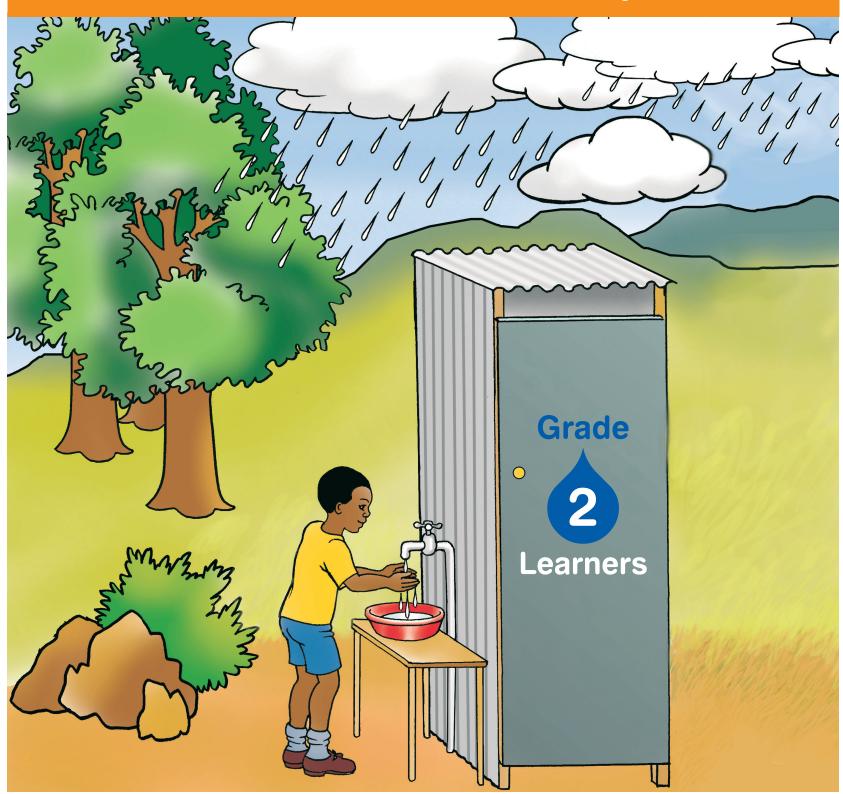
Water is Life

2020 Vision for Water and Sanitation Education Programme







Acknowledgements

The Department of Water and Sanitation (DWS) is extremely grateful to those who helped review, design, test and produce this material and its earlier versions. It is acknowledged that without their contributions in terms of professional expertise and processes, the material would have lacked in depth and scope and would have taken longer to complete.

The significant role played by the Department of Education has not gone unnoticed and is highly commended. The guidance and support that the Department provided has been extremely valuable. The immense contribution also received from sector stakeholders and partners, including the Department of Agriculture; Conservation and Environment; the Department of Arts and Culture; the Department of Science and Technology; Department of Health; the South African Broadcasting Corporation; Swimming South Africa and Water Institute of Southern Africa merits recognition. In allowing the Department of Water and Sanitation the privilege of tapping into their wealth of knowledge and information, the quality of the content has been significantly enhanced.

It would probably have been a challenge to manage this process without the concrete support of the sponsors. Appreciation thus goes to ABSA, MTN, Play Pumps International and Cape Peninsula University of Technology for the resources provided in making this initiative a success.

The team that was intimately involved in championing and driving this process also aught to be acknowledged. Your many hours of tireless effort directed towards this initiative have brought the Department the success it can be proud of.

The Wildlife and Environment Society of South Africa (WESSA) played a big role in linking this resource to the CAPS curriculum as well as making the final edits and layout.

GRADE 2 LEARNERS.indd 2 2010/10/07 11:59 AM

Water is Life

Name.....

Surname.....

Grade.....



Grade

2

GRADE 2 LEARNERS.indd 4 2010/10/07 11:59 AM



Table of Contents

WATER IS LIFE

8	Activity la:	Water uses in our homes	
8	Chapter 1. Where does water come from? - Life Skills Term 1 - Topic: What we need to live.		
11	Activity 1b:	How to use a dictionary	
14	Activity 1c:	Colouring Activity	
15	Chapter 2. Sources of water - Life Skills Term 1 -Topic: What we need to live.		
15	Activity 2a:	The water cycle	
17	Activity 2b:	Steps of the water cycle	
18	Chapter 3. Uses of water - Life Skills Term 1 -Topic: What we need to live.		
18	Activity 3a:	How water is used	
20	Activity 3b:	How much water do we use?	
24	Activity 3c:	Water and I	
	WATER USE EFFIC	CIENCY	
26	Chapter 4. Get water live.	er wise - Life Skills Term 1 -Topic: What we need to	
27	Activity 4a:	Water audit check list	
34	Activity 4b:	Water saving tips	
36	Chapter 5. Use water live.	er wisely - Life Skills Term 1 -Topic: What we need to	
36	Activity 5a:	Do not waste water	

GRADE 2 LEARNERS.indd 6 2010/10/07 11:59 AM

WATER QUALITY

Chapter 6. Safe and unsafe water - Life Skills Term 1 - Healthy Living 41 41 Activity 6a: Spot the dangers 44 Activity 6b: Purification of Water 46 Killing germs in water Activity 6c: 49 Activity 6d: Always clean (purify) water SANITATION, HEALTH & HYGIENE Chapter 7. Use and care of sanitation facilities - Life Skills 53 Term 1 - Healthy Living 54 Take care of your toilets Activity 7a: 58 Cholera and what to do Activity 7b: Spread the word 61 Activity 7c: WATER SAFETY Chapter 8. Swimming safely - Life Skills Term 1 - Healthy Living 64 65 Swim safely Activity 8a: 67 Activity 8b: Do's and don'ts **FORESTRY** Chapter 9. Structure of a tree - Life Skills: Term 3; Topic: Soil -70 Soil for the growth of plants **70** Activity 9a: Functions of the tree **72** Activity 9b: Functions of a tree **CLIMATE CHANGE** Chapter 10. Our changing world - Life Skills Term 2 - Topic: Seasons **74** 74 The greenhouse effect Activity 10a: **75** Activity 10b: Know the effects

GRADE 2 LEARNERS.indd 7 2010/10/07 11:59 AM

BIBLIOGRAPHY

Water S Life

Activity

At the end of this activity you will be able to:

- Read and use a dictionary to check new and difficult words so as to understand written texts.
- Identify sources of water.

You will need

- Worksheet
- Workbook
- Pencil
- Dictionary

Activity 1a: Water uses in our homes

- WORK IN PAIRS
- What do you use water for at home?
- Where does water come from?

6

Where does water come from?



- Is that all the places we get water from? Where else can we get water from?
- Read the following fact sheet

When it rains

When it rains, raindrops fall and get soaked into the ground.

Some of the rain water makes puddles or ponds on sidewalks or on the ground. But if

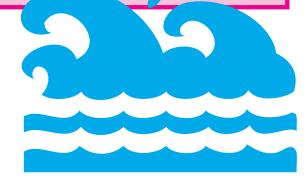
it rains heavily and the soil can hold no more, the water runs down the mountains, around the rocks, roots of trees and finally comes together to form small streams. Several streams join together to form a river. When the ground flattens the river either keeps on running past villages, towns,

and cities until it reaches the ocean or it slows down and sometimes form lakes.

Water(is)Life



Some of the water soaks into the ground to become groundwater which comes out at different places as springs. People have different ways of collecting rain water. Some people put up gutters on their roofs so as to collect this water into biq tanks. Some fetch their water directly from the river with their buckets and pots. Some people direct the water from the river to the dams or reservoirs where it is cleaned and stored for our taps. Some people dig into the soil and pump the groundwater to wells from where people can fetch their water.



Where does water come from?



Activity 1b: How to use a dictionary



Look up the meaning of the following words and write them in the spaces provided.

Ι.	Pond
•••••	•••••••••••••••••••••••••••••••••••••••
2.	Stream
•••••	
3.	Ocean

Water is Life 11

(1) Where does water come from?



4. Lake

.....

5. Spring

.....

.....

6. River

.....

7. Reservoir

.....

(1) Where does water come from?



8. Tap

.....

.....

9. Well

.....

.....

.....

of our e

it 1

Water is part of our every day lives –

> it keepS life going.

Water is Life 13



Activity 1c: Colouring Activity

WORK

Recite the poem and colour in the picture.



Rain, rain, go away.

Come again some other day.

We want to go outside and play.

Come again some other day.

You may change the third line to: Little (child's name) wants to play

Life Skills Term 1 Topic: What we need to live.

Water S Life

Activity

At the end of this activity you will be able to:

- Label the picture to demonstrate your understanding of a water cycle.
- Dramatise the water cycle.

Did you know?

Rain water becomes clouds again.

Activity 2a: The water cycle

What to do



Your teacher will narrate a story that you will act out.

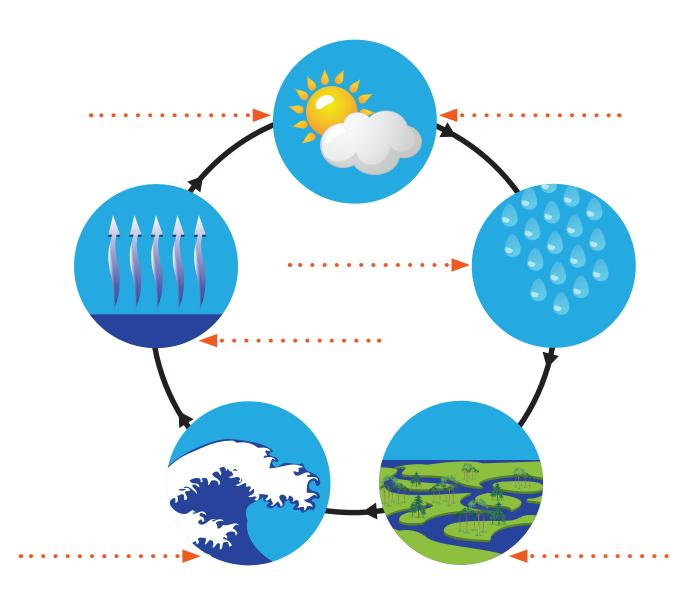
- Listen to the story carefully.
- Select one of the following words and write them in the correct place.

Water is Life 15



Sun; Clouds; Rivers and Streams;

Rain; Ocean; Vapour





Activity 2b: Steps of the water cycle

What to do



 Write short sentences to describe the steps of the water cycle.

•••••••••••••••••••••••••••••••••••••••	•••••••••••••••••••••••••••••••••••••••
	•••••••••••••••••••••••••••••••••••••••
	Water means life – Save water and Save lives.

Water is Life 17

Life Skills Term 1
Topic: What we need to live.

Water S Life

Activity 3a: How water is used



- Look at the following poster on uses of water
- Fill in the table

Uses of water poster



(3) Uses of water



What do people use water for?	What do animals use water for?	What do plants use water for?

Water is Life

19



Activity 3b: How much water do we use?



What to do

- 1. For the next two (2) days place a tick next to the water activity whenever it is used. Place as many ticks as you can.
- 2. You may add other water activities that are not listed.
- 3. Count the number of ticks in each use and add the total.



) Uses of water



Water activity	Home	Total	School	Total
Flushing toilet				
Watering the garden				1
Making ice cubes				1
Washing dishes				1
Washing hands				
Washing clothes				1
Washing cars		*		*
Bathing/Showering				1
Drinking				
Steam iron				1
Pools/Dams				1
Cooking				
Brushing teeth		*		*
		*		*
		+		+
		+		+



Extended activity



Once you have calculated the totals:

- Compare the number of times each activity uses more water.
- List which activity is used the most, which uses the least and the things that can live without water.

At home			
Most used activities	Least used activities	Things that can live without water	

(3) Uses of water



At school			
Most used activities	Least used activities	Things that can live without water	

Did you know?

Everyone should drink between 7 to 8 glasses of water a day.





Activity 3c: Water and I

WORK

What to do

 Draw a picture of yourself using water (e.g. swimming) and write one or two sentences about yourself.



(3) Uses of water



1	<i>1</i> .		II T
W	ater	an	d I

.....

.....

.....

2. Choose one of the following questions and complete the sentences.

washes; drink; tea

- a. I a glass of water.
- b. Mother makes with water.
- c. The girl herself.

Water use Efficiency

In this activity you will be able to:

- Identify the good and bad practices that save and waste water, respectively.
- Discuss the ways of saving water.

Background information

Water is a scarce resource, yet so many people continue to use and waste it as if there was an endless supply. If you waste something, you use it too much, or use it for no purpose. South Africa is classified as a semi-dry country and many people do not have enough water. It also cost a great deal of money to manage our dams and water transfer systems so that people receive enough water.

We must all learn not to waste water!



Activity 4a: Water audit check list

What to do



Answer the following questions.

- 1. Have you ever noticed any leaking taps at home?
- 2. What do you do at home when you see a leaking tap?

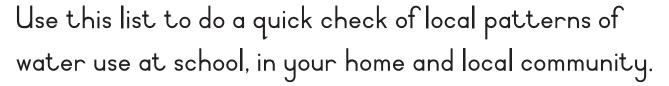
3. Why is it necessary to do that?

.....



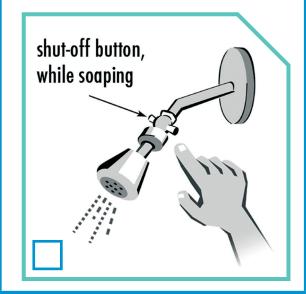
Did you know?

You can save water by placing a 2 litre bottle filled with water into the toilet's cistern.

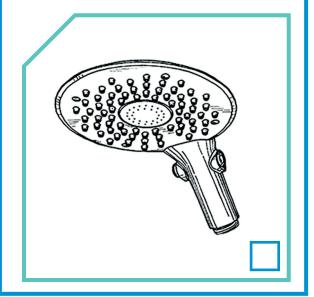


• Put a tick ($\sqrt{}$) at a good practice and a cross (X) at a bad practice, noting ideas to save water.

Low-flow shower with stop switch

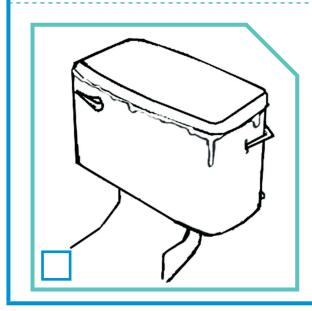


Long shower with big nozzle





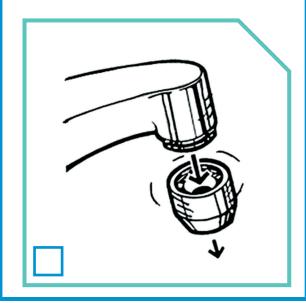
Big cistern with a slow leak



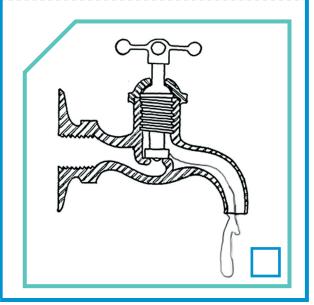
Bottle or bag in the cistern or a dual flush system



Tap with installed aerator

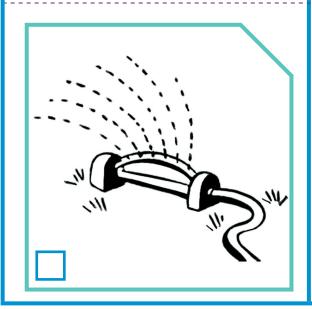


Leaking tap

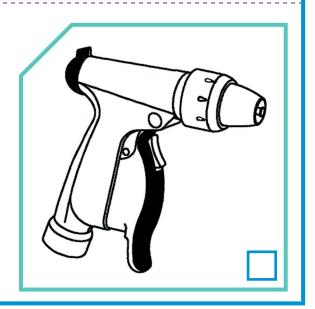




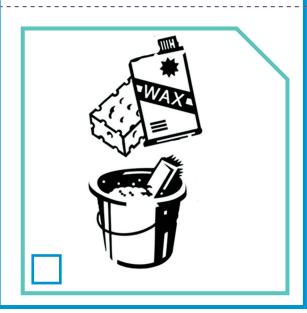
Sprinkler system to water garden



Trigger nozzle or bucket watering



Washing car with a bucket

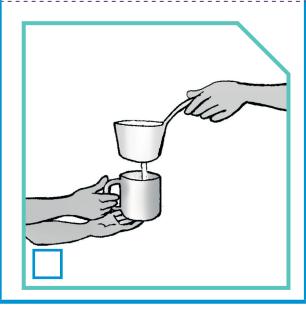


Washing car with a hose

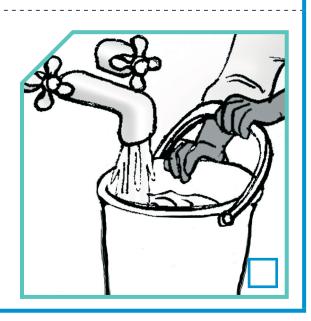




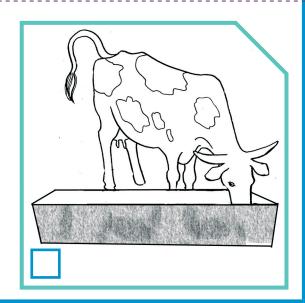
Using a ladle and cup



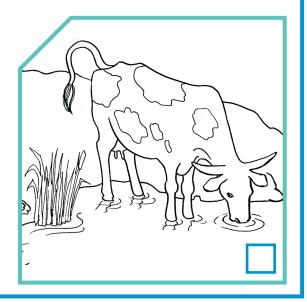
Drinking from a bucket using unwashed hands



Fenced spring with water troughs for animals



Animals drinking at a water point

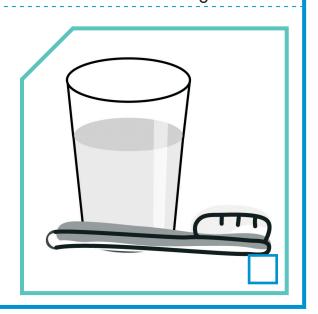




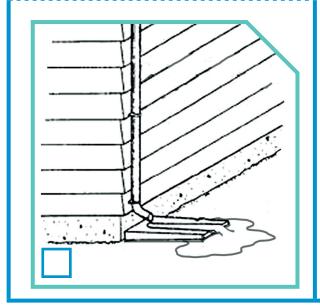
Running the tap while brushing teeth and drinking



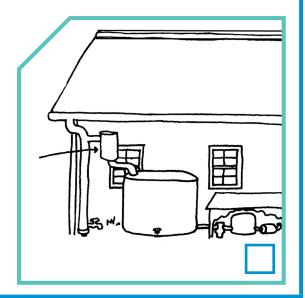
Using a cup for brushing teeth and drinking



Open gutters



Rainwater tanks



6



Washing clothes using a bucket and drain pit



Washing clothes in a river or stream



Use water wisely – Report any water leaks to an adult.



Activity 4b: Water saving tips



What to do

Read the following water saving tips.

Save water

- Try not to waste any water.
- Do not water your garden unnecessarily.
- Make sure that all taps are tightly closed.
- Wash your cars with water in a bucket.
- Try to shower instead of bathing.





ideas for water action





Do a water audit to find out how much water you use every day. How can you save water?

A water-filled plastic bottle placed in the cistern, will save a litre of water every time you flush!





Don't leave taps running. Robyn wasted 3 litres of water while washing her hands.

Measure how much water you use. Doris found that showering uses much less water.



6

Water use Efficiency

Activity 5a: Do not waste water

What to do



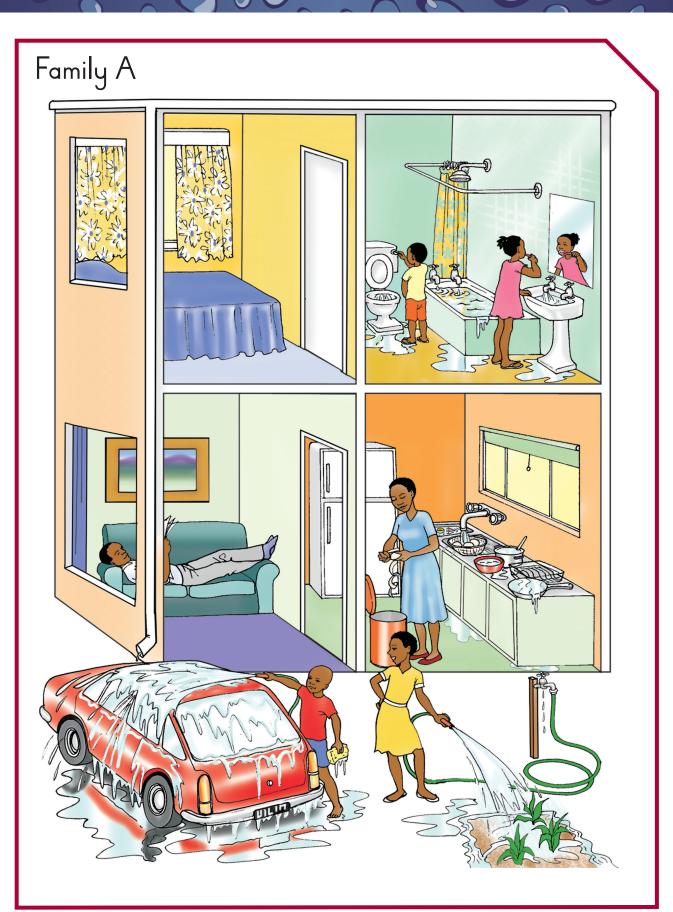
• In groups, compare the following pictures and answer the questions

Leaks
waste water –
Report them
immediately!

6

(5) Use water wisely

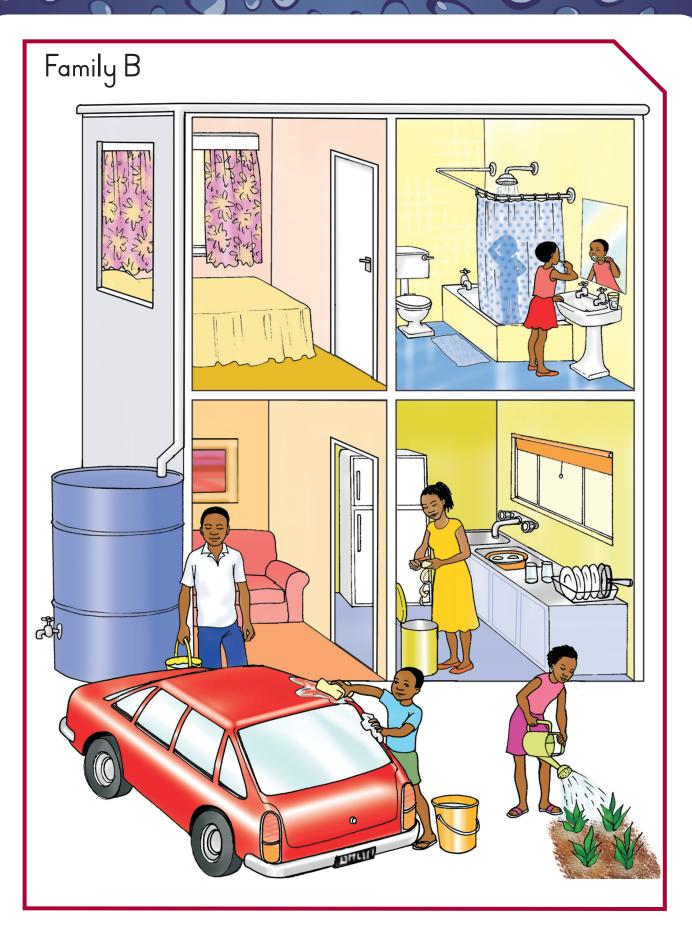




 $oldsymbol{(5)}$ Use water wisely

6





$oldsymbol{(5)}$ Use water wisely



- a. Which family is using water carefully?
- b. What has this family done to save water?

.....

(5) Use water wisely



c. Find 10 differences between the two families.

|

2.

3.

4.

5.

6.

7.

8.

9.

10.



Water Quality

Activity

At the end of this activity you will be able to:

Identify pollutants in your water source

Activity 6a: Spot the dangers

- Work in pairs for this activity
- Study the poster and work on the following questions



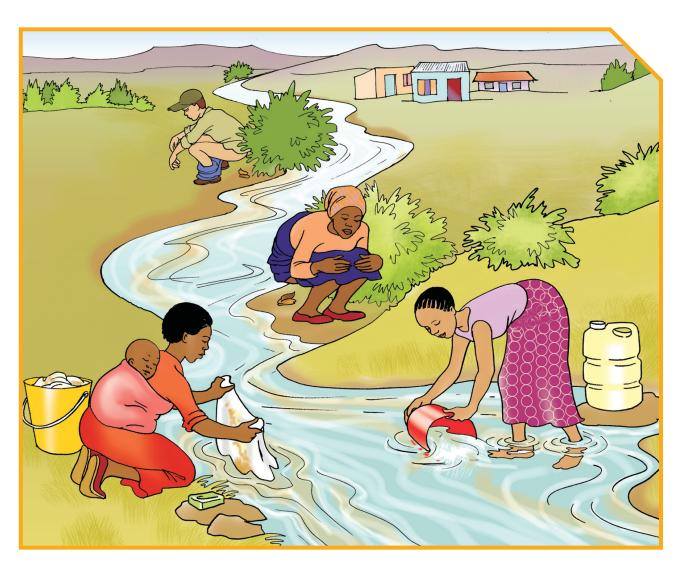
avoid dirty water – it carries germs.



Water Quality

41





1. How many people are in the picture?

2. What are they doing?

.....

.....



•••••	• • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	•••••

3. Circle the activity which can be dangerous to their lives.

- 4. In pairs discuss what this water can be used for.
- 5. Tick yes or no in the column of water use

We can use this water for	Yes	No
1. Drinking		
2 . Washing/Bathing		
3. Washing dishes		
4. Watering gardens		
5 . Washing cars		
6 . Washing dishes		



Activity 6b: Purification of Water

You will need

- Dirty water
- Bleach
- Purification tablets
- Filter paper / material (cheesecloth etc.)
- Salt water

Discuss

Talk about:

- Where you get water from?
- Is all water good to drink?

How to

Your educator will show you different ways to purify water, especially the boiling method.





Let's look at different ways of purifying water.

- 1. Boil water.
- 2. Add I tablespoon of Bleach to 20ℓ of water.
- 3. Use filter paper.
- 4. Purification tablets (available from pharmacies)
- 5. Use material to filter the water (all dirt will remain)

Choose the correct words and fill them in

Bleach; Sand; Water; Boil.

- 1. To clean water you canthe water.
- 2. Add one teaspoon of to 20ℓ of water.



Activity 6c: Killing germs in water

Activity



Demonstrate ways to clean water.

You will need

- Pencils
- Bucket of water
- Kettle
- Bleach

What to do

Read the following paragraph and answer the questions.

One day Loyiso's mother fetched water from the river. The water she fetched was dirty and had many germs in it. Loyiso's mother used the water to cook food for the family and the next day Loyiso's whole family was very sick.



<i>I</i> . '	/hy is Loyiso's family sick?	
•••••	••••••	• • • • • • • • • • • • •

••••••

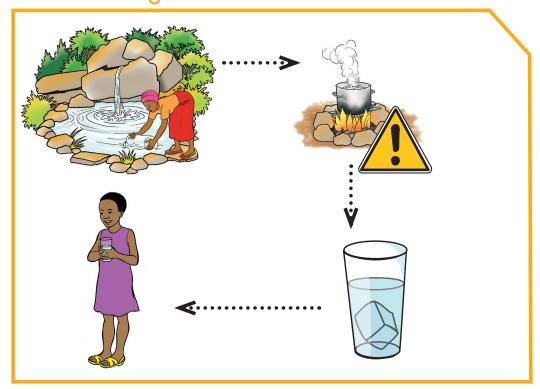
2. Can the dirty water be cleaned?

.....

Making dirty water clean

Study the two (2) methods to clean dirty water.

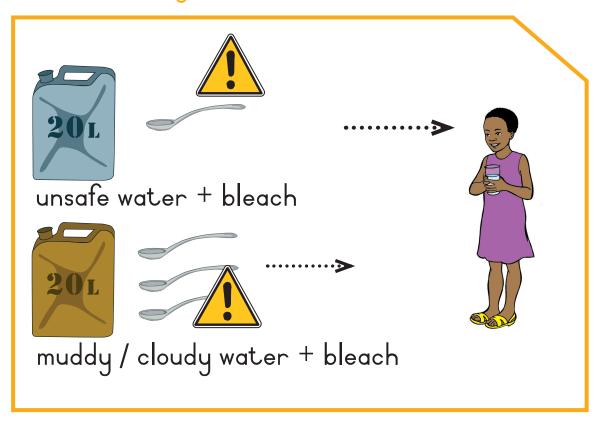
Method 1: Boiling the water



Water Quality



METHOD 2: Using Bleach



Do not play in polluted water – you can get Sick if you do.



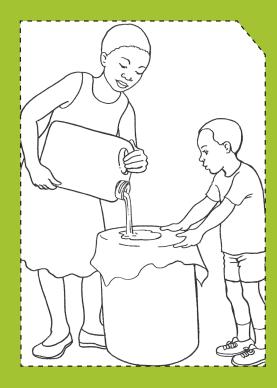
Activity 6d: Always clean (purify) water



Learn these steps off by heart on how to make water safe.

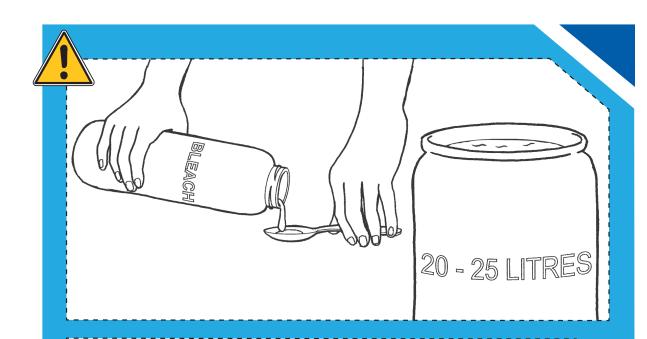


Collect fresh water every day.



Pour (filter) the water through a clean cloth.





Pour 1 teaspoon (5ml) of bleach into 20 -25 litres of water, mix well and wait for at least 30 minutes (half an hour), before drinking.



Boil the water. Let the water bubble for one minute, before it is clean and safe to drink.





Safe water can easily get dirty. Store safe water in a clean, closed container.



Use a clean cup each time to scoop water out of the container.





Pour water from the container when you need to use it.

Activity

At the end of this activity you will be able to:

- Identify the kind of toilet systems used at school and home
- Take care of your toilets
- Make a glucose (sugar) solution

YOU CAN STOP CHOLERA:

Use clean water, wash your hands and all food.



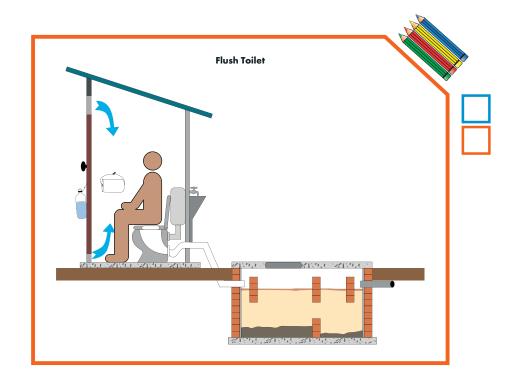
Activity 7a: Take care of your toilets

What to do



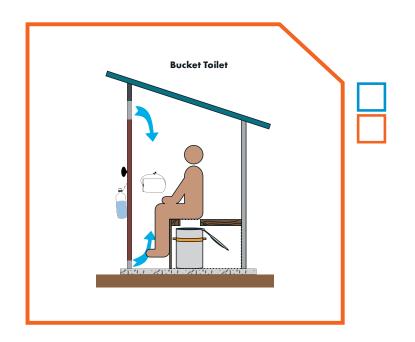
Answer the following questions.

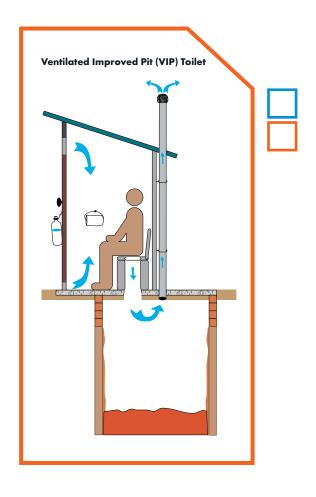
I. Colour the blue block next to the kind of toilet that you have at home or colour the red block if it's the kind you have at school.

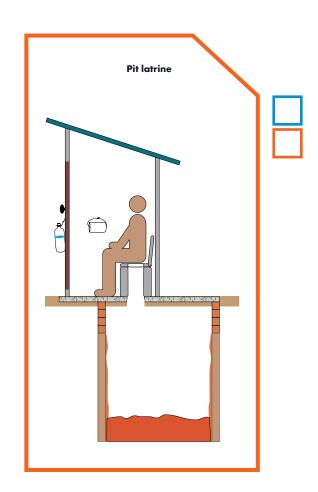


7) Use and care of sanitation facilities









7) Use and care of sanitation facilities



2. How do you take care of your toilets (at home and at school)?

.....

.....

3. Why should toilets be cleaned every day?

.....

.....

4. Why do we need water for toilets?

.....

7) Use and care of sanitation facilities



5. Complete the sentences by using the following words.

Food; Wash; Soap; Toilet; Touching; Water

come from the

c. Use and clean

.....to wash your hands



Activity 7b: Cholera and what to do



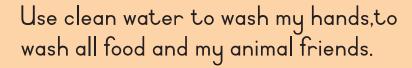
What to do

Recite the following poem to your educator.

Stop Cholera

I can stop Cholera, yes I can.

I can stop Cholera with this plan.



I must do this every day.

I won't forget because there's a price to pay.

I will stop Cholera and so can you.

Stop Cholera by washing your hands after the loo.

Together we'll stop Cholera; it's oh so quick.

Wash our hands and food; or we'll get sick.







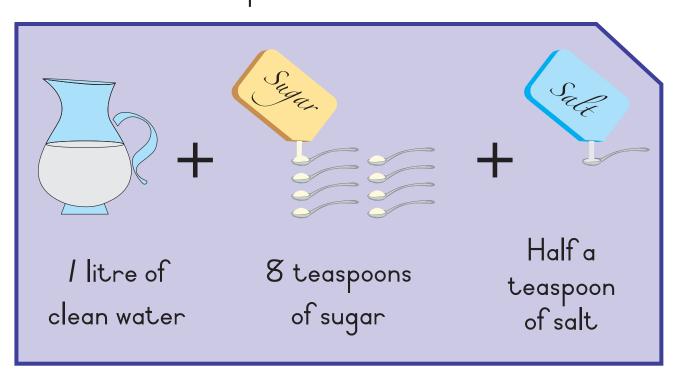


Background information

- Loyiso had diarrhoea and to cure the disease he used a glucose solution.
- Make your own solution using the following picture to help you.

How to make it

- Boil / litre of water
- Let it cool down
- Add 8 teaspoons of sugar
- Add half a teaspoon of salt





Let's cure Diarrhoea

Study the table below and answer the questions.

Tuesday	Wednesday	Thursday	Friday	Saturday

1. How many days did it take Loyiso to get better?

2. How many cups of solution did Loyiso drink?

3. Complete the table above by drawing the cups of solution that still need to be drunk on Friday.



Activity 7c: Spread the word

Loyiso's mother spreads the word.



What to do

Read "Help your community" on how Loyiso's mother spreads the word and answer the questions that follow.

Help your community

Loyiso's mother took Loyiso's baby brother to the clinic because he had diarrhoea. While at the clinic she found out that every week at least eight babies get sick with diarrhoea and that the clinic gives them one injection per week. This shocked her, so she decided to teach her community what Loyiso learned at school. She decided to make sure that her community's water was clean. She bought bleach and put up a sign outside her house that read, "Please make sure your water is clean.



Ring my bell and I will

help you.

Ring my bell and I will help you". Many people who collected water from the river asked Loyiso's mother for help. Loyiso's mother also went to the clinic and offered to prepare a glucose solution for the people suffering from diarrhoea. This all worked very well and now Loyiso's neighbours also

Please make Sure your have signs outside their homes.

Well done to Loyiso for teaching his mother!

Questions

I. Why did Loyiso's mother take his brother to the clinic?

.....

(7) Use and care of sanitation facilities



2. How does a clinic cure children with diarrhoea?

3. If 8 babies suffer from diarrhoea per day, calculate how many suffer from diarrhoea in 4 days? Use the following table to help you.

	Day I	Day 2	Day 3	Day 4
Number of babies	8	16		

- 4. Find out at your school if there are any learners that suffer from diarrhoea.
- 5. What can they do to cure it?

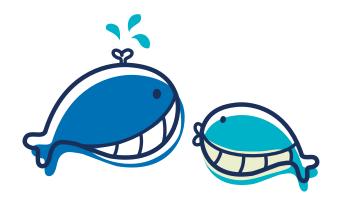
.....

Water Safety

Activity

At the end of this activity you will be able to:

- Find words from the word search
- Make meaning of letters and words



Never swim alone!

it is safer and more fun to swim with a friend.



Activity 8a: Swim safely



RURAL SPLASH

Do not stand on an overhanging bank as it can collapse, and you will fall in!





NEVER swim alone!

If caught in a fast current, float feet first to protect head and body from injury.



Before entering the water, check the strength of a current by throwing something onto the water and watching how quickly it floats.

Water Safety 65

8 Swimming safely



Fill in the missing words

Now that you have read the Rural Splash Poster use the words in the block below to complete the sentences.

Fast; Break; Water; Feet; Rocks; Alone; Fall; Body; Dive; Depth.

- Never swim.....

6

8 Swimming safely



- Never into the water.

 Always walk in.
- Check the with a

 long stick as you walk in.

Activity 8b: Do's and don'ts



Read through the following sentences and, together with your educator, decide whether each one is a correct or incorrect behaviour/ actions. Place a tick (\checkmark) if you think it is correct or a cross (X) if you think it is incorrect.

Water Safety 67

8 Swimming safely

6



Action	√ / X
 Swim only if there is a lifeguard or if a grown- up gives you permission to swim. 	
2 . Stand up in a boat.	
3 . Take swimming lessons.	
4 . Follow water safety rules.	
5 . Swim with an adult.	
6 . Swim if you are tired.	
7. Wade into the water feet first if you're swimming in a lake, dam or river.	
8. Wear a life jacket when you are in a boat.	
9 . Get out of water right away if you hear thunder or see lightning.	
I O. Eat sweets or chew gum when you are swimming.	
II. Dive offrocks into a river, lake, or dam.	
12. Run along the bank of a river.	





Safety tips

- Never swim alone.
- Do not stand on an overhanging bank as it can collapse and you will fall in.
- Before entering the water check the presence or strength of a current - throw something that floats into the water to test the current.
- If caught in a fast current, float feet first to protect your head and body from injury.
- Be aware of underwater obstacles such as rocks or branches of trees.
- Never dive into the water always walk in and check the depth with a pole as you move, looking out for any dangerous hazards on the river bottom.
- Beware of animals underwater, such as crocodiles, and hippos.
- Enter cold water slowly and remain in for short periods of time to avoid hypothermia.

Know your Swimming Safety ruleS – it is Safer for everyone.



Activity

You will be able to:

- Identify the parts of a tree / plant
- List the functions of a tree

Activity 9a: Functions of the tree

 Listen carefully as your teacher reads out the story and answer the following questions.



Questions

Vhich part of the tree holds the tree in its position?

• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •

9 Structure of a tree



2.	Which par	t of the	tree abso	rbs water?	
	-				

- 3. Which part of the tree makes food for the tree?
- 4. Which part of the tree transports water from roots to leaves?

5. What is firewood used for?

6. Mention any three functions of a tree?

(9) Structure of a tree



7.	Write a sentence using the following words:
	Water; sun; trees; plants; fruit.

• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •

.....

Activity 9b: Functions of a tree

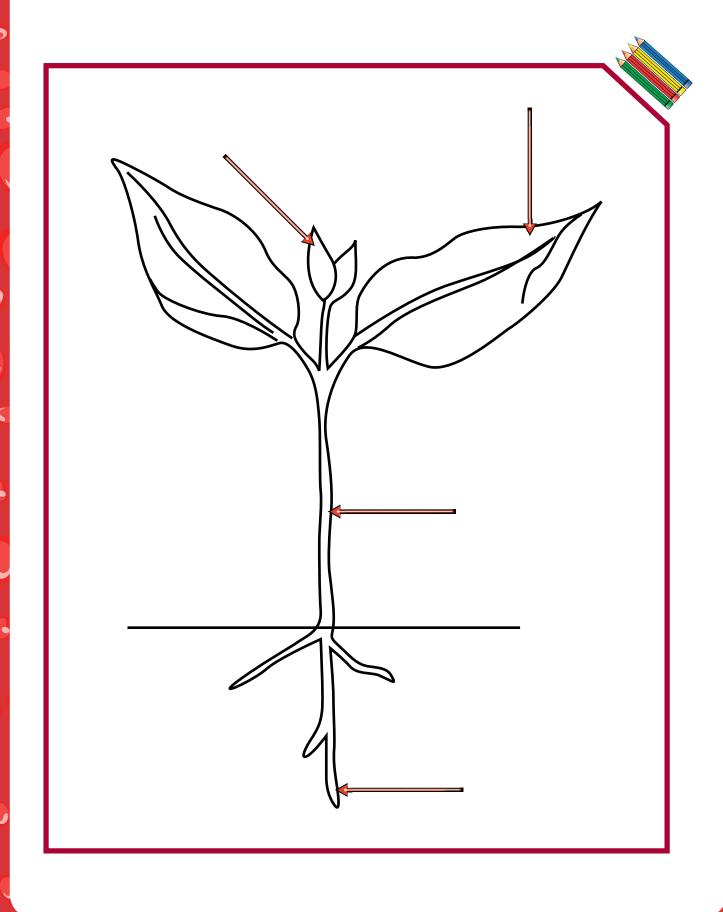
 Colour and label the parts of the tree, found on the next page.



Trees and plants Support us in many ways		
- know		them by name.

9) Structure of a tree





Forestry 73

•

Life Skills Term 2 - Topic: Seasons



Activity

You will:

- Be exposed to climate change
- Arranged the effects of climate change in the correct order
- Discussed climate change as a class and find possible ways of solving climate change

Activity 10a: The greenhouse effect

Your educator will discuss the greenhouse effect as well as climate change with you and help you find ways that you can contribute to solving the greenhouse effect.



Activity 10b: Know the effects

What to do

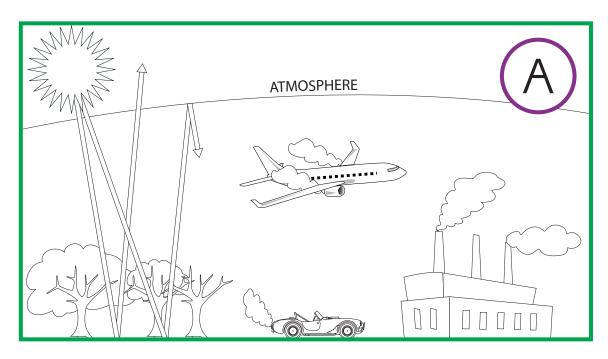
- Arrange the following 4 pictures in the correct order by writing the letters in order (use the space below to write your answers)
- Colour in the pictures

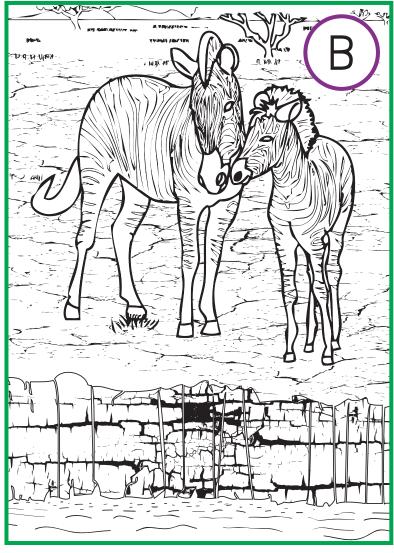
Answers



(10) Our changing world

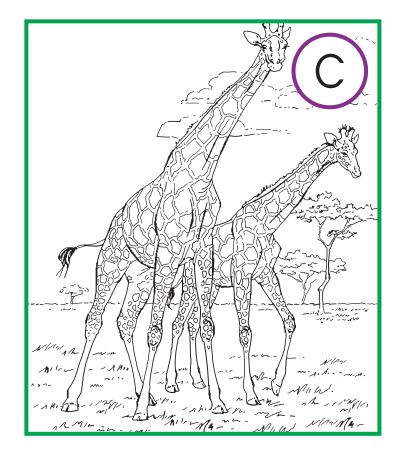


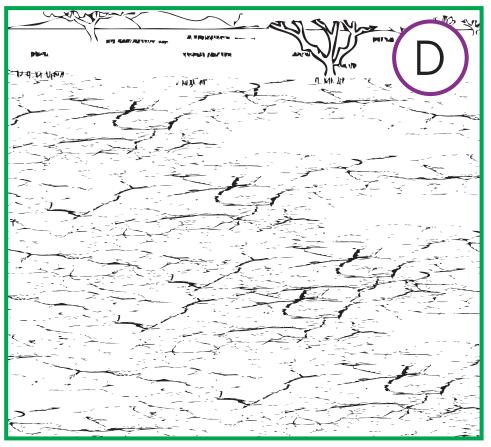




10 Our changing world







Climate Change

Bibliography

- Department of Education. Pretoria (2002).
 Revised National curriculum statement (Grades R – 9), Arts and Culture.
- Department of Education. Pretoria (2002).
 Revised National curriculum statement (Grades R 9), Economic and Management Sciences.
- Department of Education. Pretoria (2002).
 Revised National curriculum statement (Grades R – 9), Home Language.
- Department of Education. Pretoria (2002).
 Revised National curriculum statement (Grades R – 9), Life Orientation.
- Department of Education. Pretoria (2002).
 Revised National curriculum statement (Grades R – 9), Mathematics.
- Department of Education. Pretoria (2002).
 Revised National curriculum statement (Grades R – 9), Natural Sciences.

Bibliography

- Department of Education. Pretoria (2002).
 Revised National curriculum statement (Grades R – 9), Social Sciences.
- Department of Water Affairs and Forestry,
 Trees and Forests, Republic of South Africa.
- The Department of Water Affairs and Forestry, (1998), Waste Management and the Minimum Requirements. Pretoria.
- Swimming South Africa
- Water aid 2007 Climate change and water resources.
- WWF Your Climate your future An interdisciplinary approach to incorporating climate change in your classroom.
- WMO&UNEP 2008 Climate Change and Water.
- Pierre Mukheibir Local water resource management strategies for the adaptation to climate induces impacts in South Africa.
- Unleashed publishers 2008 word fun featuring Global warming & natural hazards.

Bibliography 79

2020 Vision for Water and Sanitation Education Programme Programme Resource Material



SAVE WATER



STOP WATER POLLUTION



PLANT A TREE GROW A FUTURE



WASH YOUR HANDS & CARE FOR YOUR SANITATION FACILITIES FOR A HEALTHY LIFE



Department of Water and Sanitation
Website: www.dws.gov.za Tollfree number 0800 200 200

GRADE 2 LEARNERS.indd 80 2010/10/07 12:00 PM