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Ms Siviwe Gwarube, Minister of Basic Education



Dr Reginah Mhaule, Deputy Minister of Basic Education

These workbooks have been developed for the children of South Africa under the leadership of the Minister of Basic Education, Ms Siviwe Gwarube, and the Deputy Minister of Basic Education, Dr Reginah Mhaule.

The Rainbow Workbooks form part of the Department of Basic Education's range of interventions aimed at improving the performance of South African learners in the first six grades. As one of the priorities of the Government's Plan of Action, this project has been made possible by the generous funding of the National Treasury. This has enabled the Department to make these workbooks, in all the official languages, available at no cost.

We hope that teachers will find these workbooks useful in their everyday teaching and in ensuring that their learners cover the curriculum. We have taken care to guide the teacher through each of the activities by the inclusion of icons that indicate what it is that the learner should do.

We sincerely hope that children will enjoy working through the book as they grow and learn, and that you, the teacher, will share their pleasure.

We wish you and your learners every success in using these workbooks.

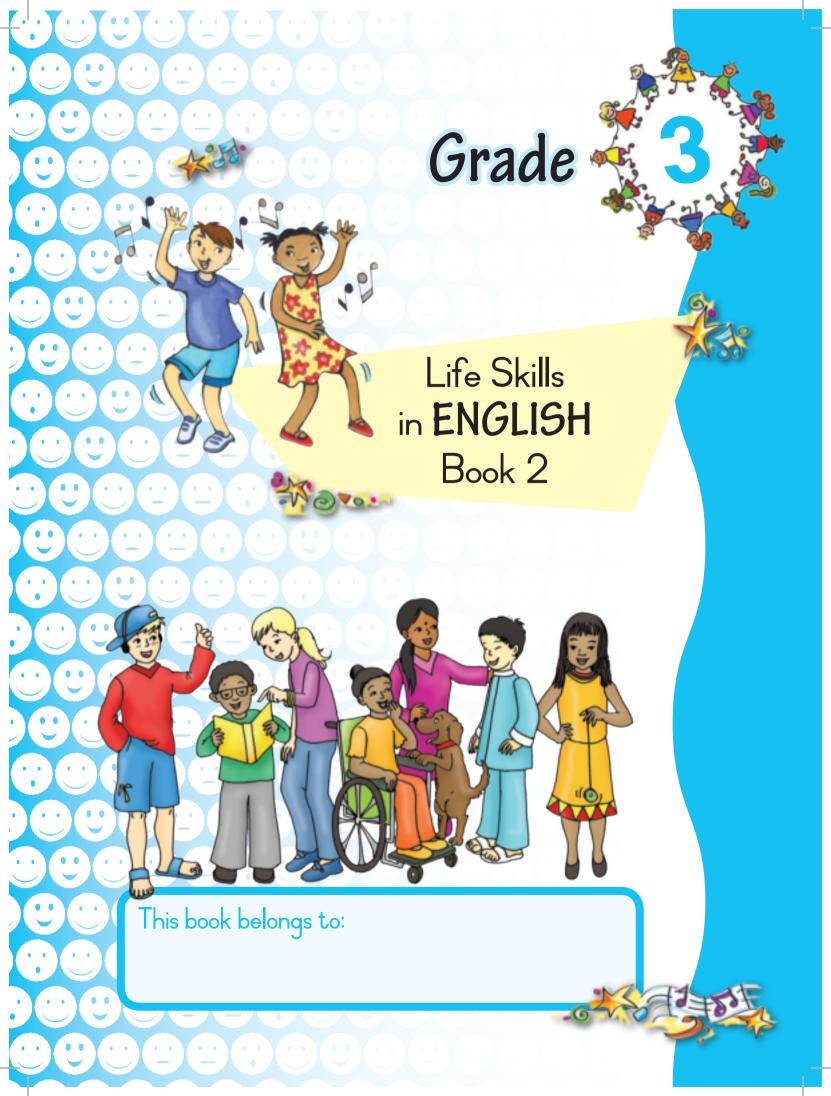
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This book may not be sold.



# Dangerous places to play



You feel welcome in safe places like your classroom. These are places you should always feel you can go back to. Nobody should hurt or harm you there.

A place that is safe for the public is a place where everyone feels welcome. Nobody will be hurt or harmed there.

"Public safety" means that everyone has the right to be safe in places that are open to the public, like trains or taxis and beaches.



Let's talk Look at these pictures and talk to your friend about them.

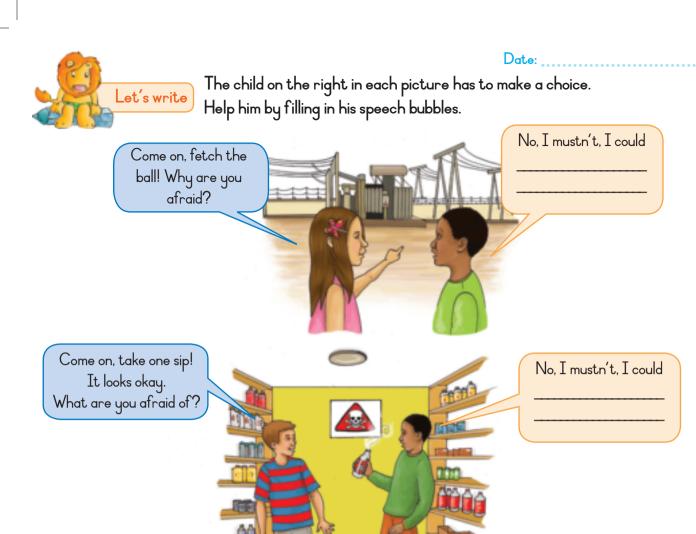
Talk to your friend about why it is dangerous to play in these places that are not safe.













Talk in the class about these questions.

- What dangerous things could lie around on a rubbish dump?
- Why do the children like playing in the ruins of the old house?
- Whose lives are put in danger when children play on a busy road?
- How dangerous is the electricity?
- What signs warn us against playing on a railway line?
- What are the dangers of liquids such as paraffin?



Choose one picture on page 2 again and then write answers to these questions.

- What does the picture tell you?
- How can you tell that it is unsafe to play there?



# Dangerous places to play

Let's write

Look at the pictures.

Then choose one of these captions to write under each picture.

The paraffin could burst into flames in his hand.

The child could die from drinking poison.

The children could die because they cannot breathe air.

The child could get an electric shock.

Never use electricity near water.

Boiling water and steam can burn a child.



Caption:



Caption: \_\_\_\_\_



Caption: \_\_\_\_\_



Caption:



Caption:



Caption: \_\_\_\_\_

Date:	••	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
-------	----	---	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---



Draw a picture of you and your friends playing safely in the park. What will you play on? Think, for example, how you would play on a swing. First use a koki pen or a pencil to sketch the outlines of your drawing. Then colour it in using pastels or crayons.



Warm up: Move different parts of your body at the same time. For example, do rolling movements at the same time with your wrists and hips or your shoulders and ankles.

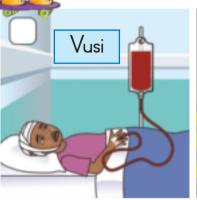
### Main activity: Balancing

- Walk on your toes and then on your heels.
- Crawl on your hands and knees.
- Balance walking forwards and backwards on a rope on the ground.
   Try it with your eyes closed.
- Do a hand stand, head stand and launches.

Cool down: Stretch your limbs slowly. If possible, do it to slow and calming music.

Using taxis and trains safely

Number the pictures about what happened to Vusi to show the correct order.



\_et's do







Look at the pictures about Vusi again and talk to your friend about them.

- Whose fault was it that the accident happened?
- What could Vusi and his mother have done?

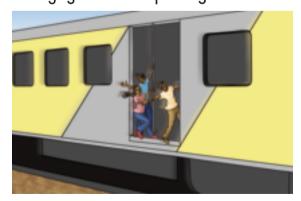
Let's talk

Look at the following pictures and talk to your friend about them. What are these people doing that is wrong?



Let's write Write a caption for each picture saying what these passengers should not do.





## Signs that warn us of danger

Road and railway signs are there for our safety.

Some of the signs help to protect us. They warn us of danger.

Warning signs on the road always have a red line around them.

Other signs tell us how we should behave in traffic or give us information.





Throwing things from a train can

hurt people or animals as the train passes. Design a sign telling people not to throw things from train windows.



Let's do

Cut out the road signs at the bottom of the page and paste them in the correct spaces.















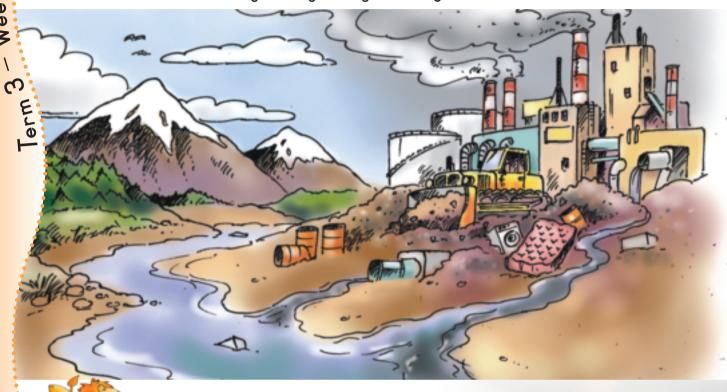
Sign:

36

## Pollution: What is it?



Look at the picture and talk to your friend about it. Is there anything in the picture that you have seen before? Which things in the picture look wrong or bad to you? Why do they look wrong?



### What is pollution?

Let's read

Pollution happens when we make our earth dirty. When we make the earth's air, water and soil dirty, we pollute them.

Pollution that we cause is bad for us, and it is bad for other animals and plants. We get ill, and things stop growing and can even die. In addition, pollution makes our environment very ugly.

Wind, water, the air and the sun all help to clean up pollution. But when there is too much pollution, the earth cannot clean itself anymore.

Date:																											
	• •	•	• •	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	0



Work in groups of five.

Your teacher will give each group a specific topic to work on. Four members of each team will look for examples of litter in the school grounds. The fifth member keeps a record of every item the team finds. Your teacher will give the record keeper a list and he or she should make a tick  $(\checkmark)$  against every item that you find. When you have completed your task, your teacher will make a summary of what you have found. How healthy are your school grounds?



Write down 5 waste items that you found in the school grounds.

1.	
2.	
3.	
4.	
5	



Make a tick  $(\checkmark)$  next to items of waste from this list that could be recycled. Make a cross (x) next to items of waste from this list that could harm animals.



Form groups of 7.

You are going to play different roles: earth, water, soil, air, a plant, an animal and a human. The first six role-players must tell the human being what pollution is doing to them. The human being should answer each of the other players. Together you should decide what can be done about the problems. If you feel confident about your role-play, you can present it to the class.



# Different types of pollution



### Air pollution

When we pollute the air, we poison it. We pollute the air by burning too much coal, diesel, petrol, gas and wood. The smoke from these things contains unhealthy gases, which mostly go up into the air.



Motor vehicles, industries and fuel like wood burnt in houses are the main sources of air pollution in Cape Town.

Air is also polluted by dust and sand from unpaved areas, as well as pollen. Trees help to remove poisonous gas from the air and put healthy oxygen into the air. If we cut down too many trees, the poisonous gas stays in the air and less oxygen goes into the air.

We need to breathe clean air to stay healthy. Breathing polluted air gives

us throat and lung diseases.
There are some places in the world where people have to wear masks over their faces when they go outside, because the air is too polluted to breathe.

Air pollution also destroys the ozone layer, which protects

life on earth from the harmful rays of the sun. Too much acid in the air, which comes from factories, can cause acid rain. This kills plants and damages buildings.



Date:

### Soil pollution

Soil pollution happens when there are too many dangerous chemicals in the soil. Soil pollution can be caused by the waste from factories and mines. The waste from our homes, schools, hospitals and offices is buried in the ground in landfills. See page from this waste pollutes soil. Soil pollution can poison water which then poisons the food people and other animals eat.







### Noise pollution

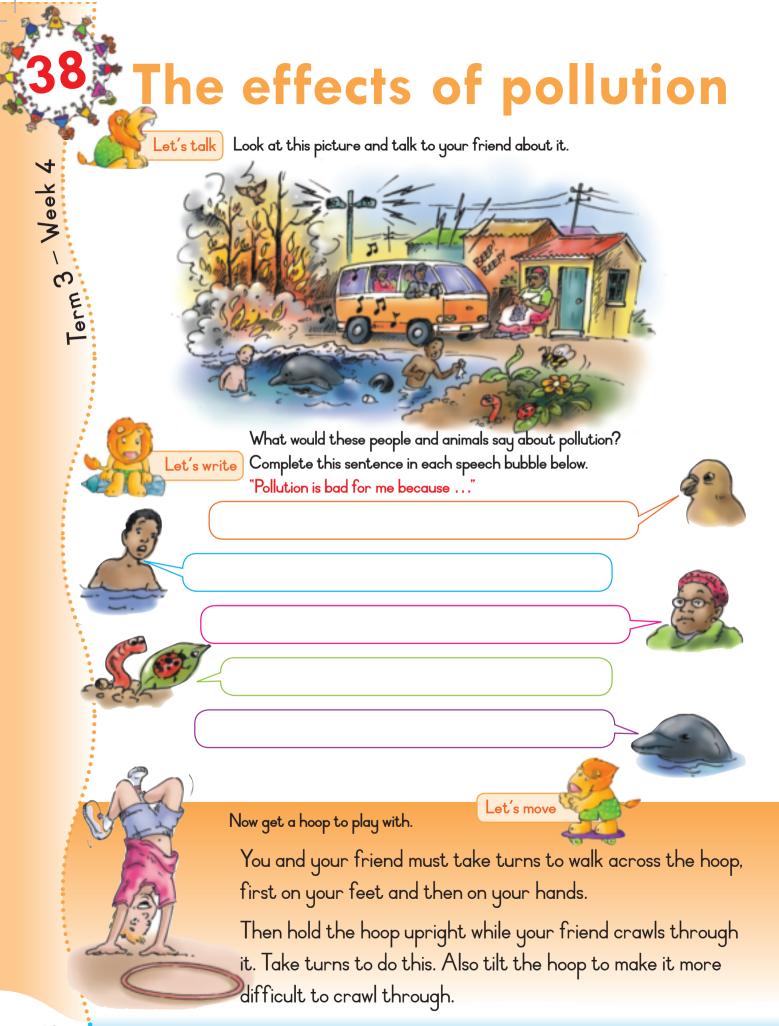
Noise pollution is caused by heavy vehicles such as trucks, the hooting of cars and taxis, factory machines, loud music, and construction equipment used on building sites and for road-building. Too much loud noise can make you lose your hearing.

### Water pollution

Water pollution poisons
underground water and the water
in rivers, lakes and dams. This can
happen when a factory pumps its
dirty waste water into a clean river.
It also happens when sewage from
toilets leaks into a lake. Polluted
water can make people very ill
and can kill fish and other animals.
Plants close to the water can also
die.







## More about pollution



Earlier you looked at litter on your school grounds. If you did not pick up the waste then, do it now. Your teacher will give you bags and plastic gloves to protect your hands.

Design a poster to encourage people to recycle in order to prevent environmental pollution. Use geometric shapes and design a border for your poster. Discuss the following design principles of your poster with a friend:

- contrast
- proportion
- emphasis
- balance





## How people lived long ago



The things that we do and how we do them change over time. Look at these pictures.





Talk with your friend about what has changed. Think about the kinds of work the people in the picture above did and where they worked. How far from their homes do you think they were working? What foods do you think they ate?

How did they get to work?

Now look at the picture to the left and talk about the same things.

Has the machinery people use changed? If so, how?



Long ago people lived close to the things they needed, for example food and water. Today we need the same things, but technology brings food, water and electricity to us where we need them.







Date:

Here is a timeline you will work on as you learn more about how people lived long ago. Write the date on which you were born and your name on the timeline.



15 000 million
years ago:
The Earth was
formed



2,5 million
years ago:
First creatures that
begin to look like
humans



100 000 years ago: First humans



2015 years ago: Beginning of the

Common Era

40 000 years ago: San



1814 First steam train



Europeans arrive in South Africa



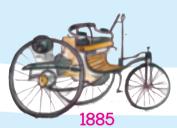
Mapungubwe in Limpopo is developed



invented



1879 Electric lamps invented



First modern motorcar



**1903** First

1895 First radio



20\_\_\_ Your birthday

1994 Nelson Mandela becomes president



1975
The start of personal computers



1973 First cellphone



1969 First man on the moon



# How people lived long ago



Let's write

Now fill in the names and dates of birth of your parents and grandparents in this family tree.

Your teacher will ask you to speak to older family members at home, or will invite older members of your community to visit your class. What questions would you like to ask them about their lives?

Grandpa's name:	Dad's name:	Grandma's name:
Date born:	Date born:	Date born:
Grandpa's name:	Mom's name:	Grandma's name:
Date born:	Date born:	Date born:
	My name:	
	Date born:	

Ask your parents 5 questions about your ancestors. Use the following words for your questions: when, where, what, why and how.



Learners from a school in the Karoo town of Graaff-Reinet invited Mr Johannes Maart to talk to them. Here is his story.

I was born on 7 July 1922 on a Karoo farm called Gannaslaagte. My father was a labourer on the farm and my mother worked in the farmhouse. Every Friday we got meat from the farmer, which we cooked over the weekend. We did not have proper ways of keeping it cold. So we hardly ever ate meat. A few times we had enough meat to make into biltong, especially when the farmer shot kudu or springbok.

We mostly ate mealies as mealie meal or with dried beans – we called it umnqqusho. My father often got some coarse bread flour which came from the roller mills in Jansenville. With great patience my mother baked bread in a heavy iron pot on coals because we did not have a stove.

Or she made my favourites: roosterkoek or griddle-cakes.

These we ate with prickly-pear syrup.

Our "sweets" were pieces of

qum from thorntrees.



If your teacher cannot invite someone to your class you can talk about Mr Johannes Maart's story. North West Gauteng Mpumalanga Free State KwaZulu. Northern Cape Teacher Graaff-Reinet Sign: Jansenville

## as it good to be a child in times gone by?

Let's write Look at each thing in the pictures and say whether it belongs in the present or in the past. Write "Present" (for now) or "Past" (for long ago) below each picture. Then colour in the "Past" box of the picture that you think shows the most interesting thing from the past. Use your favourite colour.

















Let's do Make a picture frame.

#### Teacher's note

There are many ways in which we can keep valuable things from the past. One is to frame old photographs.

#### You will need:

- Two sheets of coloured cardboard paper
- Thick water-colour paint in different colours
- Different recycled materials for making patterns, for example an empty cotton reel, a cork, a feather and various bottle caps or tops



- 1. Cut a square or rectangle in the cardboard to turn it into a picture frame.
- 2. Paint the underside of the object you want to use to make your pattern.
- 3. Decorate your frame by pressing the painted side of your object onto the cardboard.
- 4. When the frame has dried, add a picture of your family and give it to your grandmother or your grandfather as a gift.



Date:



Mr Maart visited the school for a second day. He continued his story.

We did not get to see many other people. My father and mother worked very hard and long hours. On Sundays we would visit our friends on other farms. We sometimes went by ox-cart.

We liked visiting because we could play with our friends.

We enjoyed playing with bones, clay, seed pods from the thorn trees and stones at a big dam nearby or in the river. My sister and her friends had great fun making clay dolls.

I got my first pair of shoes when I was 12 years old. My father made them from cowhide. It was wonderful not to have to pull out thorns from my feet or to suffer from "iced toes" from the frost in the winter mornings.





Talk to your friend about whether you think children

had a good life in the past.

Was it better than it is being a child today? Say why. Think of the tools and equipment we have today, which make it possible for us to do things faster and better.

#### Let's move

Practise the following individually or in pairs.

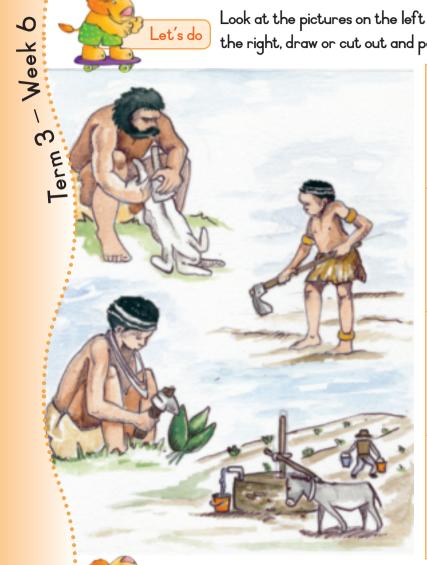
- Hand stands
- Head stands
- Forward and backward roll
- Cartwheel



## Tools and instruments

Let's do

Look at the pictures on the left of tools used long ago. In the column on the right, draw or cut out and paste in pictures of tools that we use today.

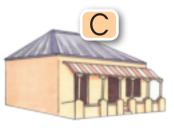




House from about 300 years ago



House from about 200 years ago



House from about 150 years ago



A modern house

How have the houses changed over the years?

Why did they change?

What materials were used to build these houses?

Which things will you find in house D that were not in house A?

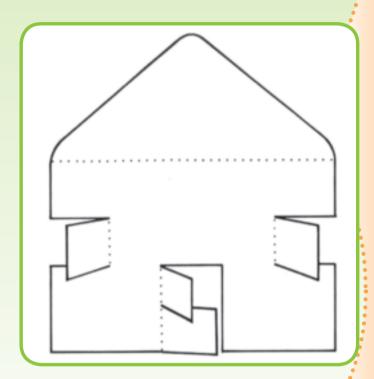


You have learned how houses changed and developed over the years.

In South Africa some houses are beautifully decorated, like the houses of the Ndebele people. They are famous for their colourful and creative wall decorations. Pretend you are a member of the Ndebele tribe, and that you are responsible for decorating the walls of your family home.

#### You will need:

- coloured paper
   a white envelope
   a pair of scissors
   crayons
   glue
- 1. Cut a door and windows into your envelope, as shown in the example.
- 2. Fold open the flap to form the roof.
- Now use different patterns, shapes and lines as well as bright colours to decorate your envelope house.
- 4. Ask your teacher to explain why it is important to use geometrical shapes and patterns.
- Paste your house onto the sheet of coloured paper.



6. Use pictures you find in magazines to decorate the background.



















- Pretend that you are sawing wood to build a house. Push and pull with your right arm, then change to your left arm.
- Stand next to your partner. Hook your right arm into your left arm. Pretend that you and your partner are picking up a heavy bag of mealies by leaning over to the left-hand side. Then lean to the other side.
- Pretend to be a tree. Raise one arm above your head. Make a fist and pretend that it is a piece
  of resin (gum) on the tree trunk. Your friend has to try to pull the resin from the tree while you
  hold it in place.
- Pretend you are riding a bicycle: lie on your back opposite your partner. Bend your knees and put your feet against your partner's feet. Start pedalling the bicycle with your legs.



# More about how things were done in the past

### Let's read

This was the third day Mr Maart visited the school. He had more to tell.

We had a furnace at the farm. We used it to make tools or to fix tools that were broken.

We also made iron horseshoes and wagon wheels.

When I was 10 we had a terrible drought and we did not have enough food. We were happy when the rains came.

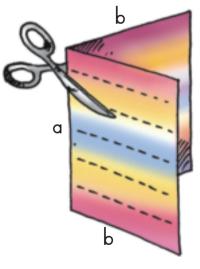


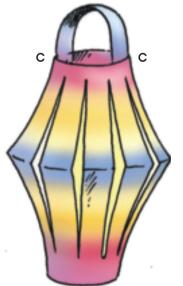


Make a lantern from the past.

#### You will need:

- A square sheet of white paper
- Water-colour paint in different colours
- A paint brush
- A ruler, a pencil, a pair of scissors
- Glue
- 1. Decorate your paper in different shades and colours.
- 2. Fold the paper in half.
- 3. Draw lines on the paper about 3 cm apart.
- 4. Cut along the lines, but not all the way to the edge.
- 5. Fold the paper open and glue the two ends of the paper together.
- 6. Use a strip of paper to make a handle at the top.







## Paying for things



In the past, how did people pay for the things they wanted? Use one of these words to complete the story of money below. We have given the first letters of the words to help you.

		1 0													
pay	tobacco	eat	silver	beads											
coins	gold	bartering	animal skins	notes											
Long, long ago,	people did not u	se c	and 1	notes											
to pfor things. In those days, they used															
as a way of exchanging goods. If someone had a lot															
of t, but not enough food to e,															
she or he needed to find someone who would exchange some food for tobacco.															
Things such as b, salt, a,															
cattle and toba	cattle and tobacco were exchanged. Later people began using pieces of														
9	and s		to pay for	goods. Later,											
the pieces of m	etal were used t	o make c	Today, we use												
n	and c_	or	credit cards to	pay for goods.											
				NA NA NA NA											
Let's move				740											
• Put some hoops or	n the groun <mark>d or drav</mark>	v circles in the sand.	1												
•	er tells you <mark>to jump,</mark>			157											
<ul> <li>When your teach</li> </ul>	er tells you to jump,	jump out of the circ	e on one foot.	37											

Play hopscotch. Use a piece of chalk to draw the squares

on the ground.

Date:	 	 	 	 		



This is how Mr Maart ended his story on his last visit to the learners:

Now that I'm retired and living a quiet life here in the town of Graaff-Reinet, I can think back on a hard, but good life. I forget the difficult times.

Most things have changed — there's Eskom electricity now and everyone has a cellphone. The old farmhouse has been rebuilt and it looks like a town house.

But many things are also still the same. The sheep look and sound the same and every evening a worker still carries fresh milk from the milkshed to the kitchen. Jackals and caracals still catch sheep.



# Earth as seen from space

The earth is the big ball or sphere on which we live. We call everything around it space, or the universe.

It is only during the past 50 years that we have been able to look at the earth from space.

Look at the photo of the earth on the right. You can see land, sea and clouds. Talk to your friend about which parts of the photo show land, which parts are the sea and which are the clouds.

North America

South

America



The beautiful view of the earth, our home, from high up in space.

Let's do

On the map, trace the outlines of the land parts that you can also see in the photo. Use crayons in different colours for the different parts.

Write down the names of those land parts.

Europe Asia

Africa

Let's read

The earth has a layer of air around it. We call this the atmosphere. Can you see it on the photo?

The planets and the rest of the Solar System

The earth's atmosphere is a layer around the earth that is about 120 km thick. If you travel more than 120 km from the earth's surface, you are in outer space. This is where we find the earth's neighbours: the other planets and stars.

In outer space there is no daytime — only night-time. Talk to your friend about why that is so.

Our nearest neighbours are all within our Solar System.

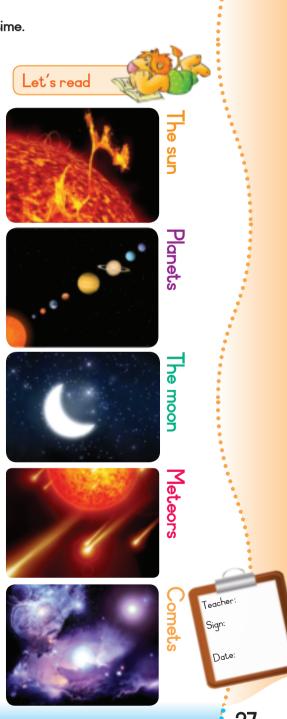
The sun is a very, very hot ball of gas. Deep inside the sun it is so intensely hot that gases "melt" together. This "melting" process gives us light, heat and energy on earth. The sun is a star and is at the centre of our Solar System.

Planets: There are eight planets, including the earth.

The moon is a cold, dead ball of rock and dust that revolves around the earth. It is 4 times smaller than the earth.

Meteors: These are chunks of rock. When they hit our atmosphere, they become extremely hot and burn out. This forms a glowing stripe in the night sky. We call them "shooting stars". If they hit the surface of the earth, we call them "meteorites".

Comets are chunks of ice and gas that travel in large orbits through the Solar System. They regularly come close to the sun.



## The stars



Our earth has many interesting neighbours in the solar system. You have learned a little bit about some of these neighbours. Which one would you like to know more about? Write down your choice below. Give two reasons for your choice.

My choice:		
Mutwo reasons:		

Let's read

When we pass the dwarf planets we leave the Solar System. Now we are into deep outer space. Here we find the following:

The stars are intensely hot balls of gas, like the sun, but very, very far from us. There are billions upon billions of stars — we could never count them all. Stars come in many different sizes — our sun is a medium-sized star.

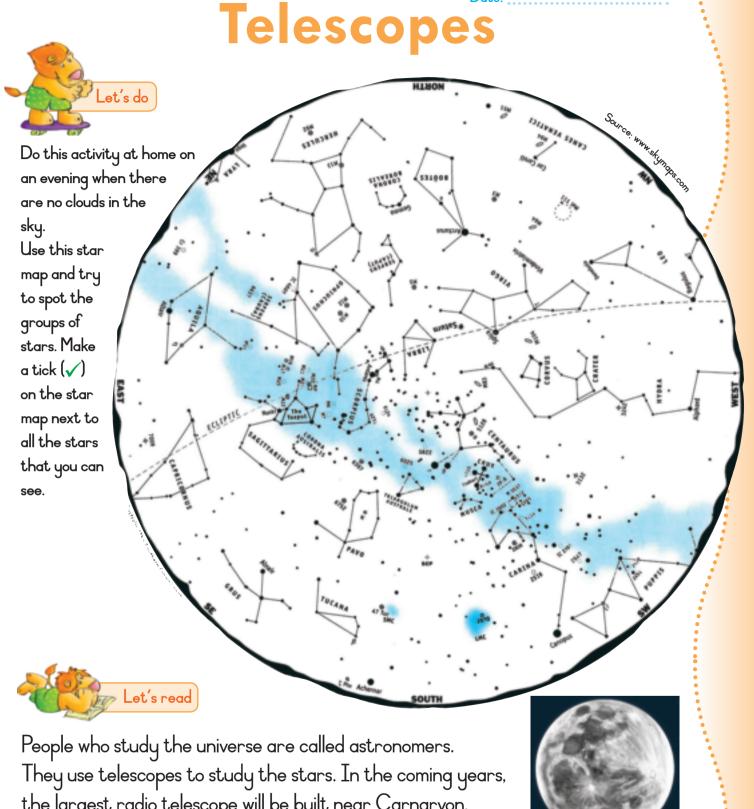
We call our solar system and outer space the universe. The universe is everything that exists, and we know very little about it. Do you think there are other places like our earth in the universe, where there is life?



#### Let's do

- Listen to the South African song your teacher will play.
- Together with your group work out a dance that you can perform to the song.
- In your group, work out and write a rap song and perform it for the class. Let's play
- Your teacher will divide your class in two groups. Play mini-soccer.





They use telescopes to study the stars. In the coming years, the largest radio telescope will be built near Carnarvon,
Northern Cape. Today we even have telescopes far in space that can send us pictures of very distant parts of the universe that we cannot see from earth. An example is the Hubble telescope, which sends us beautiful images from space. South Africa built its own large telescope near Sutherland in the Northern Cape.

Teacher

Sign:

## Space travel

Let's read

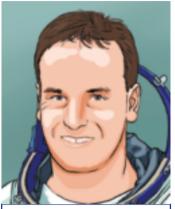
These people were all pioneers of space travel.



The Russian, Yuri Gagarin, was the first person to orbit the earth in a space craft (12 April 1961).



Neil Armstrong from the USA was the first person to stand on the moon (20 July 1969).



Mark Shuttleworth was the first South African to orbit the earth (April 2002).



Christa McAuliffe was the first teacher to be an astronaut, but she died when the space shuttle, Challenger, exploded (28 January 1986).

Did you know? The first black
South African to travel to
outer space, Mandla Maseko, from
Soshanguve in Gauteng, will make
the voyage on the Lynx Mark II
Shuttle in 2015.





Talk to your friend about which planet you would like to visit.

How would you reach that planet?

Who and what would you take with you?

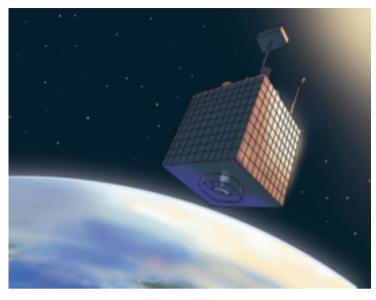
For how long would you like to visit the planet?

Date:

## **Satellites**



Did you know that the moon goes around the earth? An object that travels around something else is called a satellite, so the moon is a satellite of the earth. The path of a satellite is called its orbit. There are many artificial satellites that have been sent into orbit around the earth by human beings. The



first artificial satellite went into space in 1957. The Hubble telescope is one of these satellites. The University of Stellenbosch developed South Africa's first satellite, SunSat. It was launched in February of 1999. There are many different types of satellites. Some of them gather information about space, some are weather satellites and some are communications satellites that send pictures and information from one part of the world to another. A large satellite is the International Space Station, where many scientific experiments and observations are done.



Discuss these questions with your friend. Afterwards you can explain your ideas to the class.

- Many vehicles have satellite tracking systems to help them find their car
  if it is stolen. How do these systems work?
- What information do you think farmers get from satellites?
- Can you think of new uses for satellites?





Let's move Your teacher will teach you to play volleyball and cat and mouse.



Special days



Let's read

Some of these religious days are on different dates each year. Find out when they will take place this year and write the dates in the spaces provided.

Teacher's note: These religious and special days fall within the third term. You should use three hours during the term to talk about these days. What you do as a class will depend on the religious and cultural composition of the learners in your class and your school policy. The two public holidays should be honoured by all South Africans.

Ramadan: (if the new moon has been

seen) is the beginning of the month of Ramadan – an Islamic religious day. Ramadan is a time of fasting, with special prayers and reading of the Qur'an.

Date:

Eid-ul-Fitr: (if the new moon has been seen): Eid-ul-Fitr is an Islamic religious festival. This is a joyous but serious celebration of the end of the month-long fast of Ramadan. It is a day of praise, caring for the poor and visiting friends and family. Date:

July or August: Raksha Bandhan is a Hindu festival. Hindus celebrate the relationship between brothers and sisters. A sister ties a rakhi (a sacred thread) on her brother's wrist to represent her love and prayers for her brother, and the brother's lifelong promise to protect her. Date:



August or September: Krishna Janmashthami is a Hindu religious festival. The birth of Krishna Janmashthami is celebrated by fasting. Krishna is a central figure of Hinduism. On this day children usually act scenes from Krishna's life.



Date:

September: Pitr Paksha is another Hindu religious festival. Hindus give respect to their ancestors ("pitrs"), especially through food-offerings.



Date: (

Date:																					
	0 0	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	

July or August: Tisha B'av is a Jewish religious day. Jews fast to mourn the destruction of the First and Second Temples in Jerusalem, and remember other Jewish tragedies that happened on this day. The day is called the "saddest day in Jewish history".

Date:

September: Rosh Hashanah is the Jewish New Year. People blow a ram's horn (called a "shofar") to celebrate the day. They eat foods like apples dipped in honey to show that they are hoping for a sweet life in the new year.



Date:

September or October: Yom Kippur comes ten days after Rosh Hashanah. It is the most holy Jewish religious day. Date:

9 August: National Women's Day — Public Holiday. On 9 August 1956, 20 000 women protested at the Union Building in Pretoria against the fact that Africans had to carry "passbooks". The role of women in South African society is celebrated on this day.

1-7 September: National Arbor Week. People are encouraged to grow trees.

8 September: International Literacy Day.
The day highlights the importance of learning to read and write.

24 September: Heritage Day — Public Holiday. All South Africans may celebrate their culture and other cultures.







# Plants – what we get from them

Let's read

The earth is full of living things. There are animals, like humans, sheep and crows, and plants, like mealies and willow trees, and funguses, like toadstools.



Plants usually have branches, leaves, stems and roots. They bear flowers, fruits and seeds. Most plants have leaves that are coloured green.



Let's talk Where does our food come from?

Look at the pictures and talk to your friend about them.

On the next page is a list of foods. Which of them do not come from the things in the pictures?





you remember.

our food comes from. See what

Date:																								
	• •	•	• •	•	• •	•	•	•	• •	•	•	•	•	•	•	•	• (	•	•	•	•	•	•	•



Plants give us many kinds of food. All vegetables, fruits and nuts come from plants. They help to keep us healthy because they contain vitamins, minerals, proteins, carbohydrates, oils and fibre. Even chocolate comes from plants.



Write a letter to a person who usually makes food for you. Use this frame. Use words from this list in your letter:

mealie meal bacon pumpkin potato carrot peanut butter bread cake lettuce beef peaches apples watermelons

	4
Dear	
Thank you for	
I like to eat	
I do not like	
because	
Will you please make me	
Food from plants can be good because	

Let's talk

Look at these pictures and talk to your friend about the shapes plants can have.











# Plants – from sugarcane to sugar

Let's read

Sugar is one of the foods that we need to stay healthy. There are different kinds of sugar. We get sugar in fruit. Even milk contains sugar. The background picture below shows you the big sugarcane fields of KwaZulu-Natal.



Sugarcane is very useful.

Sugarcane is a tall plant that looks like bamboo. It grows in a tropical climate. Sugarcane needs a lot of sunlight and rain. In South Africa the province of KwaZulu-Natal is the best place for planting sugarcane.

- I. Look at the pictures of music instruments your teacher will show you.
- 2. Listen to various South African styles of music your teacher will play. Discuss the following:
- The rhythm of the songs
- The pace fast or slow?
- The pitch
- How the music makes you feel
- What instruments you can identify

#### Lat's mayo

Complete the obstacle course your teacher has built. Your teacher will show you how to run a three legged race.

Look at the picture of sugarcane. Notice the following parts of the plant: long, golden stem; long, narrow leaves; the divisions (called internodes) along the stem; the bunch of roots

Sugarcane has to grow for 14 to 24 months before it is ready to be harvested. The stem contains the sugar — a sticky brown syrup — which is not at all like the sugar we use in our homes!

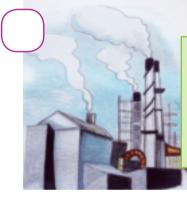


in the soil.

Number the pictures in the correct order to show how sugar is produced.



Tractors plough the land.

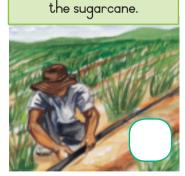


At the mill the sugarcane is pressed and the sugar syrup squeezed out.

The sugar is then cleaned and refined, ready for us to buy it.



Sugarcane is harvested and tied together in bundles.



Irrigation is used to water

Sugarcane shoots are planted.





The sugarcane is taken to the mill.



Date:

Sugarcane arrives at the mill.



# The earth – what it gives us



Last term you learned about the earth. It is the planet where we live. The earth gives us most of what we need to live.

Around the earth is a layer of air. It contains oxygen which we need to live.



The thin layer of the earth on which we live and which we call the "crust", has topsoil which we can use to plant food. This first layer of land also has hard rock like mountains. From this layer we get minerals like gold, diamonds and petroleum, as well as coal.

We also find the oceans on this thin layer of rock. From the oceans we get food like fish. The sea is also important because many ships carry goods and passengers on it.



that are new to you.

Let's talk following foods co	d where food comes from. With your friend tick (/) which of the ome directly from the soil:
apples	
bacon	
cheese	
oranges	
eggs	
gem squash	
amasi	Let's move  • Blow bubbles in a bucket of water.
spinach	Put your face into the water for 3 seconds while you hold your breath, keeping your nose and eyes
chops	open.  Pretend you are swimming
peaches	Lie on your back and kick your legs Lie on your stomach and kick your legs
peas	Stand upright and move your arms as though you are swimming back stroke
Draw a line from every word t	Now move arms as if you are swimming breast stroke.
picture. What does your list te	əll you?
	aragraph to the earth to thank it for what it gives us. sentence in which you promise to help look after it.
Dear Earth	
Thank you for the	
I promise to care for you by	Teacher: Sign: Date:

Date:

# The earth – from clay to brick



The earth has many different kinds of soil. Clay is one of them. For thousands of years people have used clay to make bricks for building.





Draw two things we can build with bricks and give each drawing a caption.



Let's write

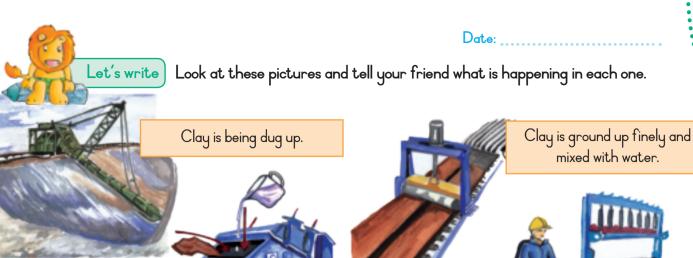
Answer these questions.

Why are bricks not all the same colour?

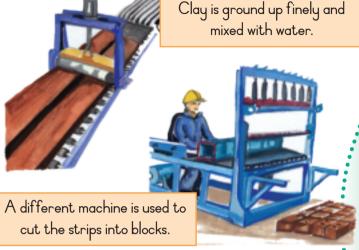
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Are bricks made only from clay?





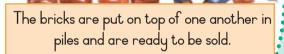
A machine is cutting up the clay mixture into strips.



The blocks of clay are dried. The dried pieces of clay are baked in a huge oven, called a kiln.



When the bricks are removed from the kiln, they are sorted.



Number the sentences in the correct order to show how we make bricks.

When the bricks are removed from the kiln, they are sorted.
Clay is ground up finely and mixed with water.
A machine is used to cut the strips into blocks.
The clay is dug up by big machines.
The bricks are stacked in piles and are ready to be sold.
The dried pieces of clay are baked in a kiln.
A machine cuts the clay mixture into strips.
The blocks of clay are dried.

#### 3 1 1 E

### Disasters and what we should do: floods



#### Disasters

A disaster is an event that happens suddenly and that has serious results for people and nature. A disaster can cause many deaths and a lot of damage.

Many disasters are caused by natural things like wind and rain. An example is a flood after very heavy rains.

Humans can also cause disasters. For example, leaving a candle to burn all night can cause a fire.



Look at these pictures and talk to your friend about them.

Talk about what you see in each picture. Say what kind of disaster each picture shows.

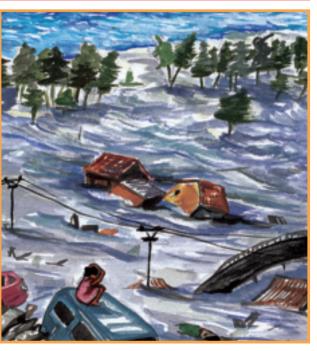
Write down your thoughts.

Your teacher will make a list of everyone's answers on the board.

Add answers that are different from yours to your list.







Date:												
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Read the following newspaper article about a flood disaster. First read it on your own. Then sit with your friend and read it aloud. Take turns. You read a paragraph, then your friend reads a paragraph.

### Flash flood causes disaster

Schmidtsburg Saturday 14 January 2011

Twelve people died and forty-five were rescued from trees and rooftops in this Northern Cape town.

The disaster happened after very heavy rains on Friday. It rained much more than people had expected.

It was the worst rainstorm in the town since 1985. Two people died when they tried to cross a bridge and their cars were swept away.

Emergency staff from the police, the fire brigade and the army rescued people. Police are still finding out if all the victims have been found. Many people in the town have lost everything in their homes. Houses in low-lying areas too close to the river had the worst damage.

Some of the victims did not listen to warnings by the police.



Many people have no food and clothes. They are now staying in church halls or with friends and relatives.

It will take six months to repair or rebuild everything. The mayor asked everyone to stand together.



Let's write

Read the newspaper article again. Then answer these questions.

In which province did the flood disaster happen?

When did the rain start?

Does it often rain much in the town?

Why are there many people who have no food?





Let's read

A fire happens when three things come together.

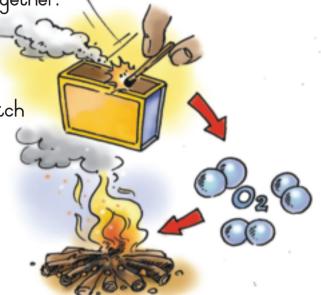
These three things are:

fuel that can burn, like dry wood

heat like a flame from a lighter or a match

the gas in the air called oxygen.

All three things have to be there at the same time. Did you know that a fire will not keep on burning if there is no oxygen?





Your teacher will light a candle and then put an empty glass over it. Look at what happens.







Why did this happen?
Write one sentence in your classwork book.



With your friend, work out answers to these questions:

Why did the flame on the candle die?

You will need to know the answer to this question if you ever have to put out a fire. Why?

Your teacher will listen to all the answers and decide which ones are the best.



As a class, discuss what materials can burn. Then talk about which of these things you can find in your homes. From your discussion, what message can you take home about being safe from fire?

100	
	Let's write
	(10)

Write your answers in the open spaces in the table.

### Why fire is important to us

What fire gives us	How we can use it	
Пеат.		

Light



Give your book to your teacher to look at your answers.

Fire disasters can also cause much damage and many deaths.

Veld fires are sometimes good, because they help new plants to grow. But bad wildfires can destroy plants and animals. They also lead to soil erosion and air pollution.

It is sad that careless people cause 9 out of 10 (more than 90%) of fires.

All of us have to learn how to prevent fire disasters and what to do when there is a bad fire.

What danger is threatening the boy on the right? What has he done wrong?





#### Let's do

- Cut pictures of people out of magazines.
- Create a collage picture in which the body parts of the people overlap.

### Lightning

Let's read

Sometimes when you touch something made of metal, like a doorframe, you hear a sharp click and you feel a slight shock. This is because some electricity has built up in your body and it is passed on to the metal object when you touch it.





The flashes we see during thunderstorms are the same. Electricity builds up in a cloud, and it is then "passed on" to another cloud (picture above) or to the earth (picture left).

The loud clap you hear after a flash of lightning is like the click sound when you touch a metal object, but much louder. Every year, more than 30 people are killed by lightning in South Africa.



### Here are three rules for safety in a thunderstorm.

If you are caught in a thunderstorm, remember:

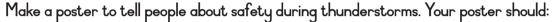
- Never take shelter under a tree or near a metal fence.
- Don't hide in a hole in the ground or lie down on the ground.
- If you are in a river, a dam or a swimming pool, get out as quickly as you can!



Talk to your friend about the picture. Say why this is a dangerous position to be in during a thunderstorm.



Look again at the three rules for safety in a thunderstorm. Choose one of them.



- have words
- have at least two different textures
- be easy to understand





• With your body show how lightning
flashes. Sometimes it looks forked and jagged, and sometimes it looks like a sheet of light. Hold the first pose for 10 seconds.

- Change into another "lightning" pose and hold for 20 seconds. Stand face to face with your friend, who will slowly change into different "lightning" poses.
   Copy all these movements as if you are in a mirror.
- C. I . . .
- Stand on your own again.
- Now move your bodies fast as if you are bolts of lightning.
   Repeat these movements.

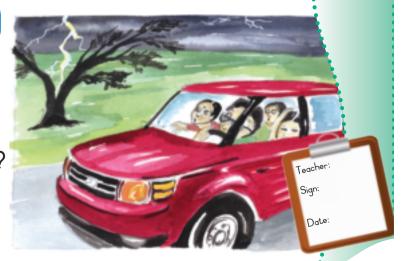


Now enjoy a game of tennis using forehand and backhand strokes.

Will you be safe in a motorcar during a thunderstorm?

Can lightning strike twice in the same place?

Discuss these questions in your class.



Let's move



### Storms and strong winds



Let's read

Read Maisy's story about a bad storm.

### My worst experience

Big black clouds had gathered throughout the day. Dad listened to the news on the radio which kept warning us about strong winds and pouring rain. The police came to see that we were well and told us what to do in a storm.

Dad put his torchlight, a portable radio and our personal documents into a plastic bag. Mom packed clothes for two days for each of us into a bag. Granny put her pills into a little bag she kept around her waist. We filled water bottles we could carry.

Dad chopped down a big branch of a tree that was hanging over our house. We closed the windows and Dad stuck sticky tape on the glass windows and even nailed planks over them.

As it got darker it started raining more heavily. The wind roared louder and louder. Just as the water started rushing past our front door, municipal



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)ate:

workers brought us sandbags and black bags to use as raincoats.

We were terrified. The roof rattled and water leaked in all over. Every few minutes, something crashed down on the roof.

There was a loud ripping sound and an ear-splitting bang. Our house had no roof anymore!



We pulled the black bags over our heads and ran from the house. We had to duck as things were being blown around us. The sky was lit up by flashes of lightning. We raced through the mud to the community centre. Many other people were already there.

The next morning, we saw how much damage the storm had caused.

Our chickens were nowhere to be seen, and the poor cow had run away.

The storm was a terrible disaster and caused damage in many neighbouring towns. We were lucky to be alive.



The following words describe different kinds of storms:

Hurricane: a very strong wind that causes serious damage

Cyclone: winds turning around a centre part that is quiet and still

Tornado: a violent whirlwind over a small area

Which of these storms do you think hit the family?

What did the family do to protect themselves before the storm?



### Earthquakes

Let's read

An earthquake happens when a part of the earth's crust moves suddenly and shakes or trembles.

The sudden movement makes waves that run through the earth's crust. They shake the ground and many things on it – this is what we feel and see.



Earthquakes can cause many deaths and injuries and serious damage to buildings.



Let's read

Here are some interesting facts about earthquakes. Sit in groups of four. Take turns to read them aloud.

- About 10 000 people die in earthquakes every year.
- Eight out of every
   10 earthquakes happen around the Pacific Ocean.
- Earthquakes under the ocean sometimes cause huge sea waves called tsunamis.
- Tsunamis travel very fast across the ocean. Some get up to 960 kilometres an hour.
- Some tsunamis are 15 metres high.
- The biggest tsunami happened on 26 December 2004.
- It affected 11 countries in the Indian Ocean.
- There was another bad tsunami on 11 March 2011, in Japan.
- Deaths can be prevented if people plan for earthquake disasters. They can design



- buildings that swing from side to side during an earthquake, instead of breaking.
- On 29 September 1969 a strong earthquake shook Ceres, Tulbagh and Wolseley in the Western Cape.
- Such strong earthquakes do not happen often in South Africa.
- Durban, Pietermaritzburg and Cape Town are the South African cities where earthquakes sometimes happen.
- Since February 2010
   the Augrabies region in the Northern Cape has had some small earthquakes called earthquake swarms.
- There are 26 stations in South Africa that warn us of earthquake dangers.

Date:																			
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Look at the map and fill in the numbers in the correct places to show the following.

- 1 The ocean where most earthquakes happen.
- 2 The region where there was the biggest tsunami in December 2004.
- The country hit by a tsunami on 11 March 2011.
- The city in the Western Cape that sometimes has earthquakes.
- 5 One of the cities in KwaZulu-Natal that sometimes has earthquakes.
- 6 The area in the Northern Cape that has earthquake swarms.



### Animals that help us

et's talk Look at these photos. As a class discuss how these animals help us.







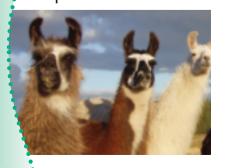






Let's read

Long ago, people started using the skins of animals as clothing to protect themselves against the wind and cold.



Later people discovered that they could also use wool from sheep and other animals like llamas to make clothes. These clothes were lighter and warmer than the skins.

We use the skins of animals to make different leather products such as handbags, jackets, purses and shoes. We also get meat from animals. But many people do not eat meat because of their religion or because they think it is wrong.





Thousands of years ago, all animals were wild. Over many years animals like dogs, cats, sheep, horses and cattle became tame. Today, we have farm animals that give us many different things.



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### Animals that give us food or clothes: bees





Bees make honey and beeswax and help farmers to produce fruit. Bees live in communities called hives (or nests). Some of the bees go out to collect pollen and nectar from flowers. They take this back to the hive. The pollen is fed to the young bees, and the nectar is turned into honey to feed the adult bees.



The bees keep the honey and pollen in a store called a honeycomb.

The honeycomb is made of a wax that the bees produce from their own bodies.







Bee farmers collect the extra honey which bees will not use as food. Honey is a very healthy food, and we eat it on bread and with porridge.



We also use beeswax to make all kinds of products, such as these:

candles

- crayons
- furniture polish
- soap
- lip balm and cosmetics
- waterproofing for leather
- polish for leather products like shoes

Bees are also very important to us, as they help many of the food plants grown by farmers to make new seeds and grow fruits from which new plants can grow. The bees do this by spreading pollen from one plant to another while they

About a third of the food we eat benefits from pollination by bees and other insects. But there are fewer

collect pollen and nectar.

bees now than before because of diseases and the use of pesticides. Be careful with bees. When they sting you it is very painful.

Are these statements true or false? Mark the correct be	oox with a tick (🗸)						
Your teacher will give you the answers.	True	False					
Bee stings are not painful.							
Bees throw the pollen away as they fly to their hives.							
Farmers rob bees of the only honey they have.							
Honey-bees have become used to living alongside humans.							
Honey is poisonous when used in hot foods.							
Beeswax can help to shine your leather shoes.							
Beeswax cannot keep water out of leather shoes.							
Honey is bitter.							
The number of bees is increasing.							
Bees use honey as food.							

# Animals that give us food or clothes: chickens



Chickens belong to a group of animals we call poultry.

Poultry are birds that have become used to humans. Poultry includes chickens, turkeys and pigeons, doves and pheasants, as well as water birds like ducks and geese.

We get eggs, meat and feathers from poultry.

In South Africa, about 950 million chickens are bred every year for eggs and meat. That is almost 1000 times more than the number of Grade 3 learners in South Africa.



Look at these pictures and talk to your friend about them. Which ones give us eggs that many of us eat?





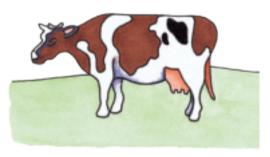
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## Animals that give us food or clothes: cattle



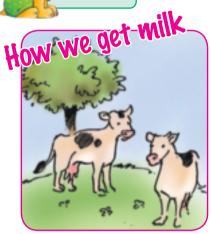
Where does our milk come from?

Do you know how milk gets to us in our homes? Let's learn more about it.





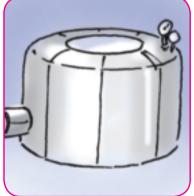
et's talk Look at these pictures and talk to your friend about them.



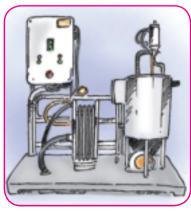
















	Date:	
Let's talk		
Milk is not the only thing we get		
What else do we get from cows?	? Share your list with the class.	
In each frame, draw Write the name of	aw a product that is made from milk. The product below each picture you draw.	
Can Market Marke		Teacher: Sign: Date:
		59

# Animals that give us food or clothes: sheep

Let's read

#### Wool

At the end of winter, sheep don't need their thick woollen coats to keep them warm any longer. So this is the best time to give them a hair cut! This is called shearing. We use the sheeps' wool in many kinds of clothes that keep us warm. We can knit jerseys with wool, and we can weave wool to make soft, warm material.

There are different kinds of sheep.
In South Africa, the main ones are
the Merino, the Blinkhaar-ronderib
Afrikaner, the Dorper and the
Dormer. The photos on this page show
you what they look like.



The Merino is by far the largest breed in South Africa.



The Blinkhaar-ronderib Afrikaner is a South African breed. It stays strong and healthy even in difficult conditions.



The Dorper sheep is bred especially in South Africa.

The Dormer is also bred in South Africa.

Its wool is quite coarse.

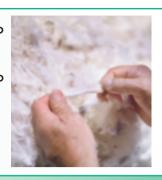


### How we get wool

 The farmer shears the sheep by hand or with a machine.



The wool is put onto a sorting table and sorted according to quality and length.



The wool is flattened and made into bales and sold.



4. Now the wool is washed to clean it.



5. Wool clips are washed again to prepare them for spinning.



 During the spinning process, the wool is stretched and plaited.



7. The wool is now ready to be woven.



8. Next, the wool is dyed.



Wool is used to knit a jersey.



10. The jersey is sold in a shop.





Talk to your friend. In what other ways can sheep be of use to people?

Let's play

Your teacher will teach you to play mini-cricket.

# Animals that work for us: dogs

Let's match

Many dogs are pets and often share our homes with us. But they also do a number of important tasks. Draw a line to match each dog with its owner.



Police dogs help the police to find criminals.







Guide dogs help blind people to find their way around.







Sheepdogs make sure all the sheep stay together.



Guard dogs help to protect us from criminals.

Hunting dogs help hunters to find birds or animals they have shot.



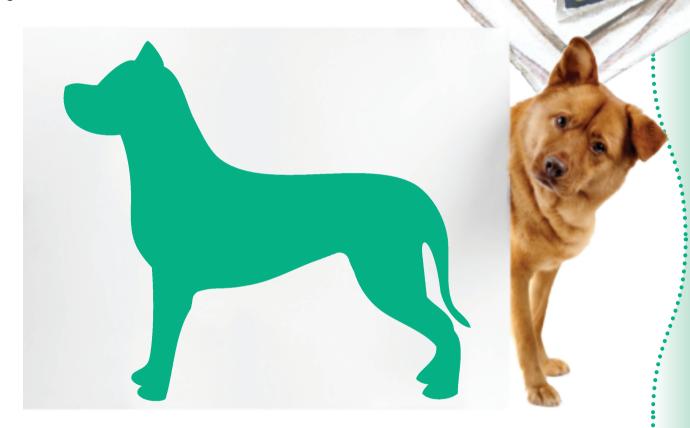
Date:



Make a shadow picture of humans' best friend: the dog.

### You will need:

- paper in two different colours
- a pair of scissors
- a pencil
- glue



- Draw a large dog on one of the sheets of paper. Make sure that you cover the whole piece of paper.
- Now cut out your dog neatly and carefully.
- Paste your cut-out dog onto the other sheet of paper.
- Draw eyes, a snout (a snout is a dog's nose) and a mouth with teeth on your dog.
- Decorate your picture in any way you like. Remember that colours like black on orange, which stand out against one another, work best for making a shadow picture.



# Animals that work for us: donkeys



Donkeys have helped people for about 6 000 years. They have carried us and our heavy packs on their backs, ploughed our fields and pumped our water.

All of these things still happen today. There are about 41 million donkeys all over the world. This means that every school child in South Africa could have 3 donkeys.





Let's write

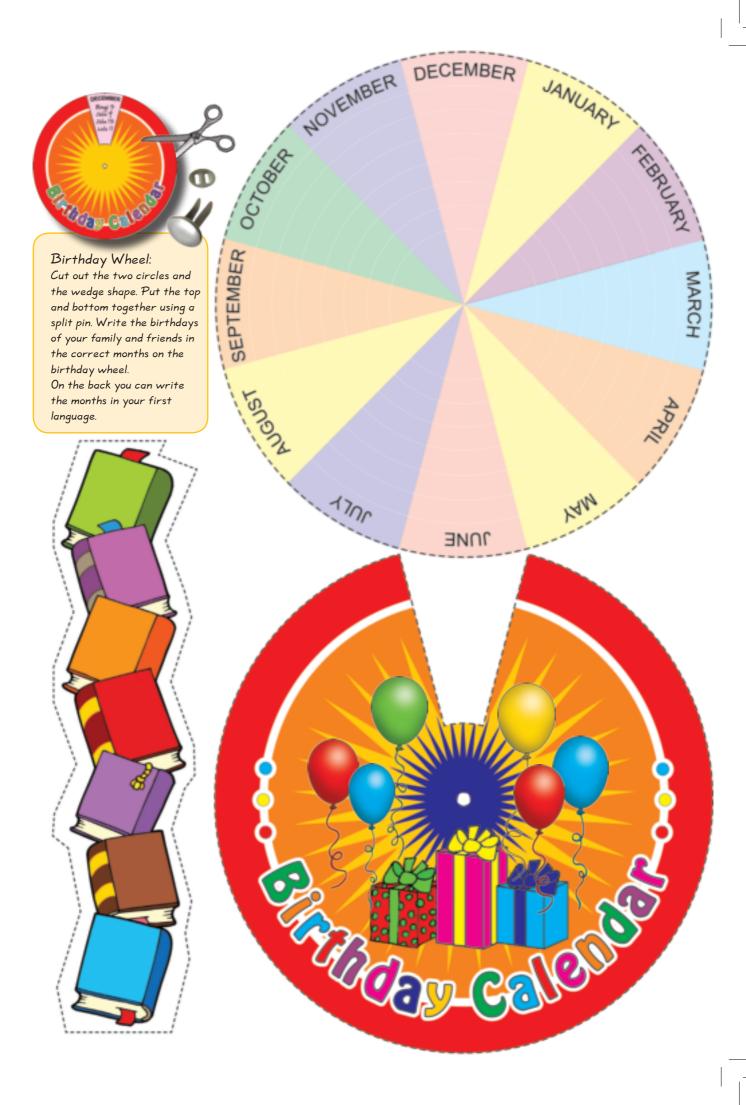
Look at the pictures and write a sentence for each picture about how the donkey is being used.

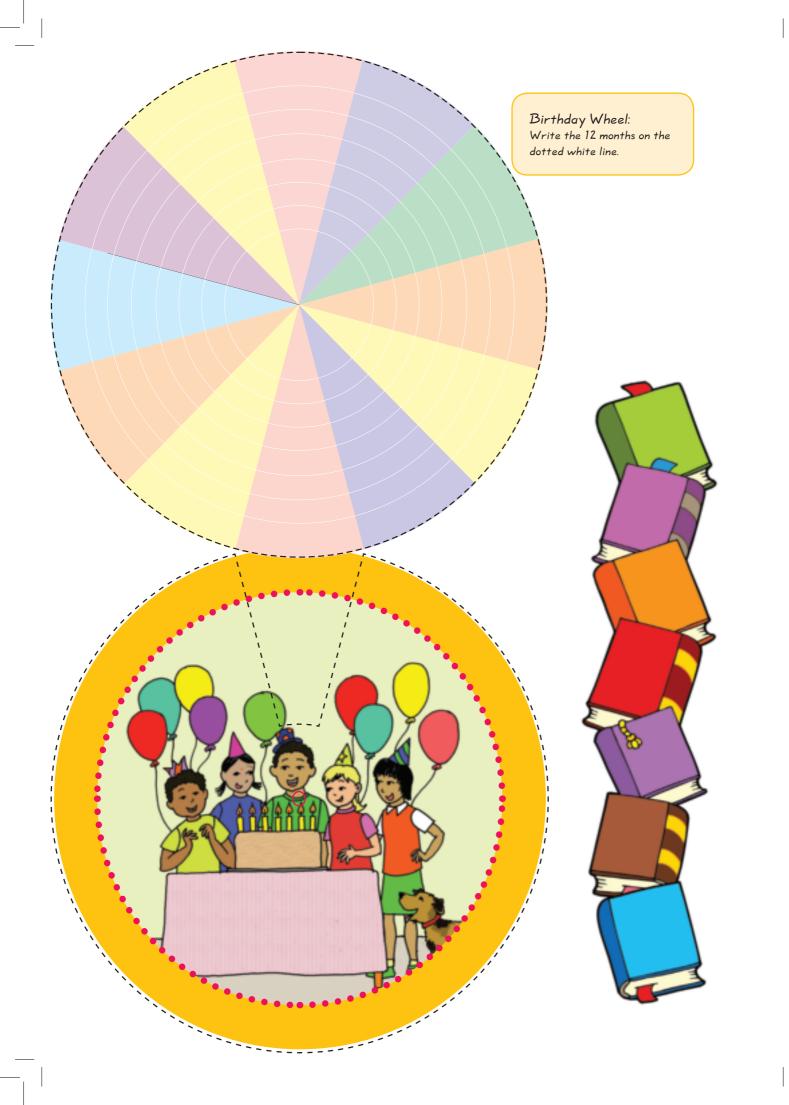












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