Alavi

Primary

Learner's Book

3

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Introduction

The Primary Science book has been developed to match the Cambridge International Examinations Primary Science curriculum framework. It is a fun, flexible and easy to use course that gives both learners and teachers the support they need. In keeping with the aims of the curriculum itself, it encourages learners to actively engage with the content, and develop enquiry skills as well as subject knowledge.

The content pages contain many images and questions that you can use as a basis for class discussions. The emphasis in this stage is on linking what learners know about everyday life to scientific ideas.

Throughout the book, you will find ideas for practical activities which will help learners to develop their Scientific Enquiry skills as well as introduce them to the thrill of scientific discovery.

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CHAPTER 1

Living Things

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What learners will learn and reinforce

The activities in this chapter give learners practice in the following topics:

Topic	In this topic, learners will:
1.1. Our weather	learn to identify the seven needs of living things.
1.2. Today's weather	underestand that people are similar in some ways different in others.
1.3. Our weather	sorting animals into groups.
1.4. Sorting plants	sorting plants into groups.
1.5. Sorting plant foods	sorting plant foods into groups.

Word bank

1	alive	2	living	3	non-living	4	need	5	air
6	breathe	7	move	8	sense	9	produce	10	young
11	grow	12	waste products	13	excrete	14	life processes	15	sort
16	human	17	similar	18	different	19	fingerprint	20	magnifying glass
21	skin tone	22	freckle	23	glasses	24	claw	25	hawk
26	eat	27	flower	28	tall	29	short	30	peel

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1.1. Living and non-living things

Living things

A horse is alive.

A tree is alive.

You are alive!

People, animals and plants are living things.

Non-living things

A rock and a coin are not alive. Stone and metal are non-living things.

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Work in a group.

Talk about each of the things shown here. Decide if each one is living or non-living.

Copy and complete the table. Add more items if you can.

Living	Non-living
	soda can

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Things that are alive:

- need air to breathe
- need water and food
- can move
- have senses
- can produce young
- grow
- produce waste products (excrete).

These are the seven life processes.

Questions

1. List the seven life processes.
2. A horse can run, eat, drink and see.
   Is it alive?
3. A toy kite moves and flies in the air.
   Is it alive?

Living or non-living?

With a partner, sort pictures of things into two groups:

- living things
- non-living things.

You will need:
a large sheet of paper, pens and a selection of pictures of things that are living and non-living.

Use the seven life processes to help you decide where to put each picture.
Were there any that you found difficult to place?
If so, explain why.

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1.2. Sorting humans

Look at other people. They are all *similar* to you but also *different*. Our eyes are different colours.

These children all have similar bodies but there are differences. What two things are similar? What two things are different?

People have different shapes. on their fingerprint.

Look at your fingers. Use a magnifying glass if possible. Identify which type of fingerprint you have.

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In this exercise, you will look at the similarities and differences between you and two friends.

Complete the information sheet about yourself.

Me

My hair colour is .....

My eye colour is .....

My skin tone is .....

Do I have freckles? .....

Do I wear glasses? .....

Now look at two friends and complete the information for them.

My friend .....

has similar .....

.....

He/ she has different .....

.....

My friend .....

has similar .....

.....

He/ she has different .....

.....

- People are similar is some ways but different in others.
- Fingerprints are all different.
- People have different hair colour and eye colour.

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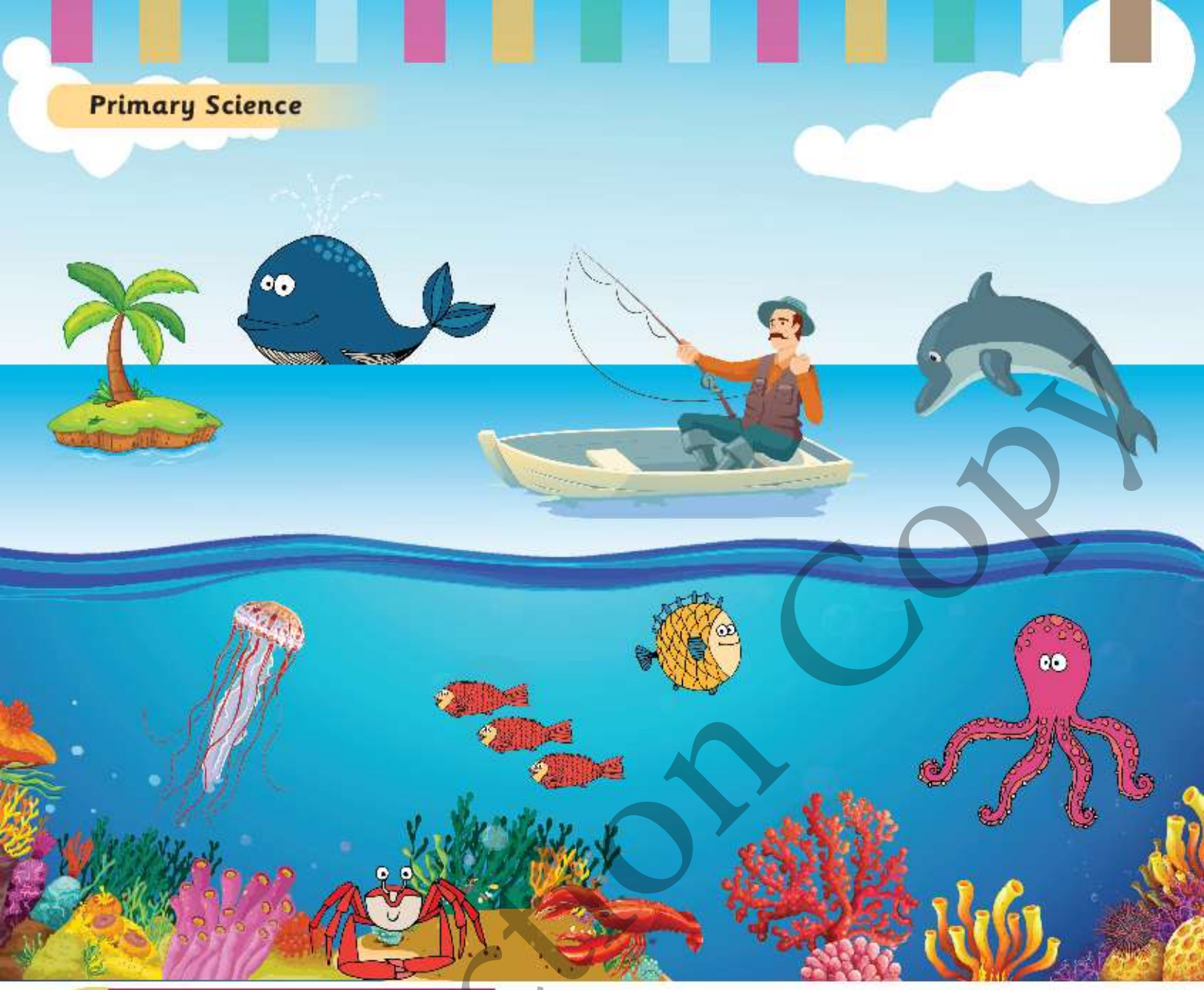
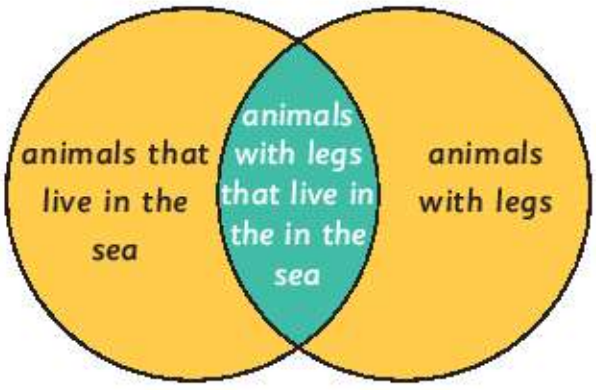


1.3. Sorting animals

Look at the picture. Groups that we could make are:
animals with legs, animal that breathe air, animals with claws, animal that swim.

Copy this Venn diagram onto a big piece of paper.



Sort the animals by drawing them in the correct part of the venn diagram.

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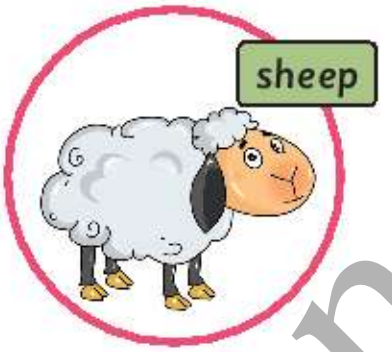
Some animals eat other animals. Some animals eat plants.

Draw a line from each picture to the correct label.

hawk

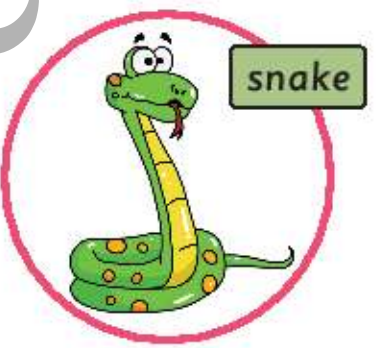


sheep

eats animals

eats plants

rabbit



snake

Think and write.

A/An ..... doesn't eat plants.

A/An ..... doesn't eat animals.

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1.4. Sorting plants

David is planting his garden.

He has these plants and wants to group them in his flower bed.

Can you help David put each plant in the correct category?

Tall plants	
no flower	with flower
Short plants	
no flower	with flower

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1.5. Sorting plant foods

Here are some foods we get from plants:

Sort the foods by drawing pictures in the correct oval below.

Scientists have to group living things carefully so that they can study them.

Foods we peel to eat

Foods we don't peel to eat

Inspection Copy

Inspection Copy

CHAPTER 2

Looking After Plants

Inspection Copy

What learners will learn and reinforce

The activities in this chapter give learners practice in the following topics:

Topic	In this topic, learners will:
2.1. Plants and their parts	name the four main parts of plants and explain what each part does.
2.2. What do plants need?	learn that plants need light, soil, water and air.

Word bank

1	stem	2	flower	3	leaf (leaves)	4	root	5	part
6	plant	7	seed	8	support	9	collect	10	soil
11	transport	12	water	13	light	14	air	15	need

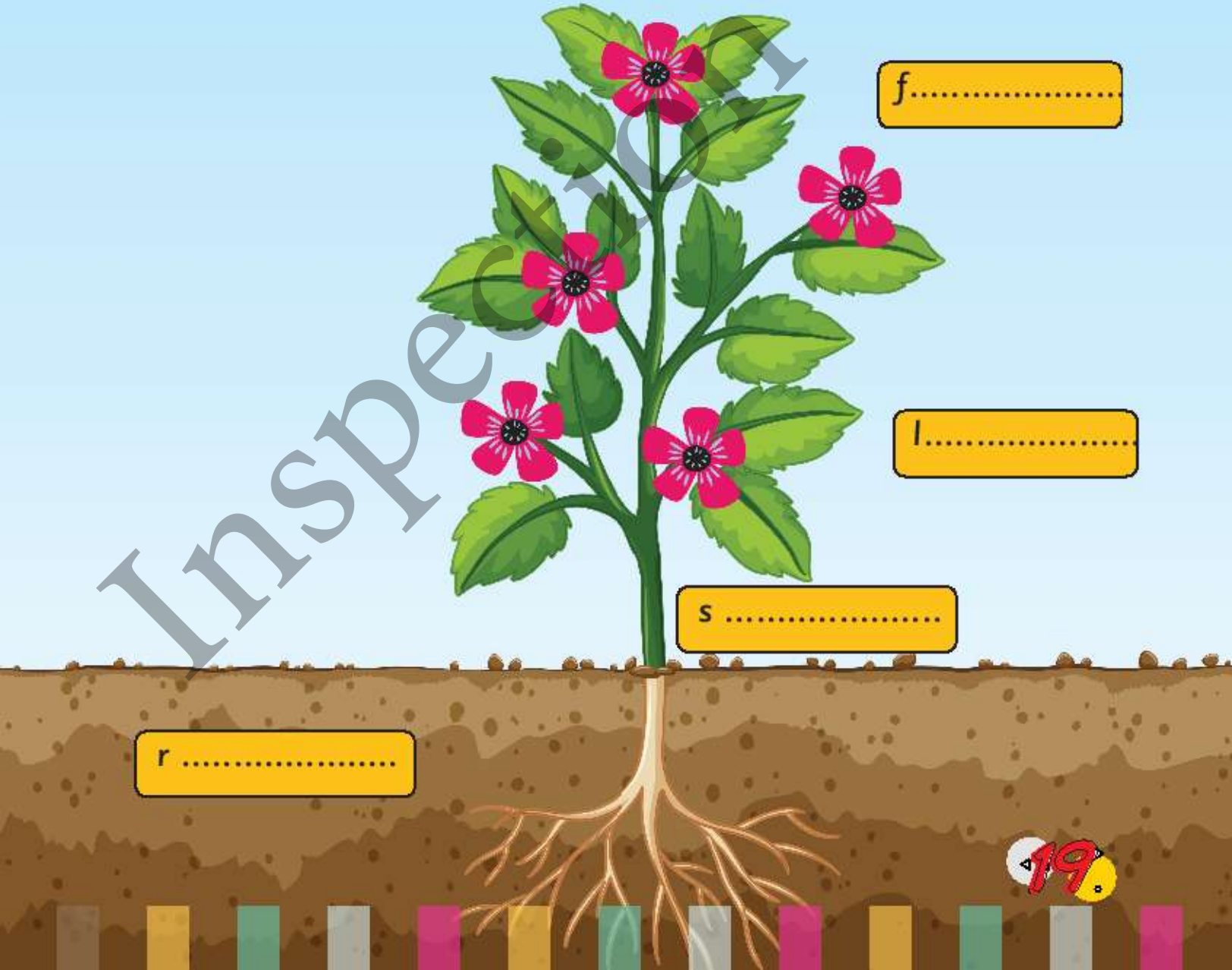
Inspection Copy

2.1. Plants and their parts

Use the key words to finish the lables on this plant.

stem	flower	leaves	roots

Plants need healthy roots, leaves and stems to grow well.



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Plants can look very different.
Most have four main parts:

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Make a model plant.

Make a plant like this one.

Make labels for the stem, roots, leaves and flower.

Stick them to your plant.

You will need:
string, straw, coloured paper or card and sticky tape/ glue.

Flowers help the plant to make seeds.

Inspection Copy

2.2. What do plants need?

Plants make their own food using water, light and air.

Most plants need to anchor in soil for support.

Plants need water.

Plants need light.

Plants need air.

Plants need soil.

Inspection Copy

CHAPTER 3

Measurement

Inspection Copy

What learners will learn and reinforce

The activities in this chapter give learners practice in the following topics:

Topic	In this topic, learners will:
3.1. Estimating grams and kilograms	learn how to measure mass.
3.2. Liquid measurement	learn how to measure liquids.

Word bank

1	gram	2	kilogram	3	measure	4	weigh	5	light
6	heavy	7	liquid	8	more	9	less	10	hold

Inspection Copy

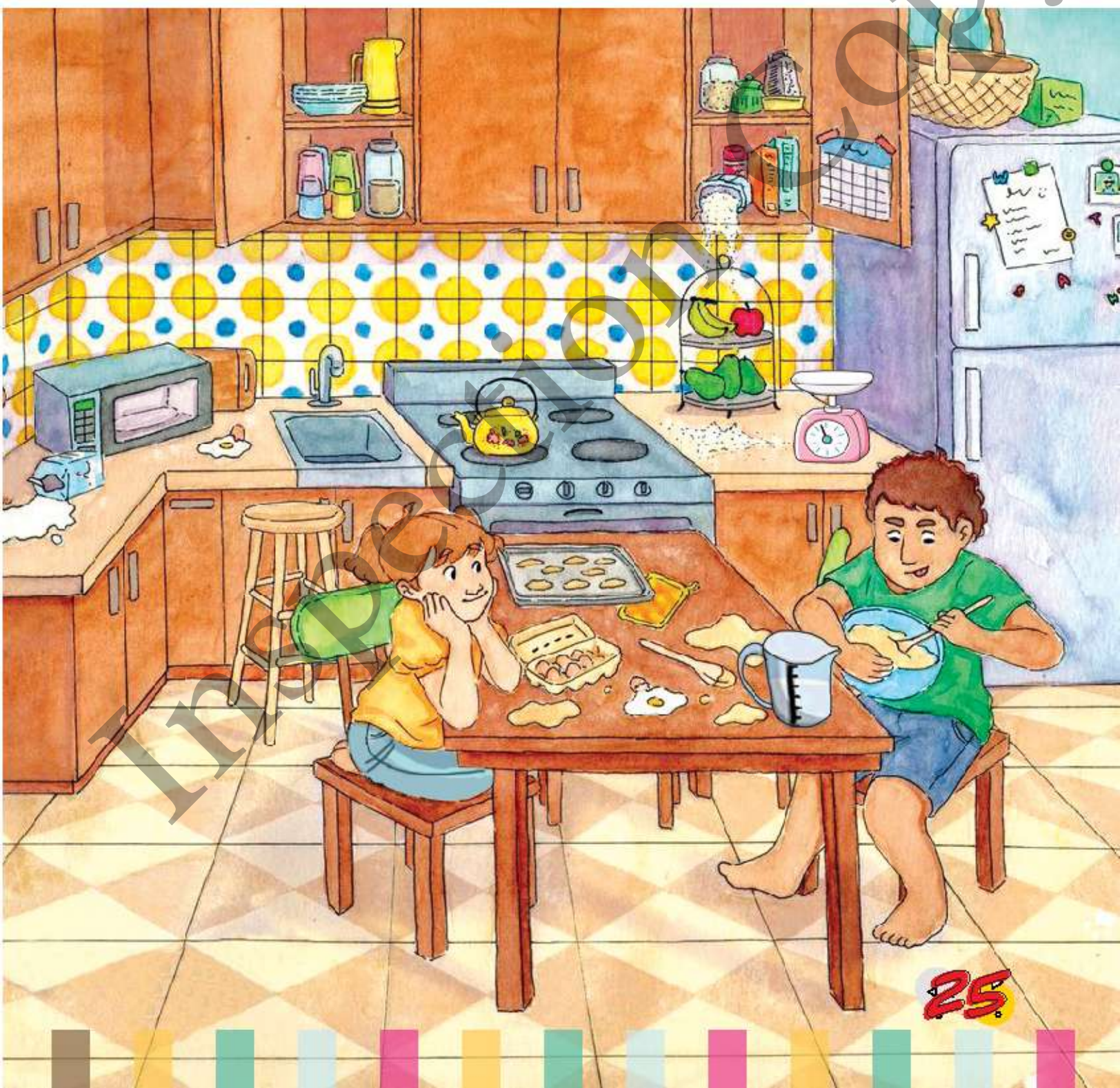
3.1. Matter and materials

A *gram* (g) is used to measure the weight of light objects.

A small paperclip weighs about a gram.

A *kilogram* (kg) is used to measure the weight of heavy objects.

A pineapple weighs about a kilogram.



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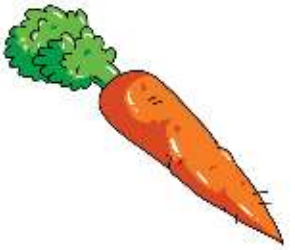
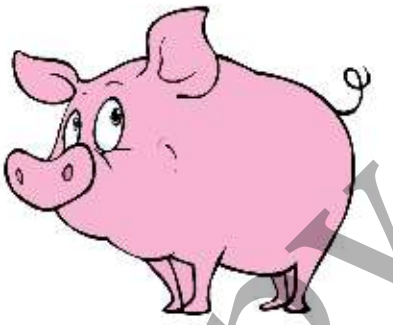
Choose the best estimate for each object or animal shown.



18 grams
4 kilograms
8 kilograms

20 grams
500 grams
18 kilograms



900 grams
9 kilograms
90 kilograms

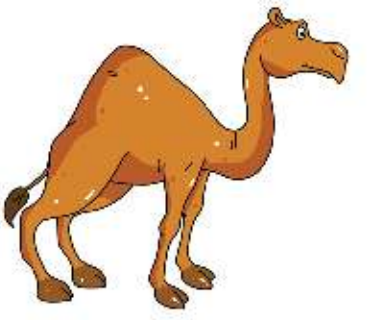
960 grams
18 kilograms
3 kilograms

18 grams
4 kilograms
8 kilograms

3 grams
300 kilograms
3 kilograms

100 grams
1 kilogram
100 kilograms

1 gram
50 kilograms
1 kilogram



600 kilograms
60000 kilograms
6000 kilograms

Inspection Copy

3.2. Liquid measuring

Circle the unit that would most likely be used to measure each object.

soda bottle milliliter liter	cough medicine milliliter liter
vanilla extract milliliter liter	gasoline milliliter liter

Does it hold more or less than 1 liter?

Circle the correct answer.

more less

more less

more less

more less

more less

more less

Inspection Copy

How much coffee can a cup hold?

Inspection copy

CHAPTER 4

Looking After Ourselves

Inspection Copy

What learners will learn and reinforce

The activities in this chapter give learners practice in the following topics:

Topic	In this topic, learners will:
4.1. Food groups	practise naming the five food groups.
4.2. A healthy diet	know which foods are healthy.
4.3. Food hunt	practise which food goes in which group.
4.4. An unheaalthy diet	learn which foods are good/ bad for our heart/ teeth.
4.5. What happens when we exercise?	learn what happens to our body when we exercise.

Word bank

1	fat	2	sugar	3	dairy	4	protein	5	vegetable
6	fruit	7	carbohydrate	8	food pyramid	9	healthy	10	energy
11	bone	12	teeth	13	strong	14	food group	15	unhealthy
16	heart	17	exercise	18	cool	19	warm	20	fast
21	slow	22	rest	23	beat	24	same		

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4.1. Food groups

Foods can be put into groups.

Inspection Copy

4.2. A healthy diet

A healthy diet needs to be varied.

A balance of food from different groups gives your body the nutrition it needs.

This food pyramid shows how much of each food group you should eat.

Which food, which group?

Use the key words to label each food group.

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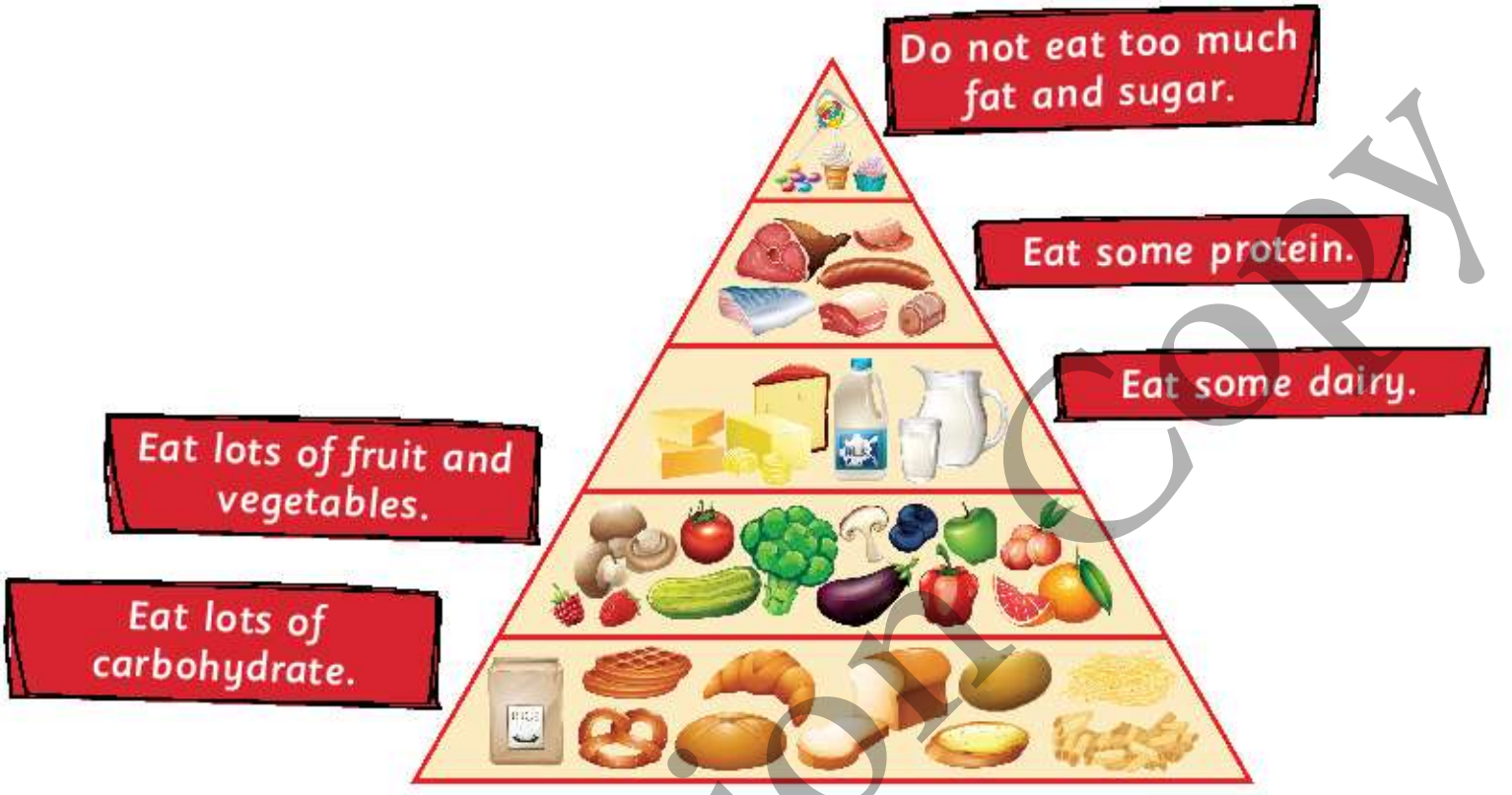
Fruit and vegetables keep us healthy.

Your diet is the food you eat. This food pyramid shows a *healthy diet*.



Draw and label your favourite fruit and vegetables.

My favourite fruit and vegetables:

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Match the food group with the description.

1 

2 

3 

4 

5 

A 

B 

C 

D 

E 

Inspection Copy

4.3. Food hunt

- Look for some food or pictures of food.
- Say the name of the group the food is in.
- Can you find two foods from each group?
- Write what you find in the table.

Food	Food group
rice	carbohydrate

Which food group do you think looks unhealthy?

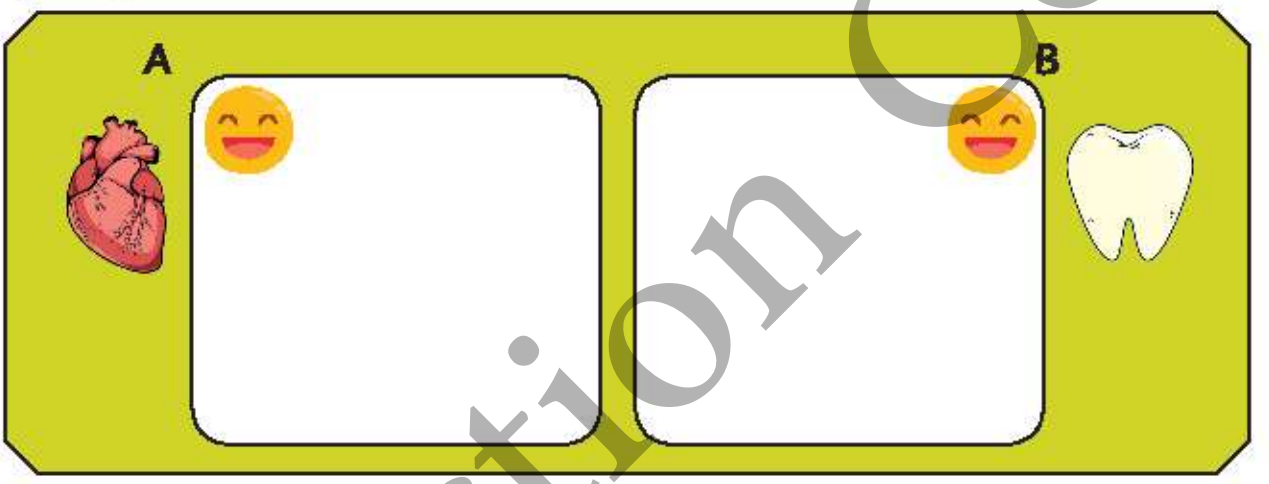
Inspection Copy

4.4. An unhealthy diet

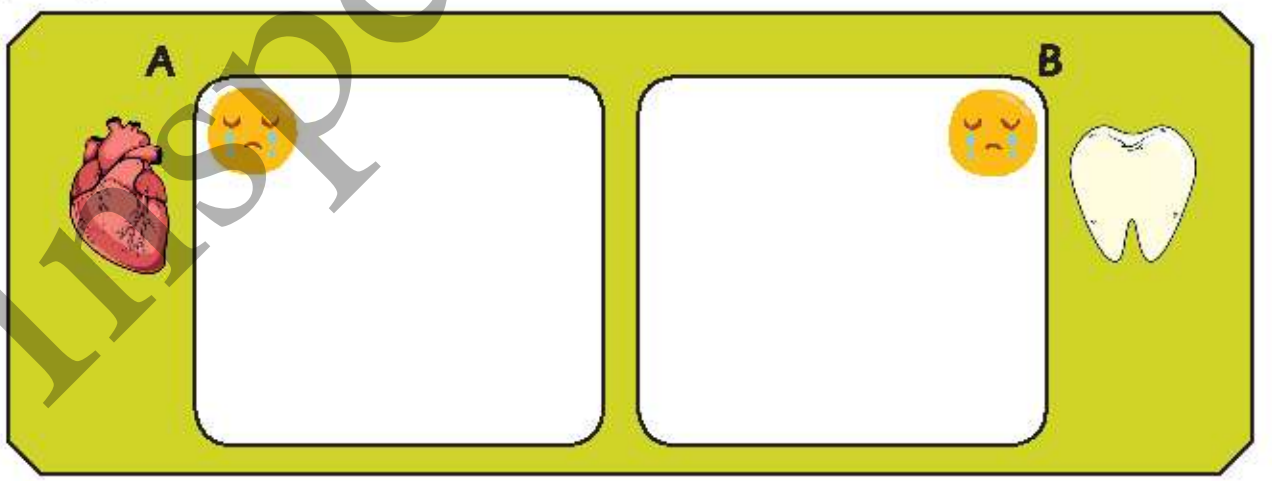
Too much fat is bad for your heart, but exercise can keep your heart strong.

Too much sugar can damage your teeth, but brushing your teeth can help to keep them clean and strong.

Draw things inside shapes A and B that are good for your heart and good for your teeth.



Draw things inside shapes C and D that are bad for your heart and bad for your teeth.



What can you do to keep healthy?

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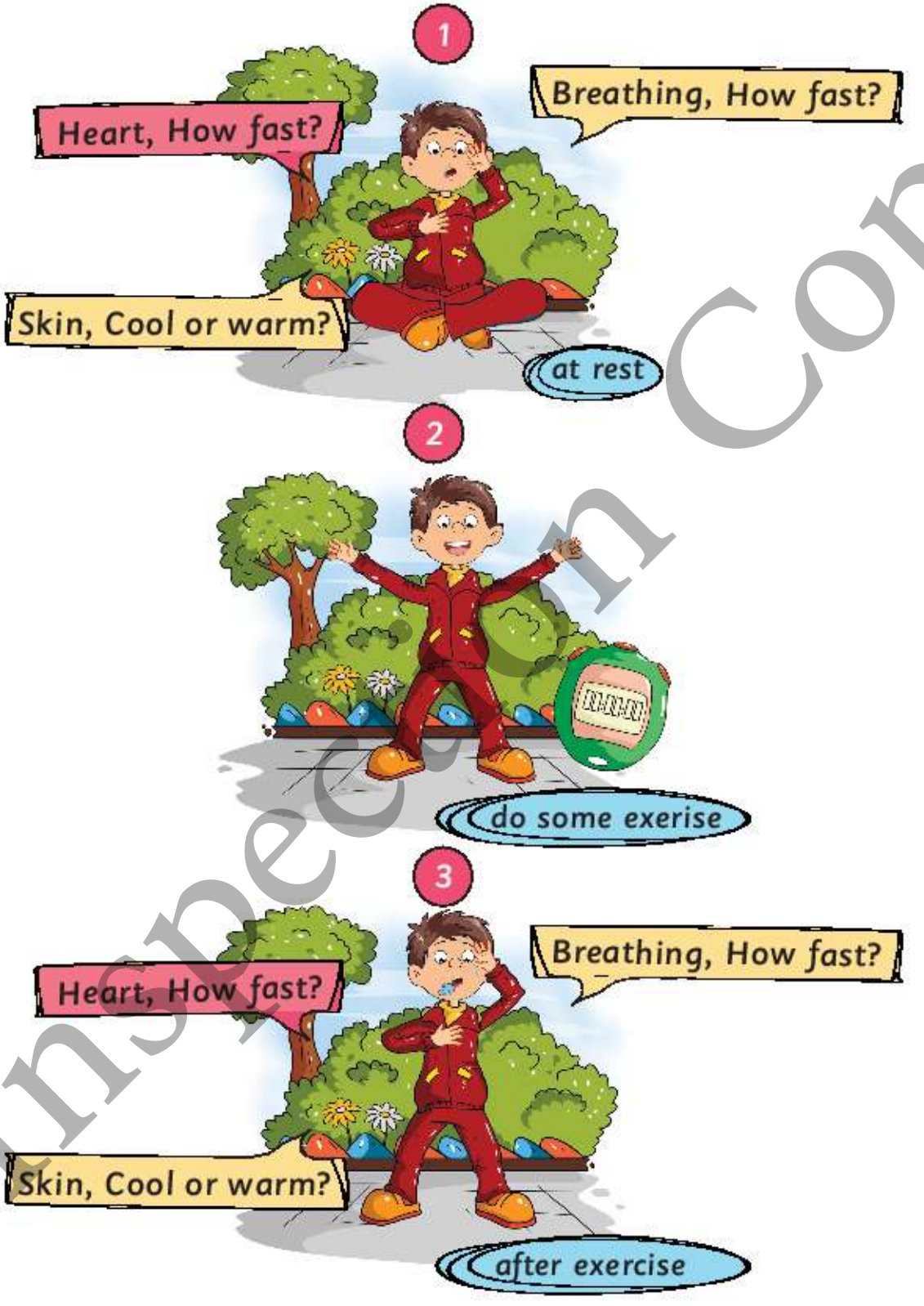
4.5. What happens when we exercise?

Look at the pictures to see what to do.



Exercise is good for your muscles and your heart.

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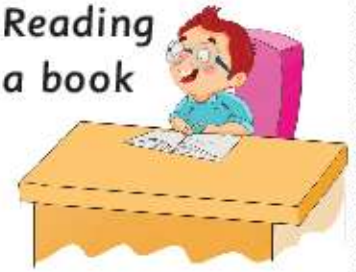
1) Predict which of the activities will make your heart beat faster, slower or the same. Record your predictions.

2) Now do each activity for one minute. Then stop and feel your heart beating again. Record your results.

3) Choose one more activity and repeat.

You will need:
a clock, watch or timer to time each activity.

Activity	Prediction Will your heart beat faster, slower or the same?	Result Did your heart beat faster, slower or the same?
Running 		
Reading a book 		
Star jumps 		

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CHAPTER 5

Investigating Materials

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What learners will learn and reinforce

The activities in this chapter give learners practice in the following topics:

Topic	In this topic, learners will:
5.1. Properties of materials	name a few properties of materials.
5.2. Sorting materials by testing	sort materials based on their properties.

Word bank

1	property	2	flexible	3	rigid	4	waterproof	5	smooth
6	rough	7	absorbent	8	material	9	bend	10	object

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5.1. Properties of materials

A property describes what a material is like.

Rubber is *flexible* (it can be bent) but stone is *rigid* (it keeps its shape).

Plastic is *waterproof* (water cannot get through it) but cotton is *absorbent* (it soaks up liquid).

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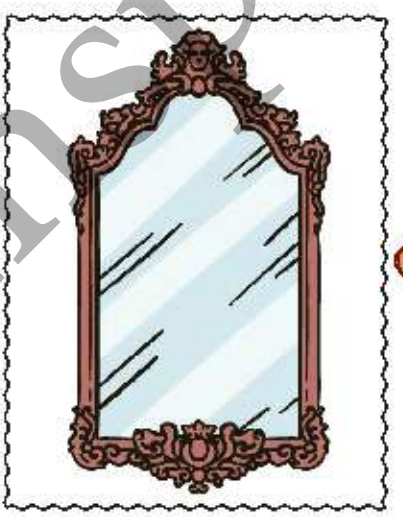
Which material is rigid and which one is *flexible*?

flexible

rigid

Which material is rough and which one is smooth?

smooth



rough

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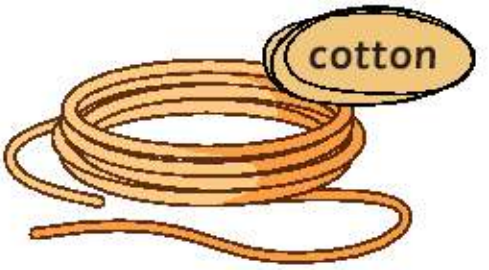
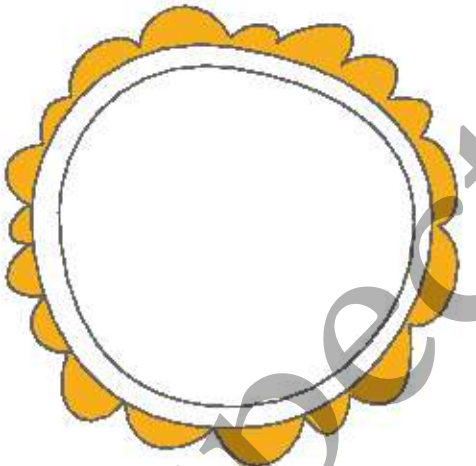
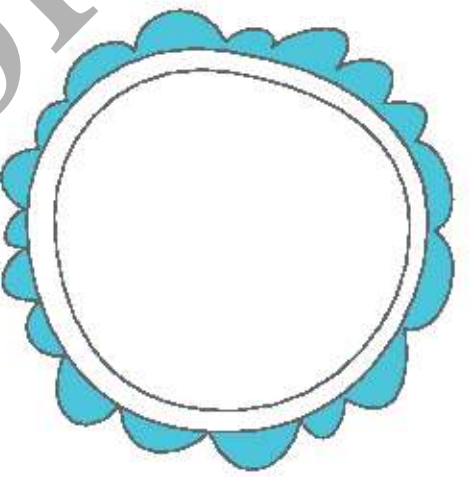
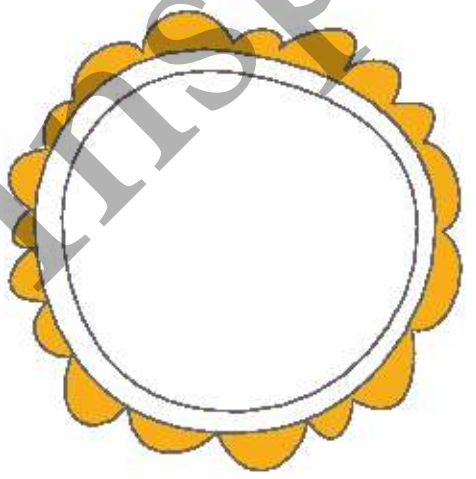
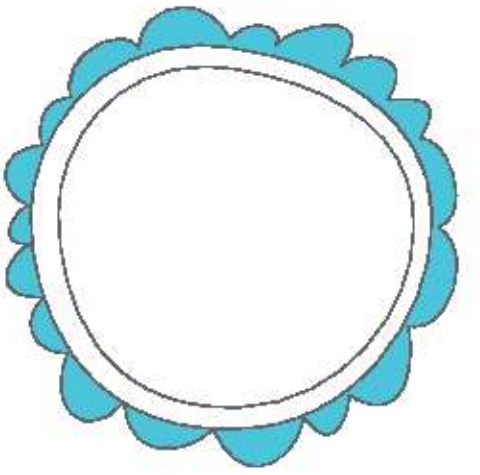
5.2. Sorting materials by testing

- Find some objects made from a single material.
- Test them to see if they are easy to bend.
- If they are easy to bend, draw them in the flexible group.
- If they are hard to bend, draw them in the rigid group.
- Write the material they are made from.

flexible	Rigid
	
	
	

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CHAPTER 6

Movement

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What learners will learn and reinforce

The activities in this chapter give learners practice in the following topics:

Topic	In this topic, learners will:
6.1. Push and pull	explore the forces of push and pull in everyday life.
6.2. What a big push!	identify different size of forces.

Word bank

1	push	2	pull	3	small	4	big	5	large
6	huge	7	bulldozer						

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6.1. Push and pull

Every day you push and pull many things.

A family divide into two teams to have a fun tug of war.
How are they using pushing forces and pulling forces? What could they do so that they don't get hurt?

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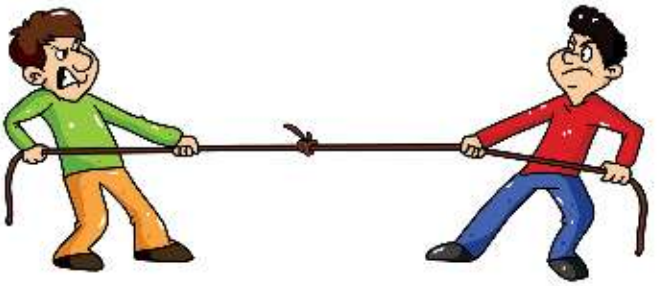
Forces are all around us. Push and pull are both forces.

How many pushes and pulls can you find in the room?
Write them in the table below.

Things that I push.	Things that I pull.
	I pull the curtains.

Look at these sports and decide if the player has to pull or push.
Draw an arrow on the picture to show the push or pull.



What is your favourite game? Do you have to push or pull?

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6.2. What a big push!

What a big push!

Some pushes are very small and some are huge! Draw a line from each bulldozer to the right words to describe the force.

a small push

a big pull

a large push

a very large push

a small pull

a very small push

When a rocket takes off, the engine has to push up very hard to lift the rocket.

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