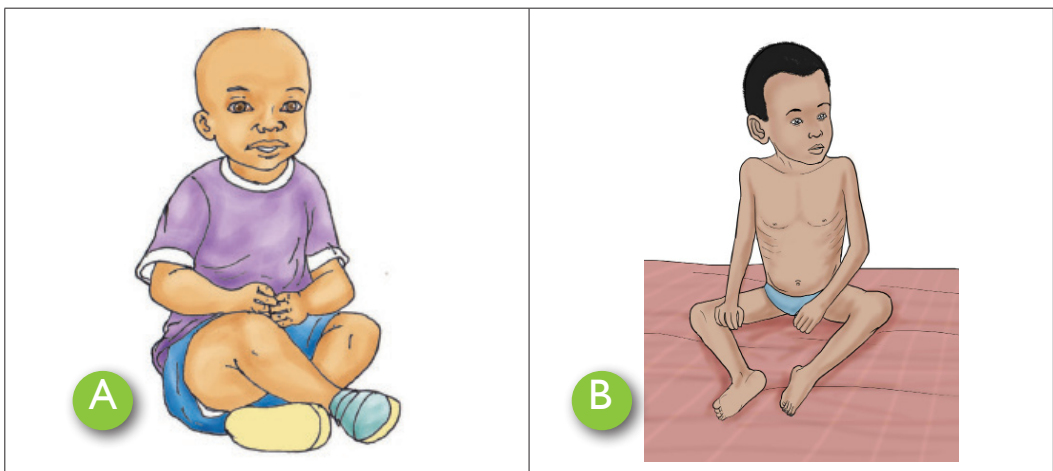
5.1 Importance of food to our bodies

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?

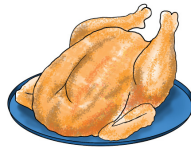
Learning point

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 5(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.

5.2 Foods we eat in the locality





Activity 1

Work in groups of four



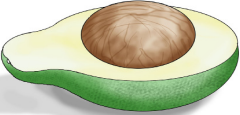


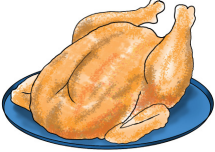
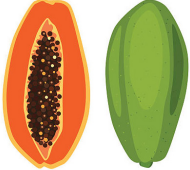






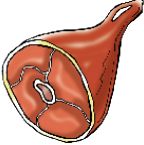
What to do

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.

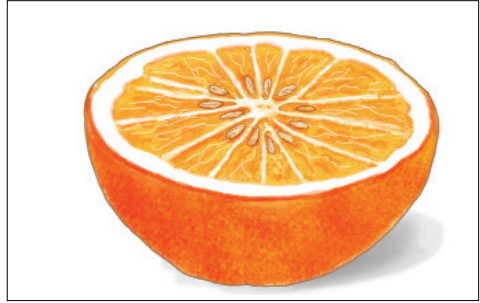


Check your progress 5(b)

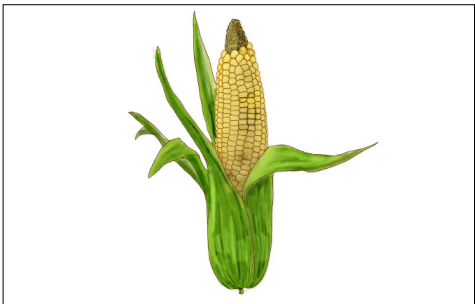
1. Name and describe features of the foods drawn.



a) _____



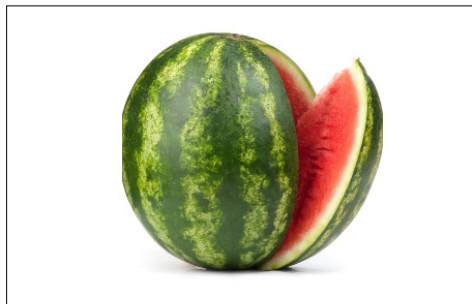
b) _____



c) _____



d) _____



e) _____

5.3 Foods for body building and growth (Grow foods)



Activity 2

As a class

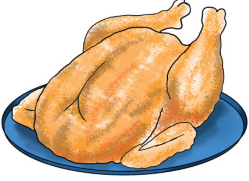



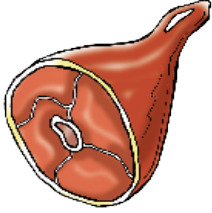




What to do

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:

 <p>Chicken</p>	 <p>Eggs</p>	 <p>Lentils</p>
 <p>Beans</p>	 <p>Meat</p>	 <p>Glass of milk</p>
 <p>Fish</p>		

Body building foods



Check your progress 5(c)

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

5.4 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

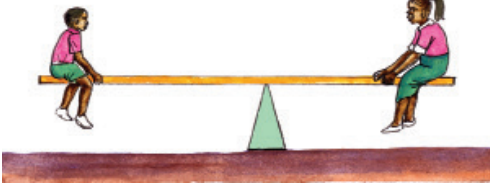
Energy giving foods

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.



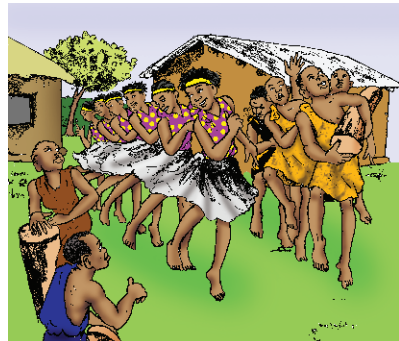
Balancing on a seesaw



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 5(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.


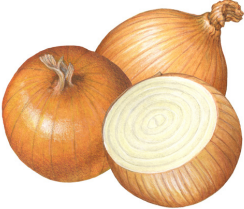

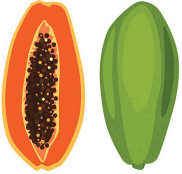
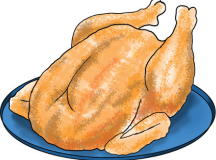

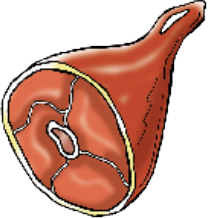






What to do

Draw and label the foods in the chart.

Learning point

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

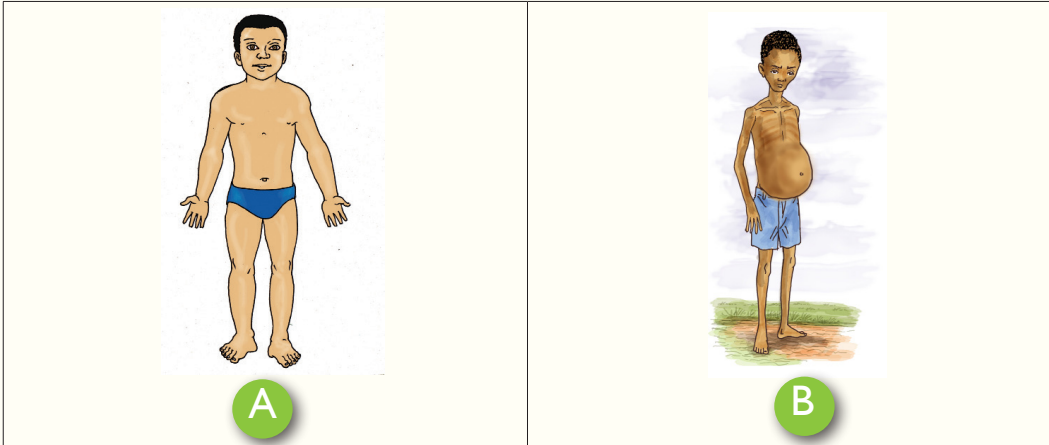
		
Cabbage	Onions	Tomatoes
		
Pawpaw	Chicken	Milk
		
Meat	Fish	Raw bananas
		
Sweet potatoes	Bread	

Deficiency (lack) of food



Let us talk

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



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**.



Advice !

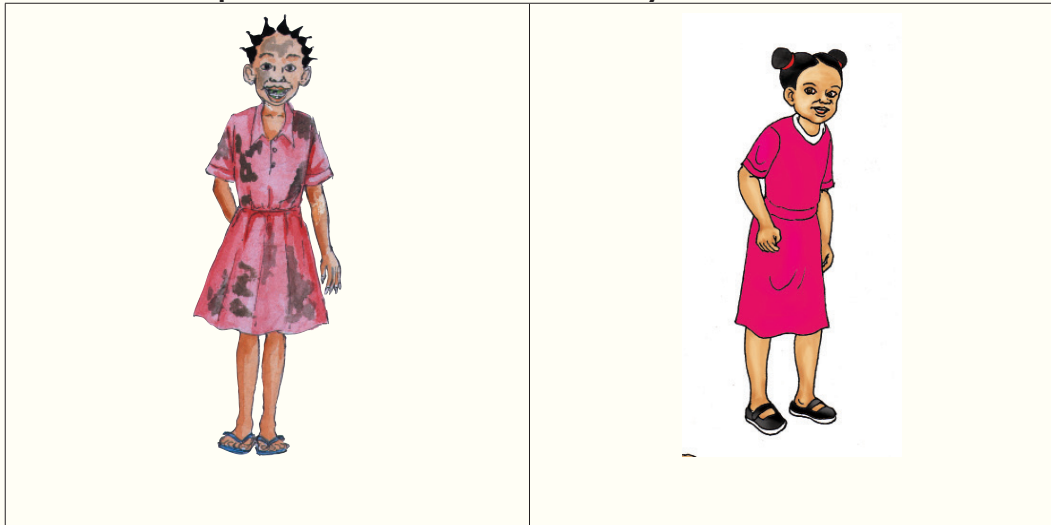
We should drink at least eight glasses of water everyday!.

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?

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 5(g)

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

5.5 Importance of rest and sleep

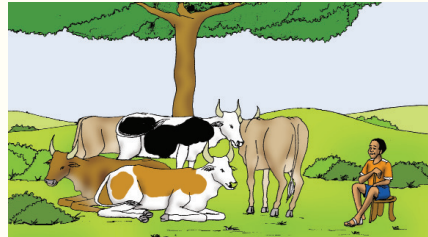


Let us talk

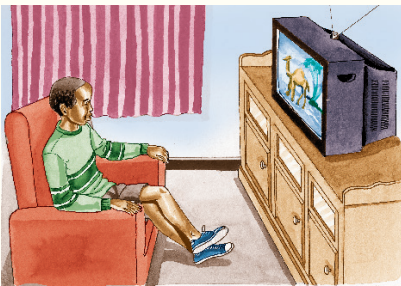
Look at the pictures below. Talk to your friend about what is going on in the pictures.



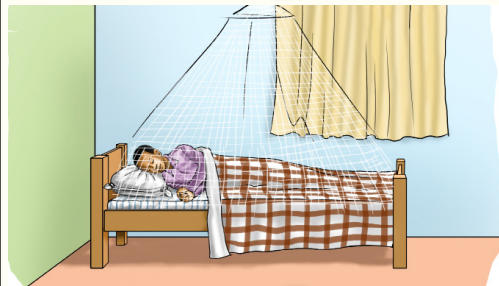
A



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 5(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 exercise book.

Most tiring activities	Least tiring activities

Words to learn

Environment, plant, land, habitat,
farm, seed, fruit,

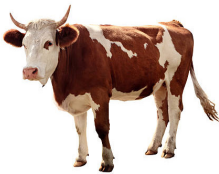


Let us talk

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

 <p data-bbox="236 396 303 439">Cat</p>	 <p data-bbox="588 407 663 451">Dog</p>	 <p data-bbox="874 401 1094 445">Mango plant</p>
 <p data-bbox="185 748 350 792">Butter fly</p>	 <p data-bbox="498 753 753 797">Coconut plant</p>	 <p data-bbox="948 753 1016 797">Bee</p>
 <p data-bbox="236 1087 303 1130">Bull</p>	 <p data-bbox="534 1087 717 1130">Bean plant</p>	 <p data-bbox="897 1077 1067 1121">Tsetse fly</p>

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



Check your progress 6(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.

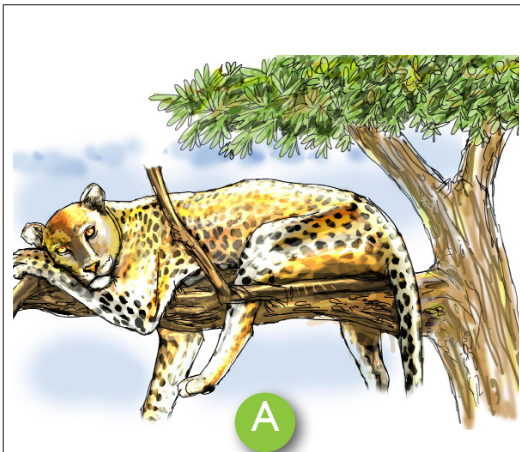


6.1 Habitats of different plants and animals



Let us talk

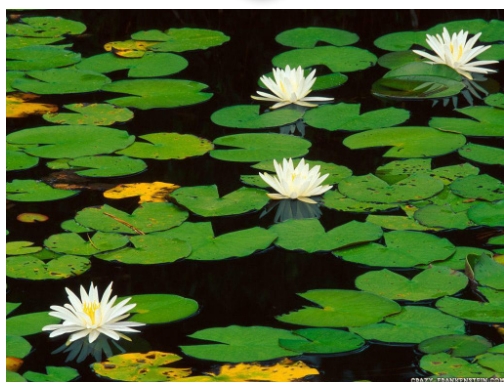
Look at the pictures below. Name the things you can see?



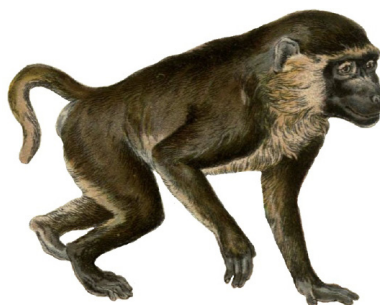
A



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

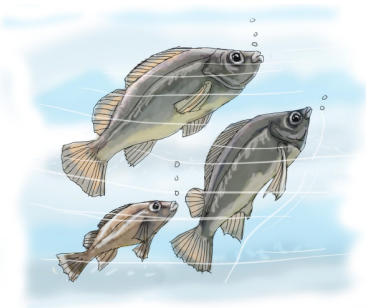


What to do

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



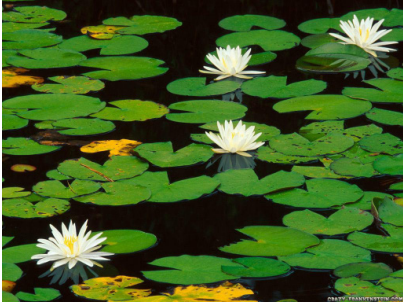
Seaweed



Octopus



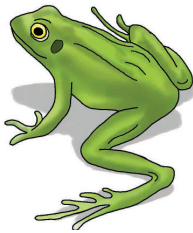
Lotus



Water lily



Hippopotamus



Frog



Whale

6.2 Characteristics of plants and animals that live in water



Activity 2

1. Check activity 1 on page 85 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 and have leaves floating on water surface have large or broad leaves. while subemerged leaves are finely divided to prevent tearing by currents of water.

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 6(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 3

As a class

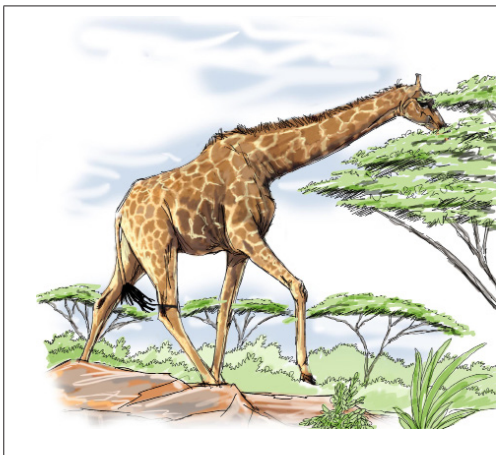


What to do

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



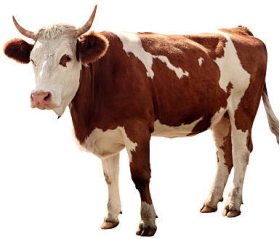
Gazelle



Zebra



Cheetah



Cow



Goat



Dog

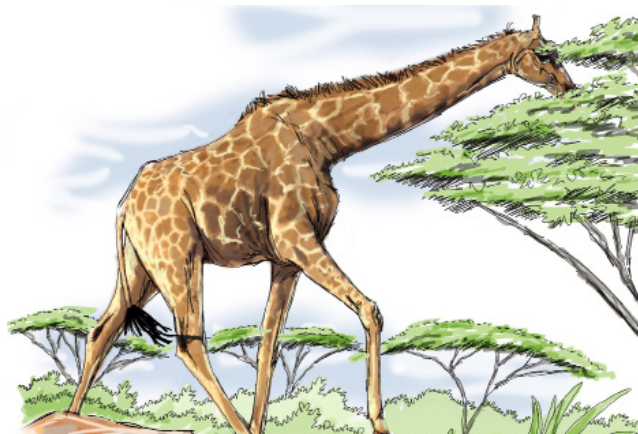


Cat

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

6.3 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 4

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.

6.4 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:

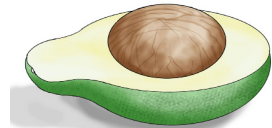
Common fruits



Orange



Tomatoes



Avocado



Pineapple



Mango

Common seeds



Beans



Maize



Groundnuts



Millets



Cashewnuts



Check your progress 6(d)

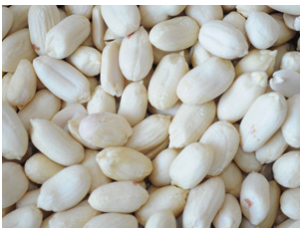
1. Young plants grow from -----.
2. A mango fruit has _____ seeds.
3. Draw, name and colour 3 fruits.
4. Identify the seeds below.



a) -----



b) -----



c) -----



d) -----

Words to learn

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

7.1 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 7(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)

7.2 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 7(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

7.3 Dissolving and disappearing



Activity 3

Work in groups of four



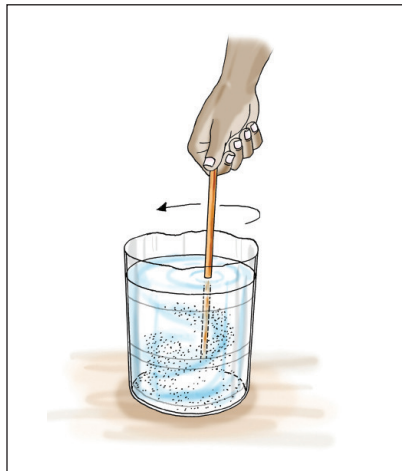
What you need

- 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 7(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

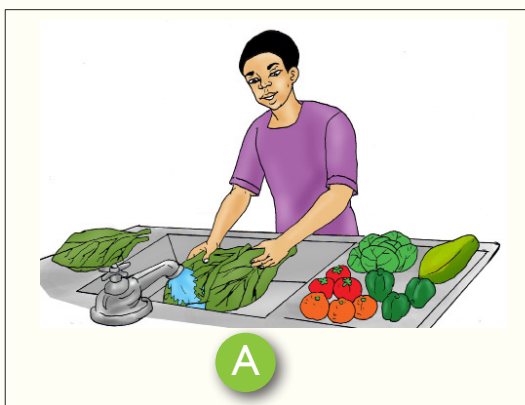
Salt dissolves faster in hot water, than it does in cold water.
Solubility of a substance is increased when the solvent is hot.

Uses of water at home



Let us talk

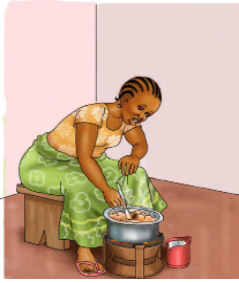
Look at the pictures below. What can you see?



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

7.4 Ways of conserving water



Let us talk

Look at the pictures below. What can you see?



A

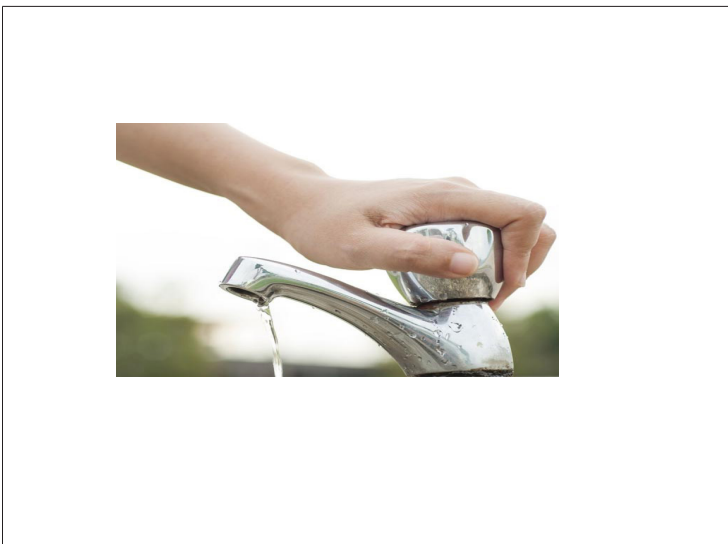


B

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 7(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.