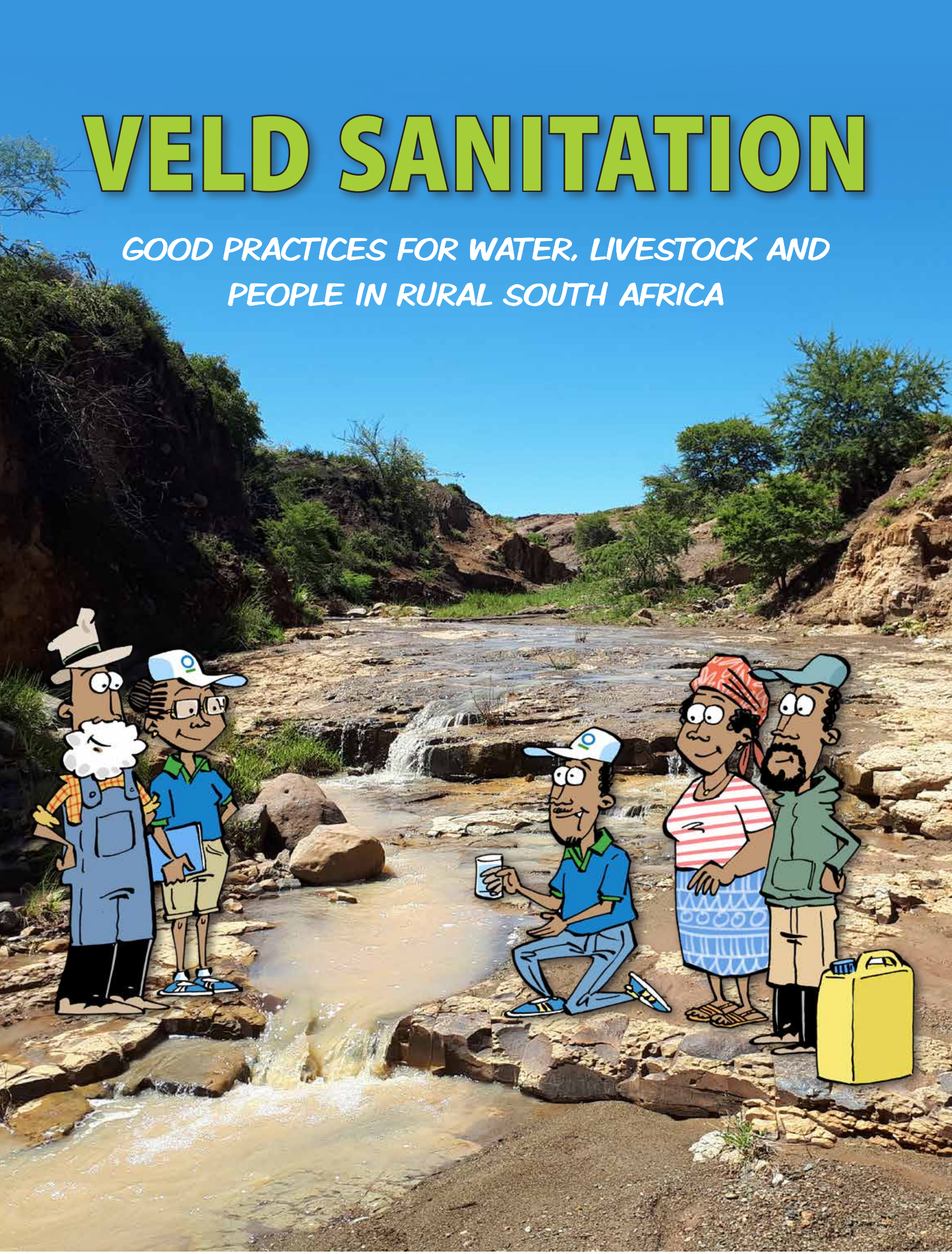
VELD SANITATION

GOOD PRACTICES FOR WATER, LIVESTOCK AND PEOPLE IN RURAL SOUTH AFRICA



CONSERVATION SOUTH AFRICA
Member of the CI Network

Introduction

The "WASH in Watersheds" initiative integrates water, sanitation and hygiene (WASH) activities with livestock improvement and conservation programmes to improve the health of people, animals and the environment. Conservation South Africa (CSA) is applying this framework in rural areas to improve water resource sustainability and the resilience of water in vulnerable water-scarce areas.

This manual is the basis for a capacity building programme for peer-to-peer education.

Acknowledgements:

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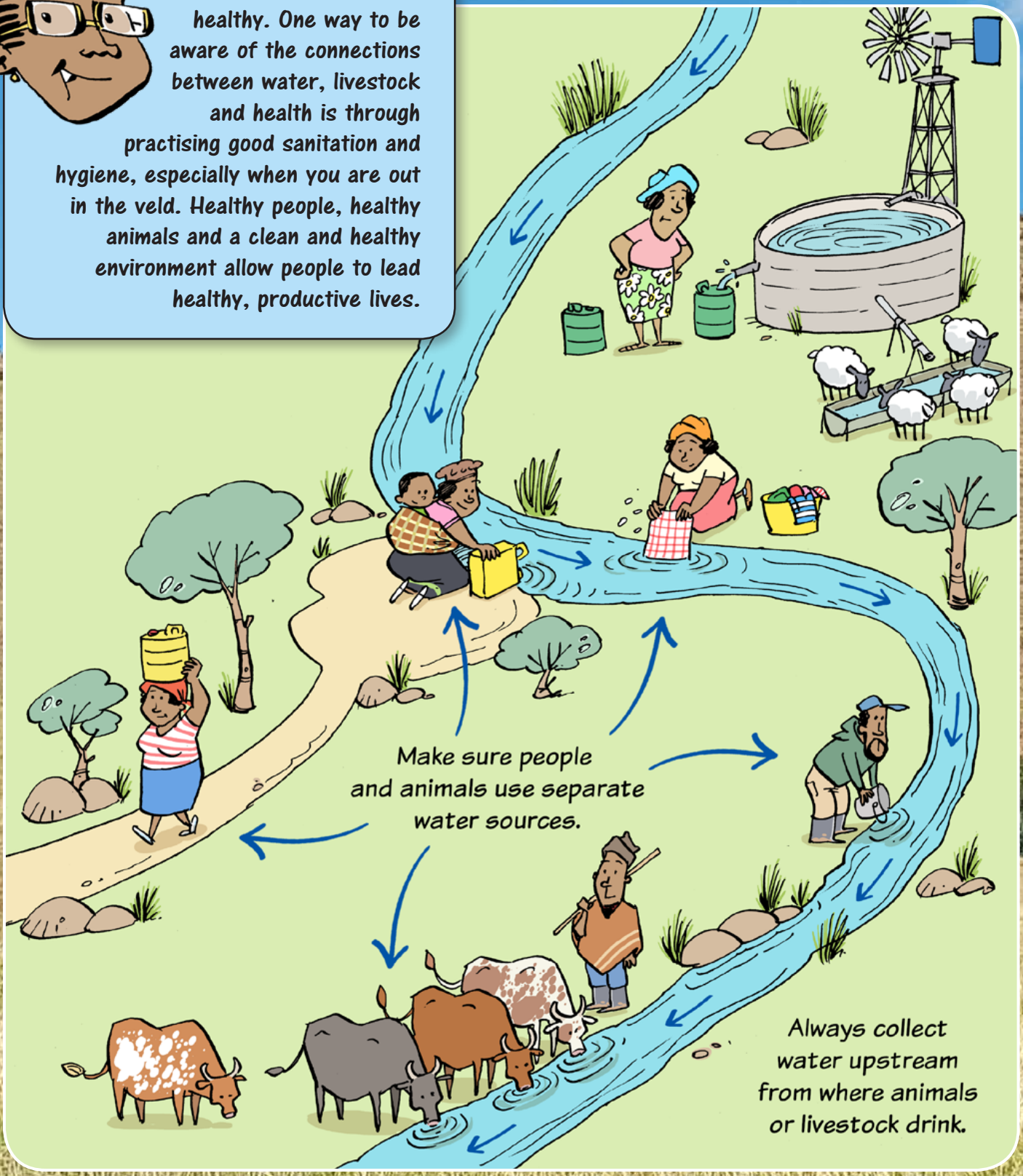
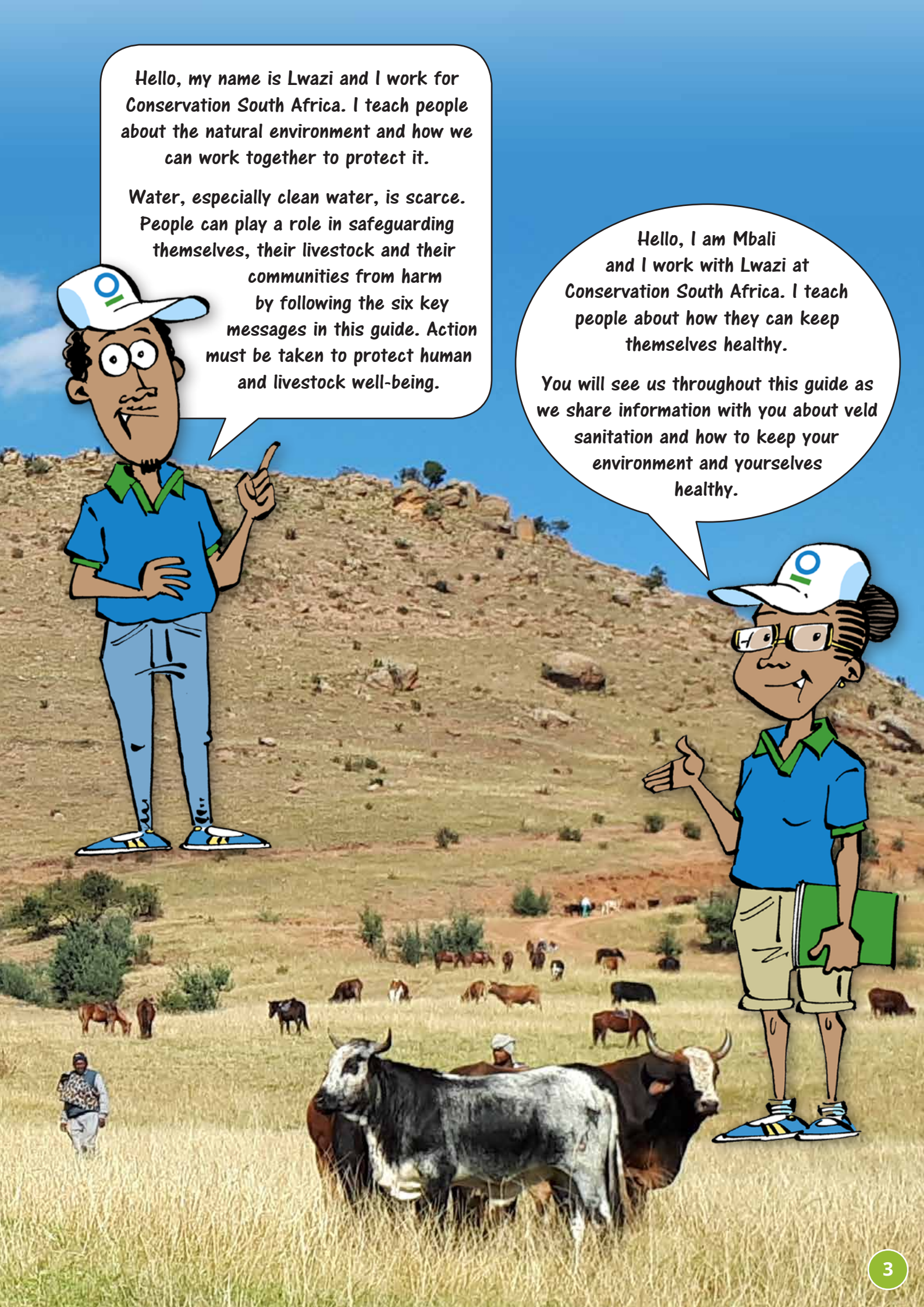
Contents

VELD SANITATION

WATER, LIVESTOCK AND HEALTH ARE CONNECTED

Humans and livestock need clean water to be healthy. One way to be aware of the connections between water, livestock and health is through practising good sanitation and hygiene, especially when you are out in the veld. Healthy people, healthy animals and a clean and healthy environment allow people to lead healthy, productive lives.




Hello, my name is Lwazi and I work for Conservation South Africa. I teach people about the natural environment and how we can work together to protect it.
Water, especially clean water, is scarce. People can play a role in safeguarding themselves, their livestock and their communities from harm by following the six key messages in this guide. Action must be taken to protect human and livestock well-being.
Hello, I am Mbali and I work with Lwazi at Conservation South Africa. I teach people about how they can keep themselves healthy.
You will see us throughout this guide as we share information with you about veld sanitation and how to keep your environment and yourselves healthy.

Facilitator Information

Awareness and knowledge about veld sanitation is important as our actions as humans can harm the environment and can also make us and our livestock sick. This guide contains information to build knowledge around veld sanitation and why this is important.

There are two parts. **The first part introduces and explains** some information about the environment and the natural resources – such as water, soil and plants – that we depend on every day to sustain us. It also explains why it is important to protect and conserve the environment.

IN THE FIRST SECTION, YOU WILL LEARN ABOUT:

- *The concept of veld sanitation*
- *South Africa's biodiversity hotspots and veld types or biomes*
- *Climate change*
- *The importance of veld*

The second part contains six key messages to inform communities on how to improve sanitation, hygiene and land use practices for both human and livestock health.

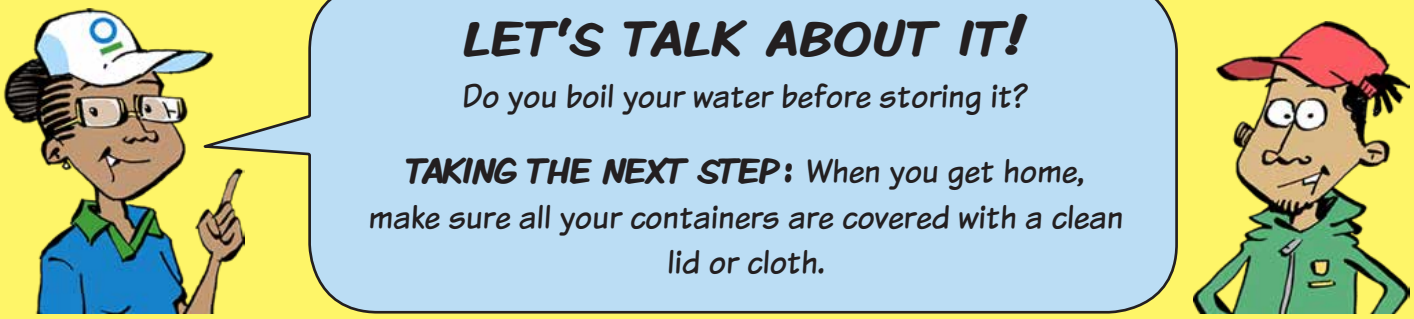
These six messages can be discussed in different workshops.

With education and awareness, these impacts can be reduced through behaviour change around hygiene practices and an understanding of how sanitation and hygiene practices relate to the natural environment.

THERE ARE 'LET'S TALK ABOUT IT' QUESTIONS THROUGHOUT THE GUIDE.

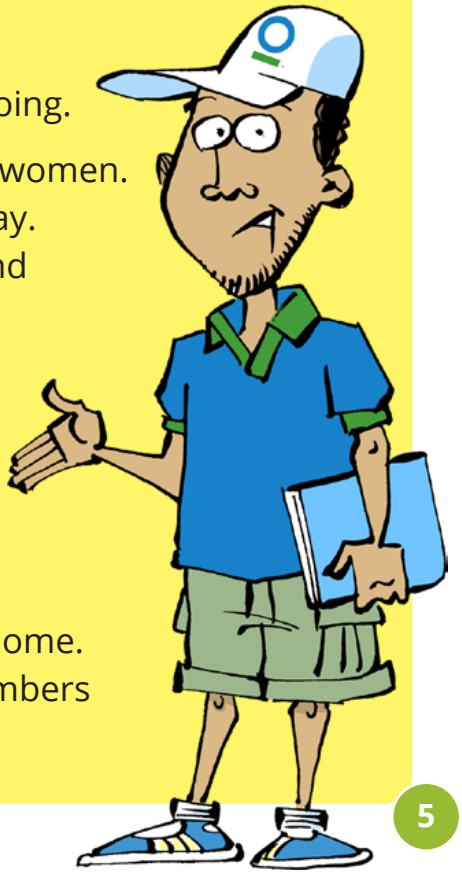
Suggestions on how participants can work on the questions include:

- Personal reflection, work in silence.
- Quick buzz discussion. Participants turn to the person next to them and share information.
- Small group discussions. Four to six participants in each group is usually a good size.
- Whole group discussions with all participants. These can occur as a result of feedback from personal reflection, buzz groups or small groups, or at any stage in the workshop. ***Questions are marked like this:***



GENERAL GUIDELINES FOR FACILITATING WORKSHOPS:

- Encourage active participation in a way that helps participants to see that they have valuable contributions to make to the discussions.
- Use the comics to encourage questions and to encourage storytelling of their own experiences.
- Encourage participants to apply the information to their context in a way that is practical and is easy to continue doing.
- Emphasize the importance of education of both men and women. Promote discussions about gender issues in a sensitive way. Encourage contribution and discussion from both male and female participants.
- Include all group members, even those who are not able to read well. Ask the participants questions about the comics or to retell the story to ensure everyone understands the messages. Some groups may enjoy role playing the situations to illustrate the messages.
- Encourage the participants to go through their guides at home. They can explain the pictures and messages to family members and encourage them to learn.



SOUTH AFRICA'S BIODIVERSITY HOTSPOTS

All living things depend on one another. In nature, these dependencies create a network. When the system is in balance, we say it is sustainable. When certain animals or plants are removed, other species that depend on them may die — and the biodiversity of the area is harmed.

Bio = Life

Diverse = Different

Biodiversity = A sustainable network of a number of different living things that live together

South Africa has three biodiversity hotspots. These areas have great biodiversity that is under threat – most often from human activity:

CAPE FLORISTIC REGION

THE SUCCULENT KAROO
(shared with Namibia)

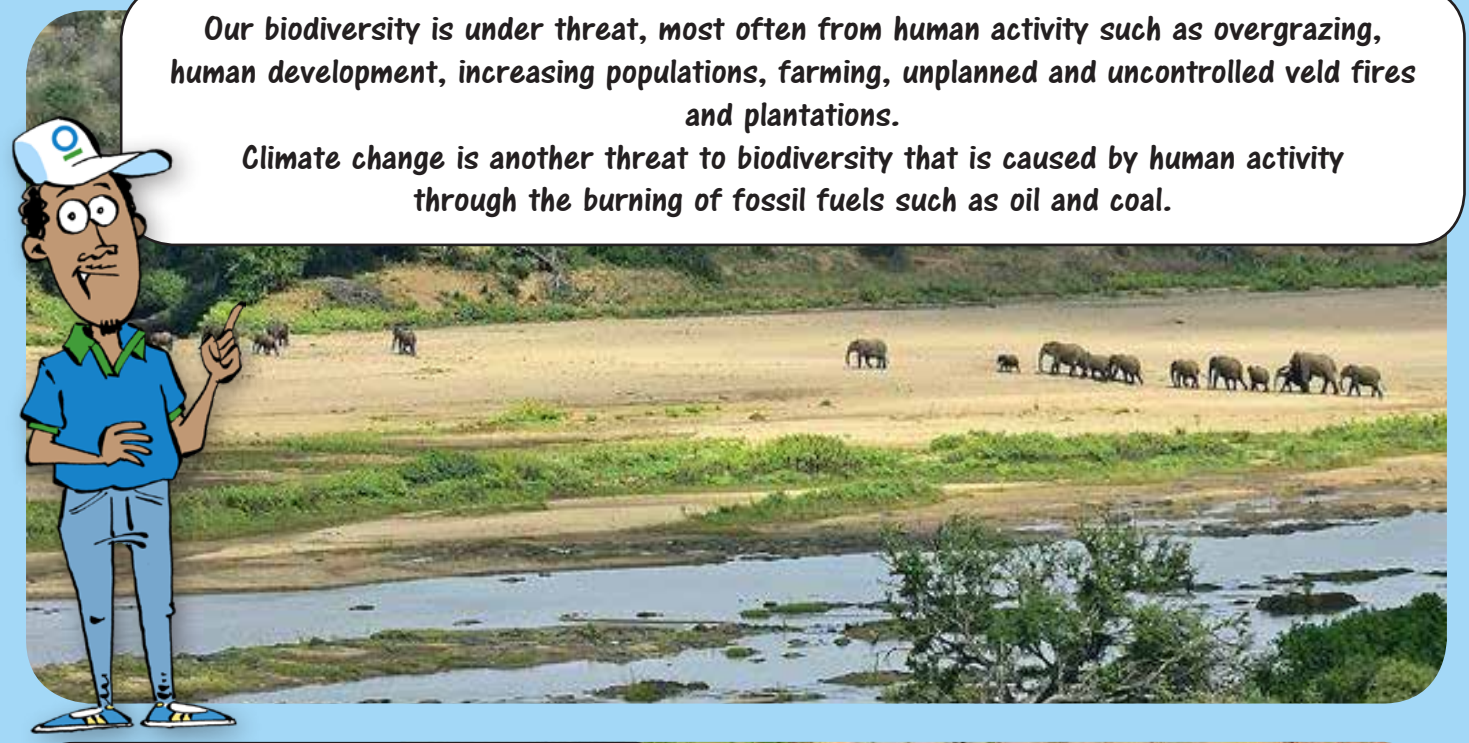
MAPUTALAND – PONDOLAND – ALBANY
(shared with Mozambique and Swaziland)

Finding ways for humans to live in harmony with nature is crucial. Veld sanitation challenges can be linked to biodiversity hotspots. Your community has a role to play in addressing these. Learn about the challenges facing your area and be an example for others. Your actions have an impact on the biodiversity of your area.

Threats to biodiversity

Our biodiversity is under threat, most often from human activity such as overgrazing, human development, increasing populations, farming, unplanned and uncontrolled veld fires and plantations.

Climate change is another threat to biodiversity that is caused by human activity through the burning of fossil fuels such as oil and coal.

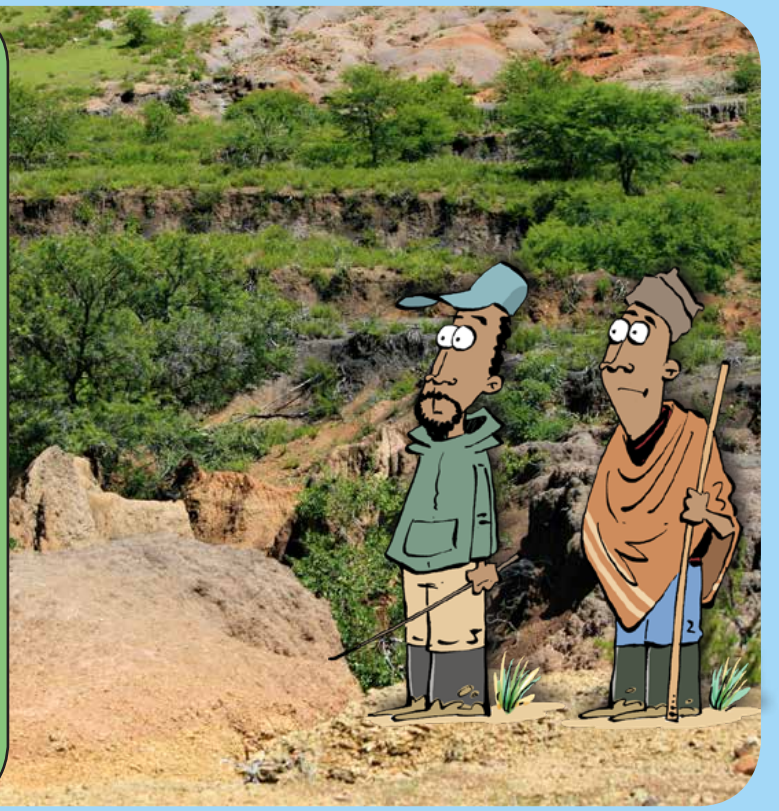


WHAT IS CLIMATE CHANGE?

Climate change refers to long-term changes in the average weather of different regions throughout the world. This is generally seen as a change in the weather patterns we have come to expect.

As the earth is getting hotter, the weather is changing and there is an increase in the frequency and intensity of droughts, floods and other extreme weather events.

Climate change is affecting everyone and everything. We can all play a part in helping to reduce the impacts of climate change.



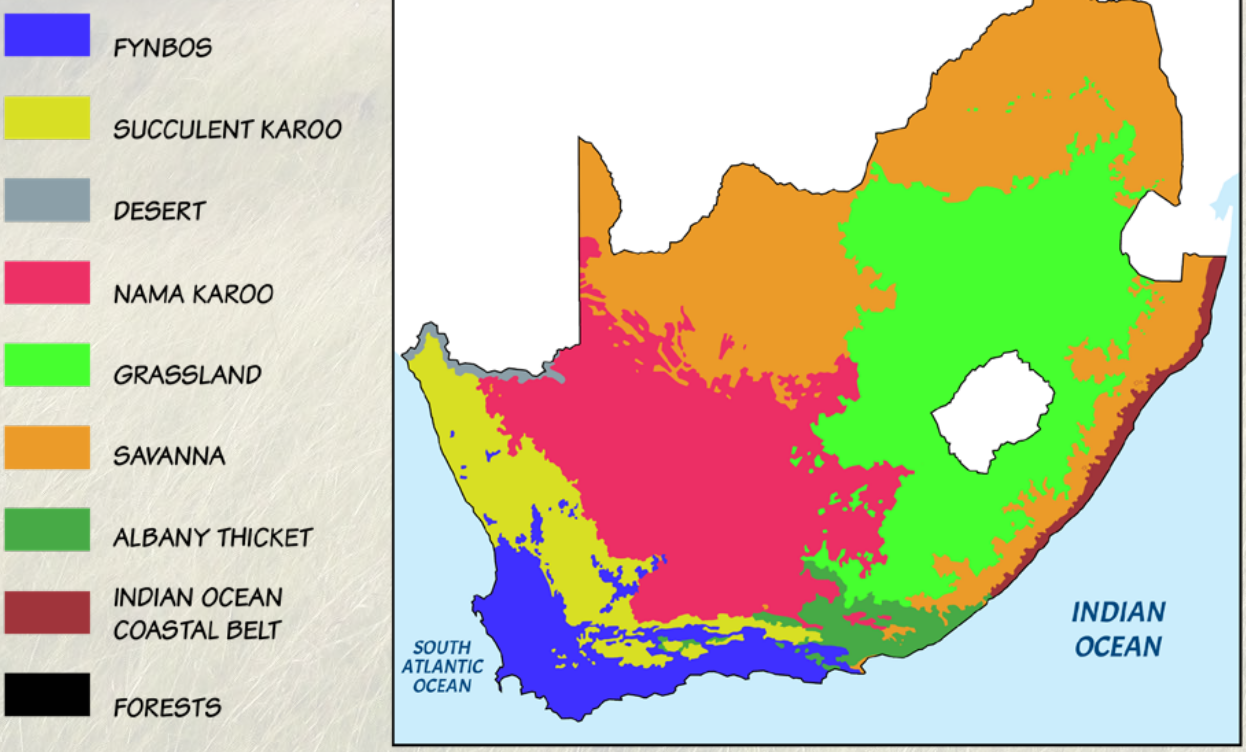
LET'S TALK ABOUT IT!

1. What changes in weather patterns have you noticed in your area in the past few years?
2. What effect has this had on your community's activities such as farming?
3. How can you protect the biodiversity in your area?

Why is veld important?

- Veld and rangelands are home to most of South Africa's communal farmers and most of the rural communities in the country.
- Healthy veld ensures a source of income for livestock farming and agriculture. Healthy veld prevents soil erosion and boosts rainwater infiltration into the ground so that things can grow.
- Rangelands provide food, medicine and materials for shelter so people can survive. They store water so we can drink. They absorb harmful gases from the atmosphere so that we can breathe clean air and have blue sky.
- It is important to understand the relationship between people and the natural environment and the benefits it provides. These benefits ensure the well-being of the livestock that graze on the veld and the communities who depend on them for their living.

VEGETATION BIOMES OF SOUTH AFRICA



VELD

There are different types of vegetation or veld in South Africa that make up typical landscape types known as biomes. Each biome has specific environmental conditions, plants and animal life. There are eight biomes in South Africa, but in this guide we shall focus on three:

SAVANNA

Known as 'bushveld', savanna consists of lots of grass with woody trees and shrubs. Summers are hot with good rainfall up to 1 000 mm, while winters are cold. It is found in Limpopo, Mpumalanga, North West and KwaZulu-Natal, as well as Botswana, Zimbabwe and Namibia.

GRASSLANDS

Grasslands contain various species of grasses with very few bushes or trees. There is summer rainfall, often with thunderstorms, and frosts in winter. There are many wetlands, and fires play an important role in grassland regeneration. It is found in the Eastern Cape, Free State, Gauteng, inland KwaZulu-Natal and Mpumalanga.

SUCCULENT KAROO

The succulent Karoo consists of flat, undulating plains with some hilly and broken veld. It receives limited winter rainfall of 240–290 mm per year. Summers are very hot, with temperatures often above 40°C. Vegetation is mainly semi-desert shrubland with many succulents, including vygies. The number of plant species is very high, and many of the species are unique to South Africa. It is found in the Northern Cape and the Western Cape.

LET'S TALK ABOUT IT!

1. What type of landscape do you live in?
2. Can you describe any water-related challenges in your landscape?
3. How do these issues affect the biodiversity of your environment?

Where does water come

THE WATER CYCLE

The earth's atmosphere is a closed system. No water gets in or out. All water is continually moving around in the water cycle.

1 WATER VAPOUR ENTERS THE ATMOSPHERE

EVAPORATION

2 THIS WATER VAPOUR RISES INTO THE AIR, WHERE IT COOLS AND CONDENSES INTO WATER DROPLETS, FORMING CLOUDS.

CLOUDS

PRECI

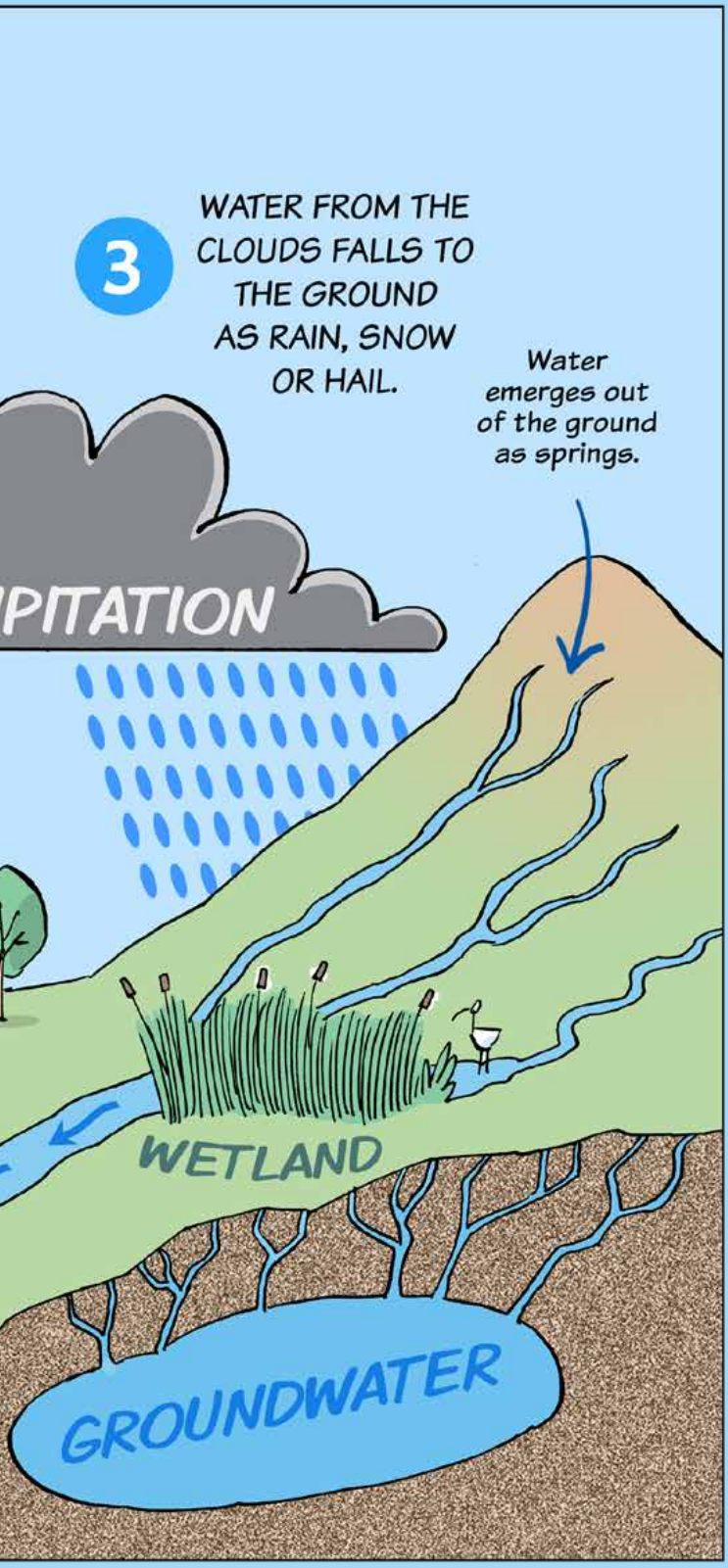
4 RAINWATER FLOWS INTO RIVERS AND WETLANDS, AND IS ABSORBED INTO THE GROUND. SOME OF IT EVEN TRAVELS TO THE OCEAN. ALONG THAT JOURNEY, IT EVAPORATES INTO THE ATMOSPHERE AND THE CYCLE STARTS AGAIN.

RIVERS

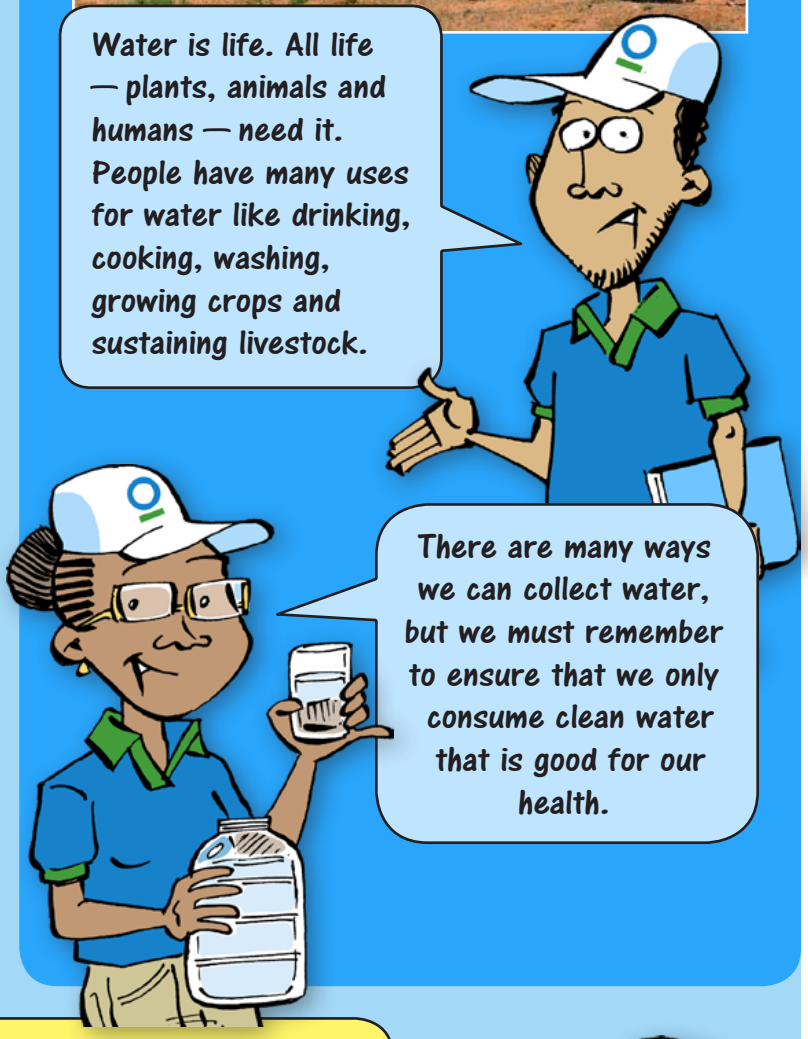
SURFACE WATER

We can see in the water cycle that the same water moves around and around from the ocean to the clouds and back down to the ground.

from?



WATER FOR LIFE

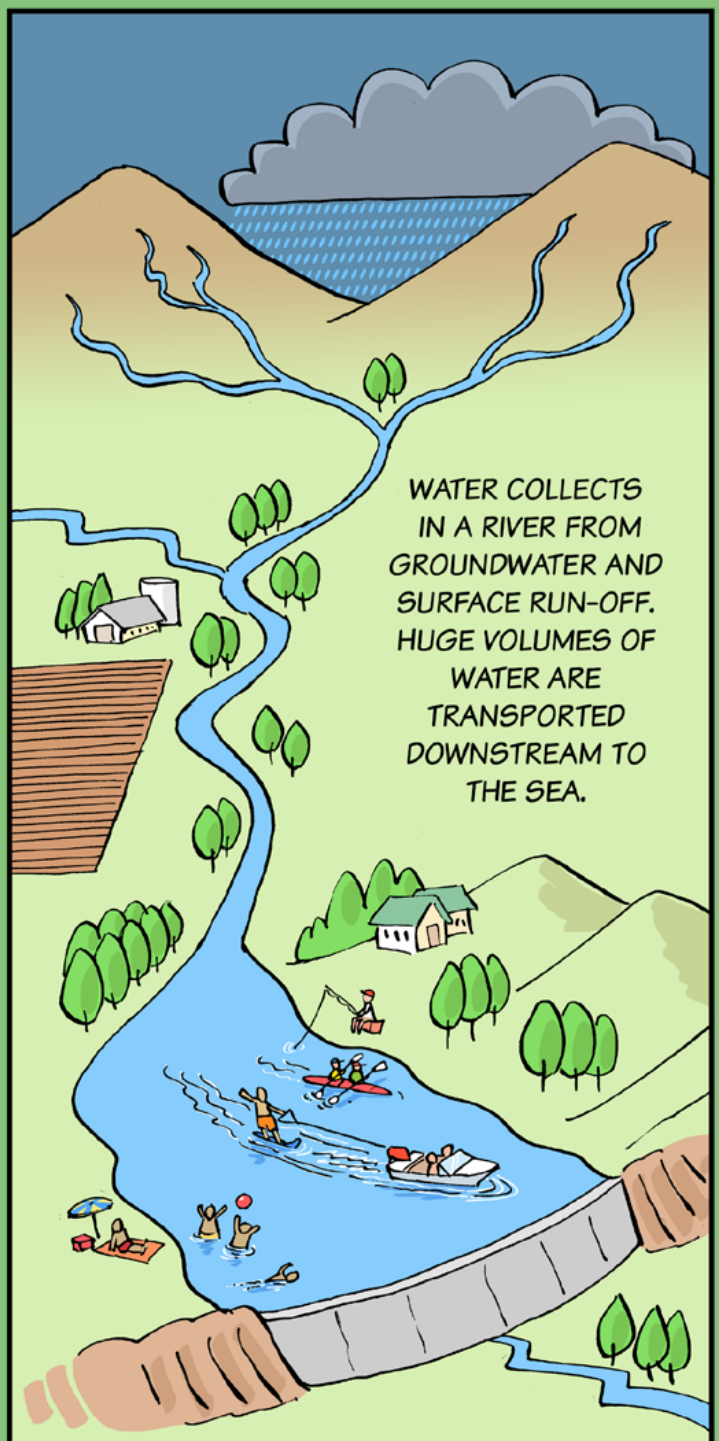


LET'S TALK ABOUT IT!

1. Discuss the water cycle.
2. Where do you get your water from? Do you think it is clean?

TAKING THE NEXT STEP: For schools and youth that meet regularly, you can make a water system in a bottle. Check out the activity at the end of the guide.

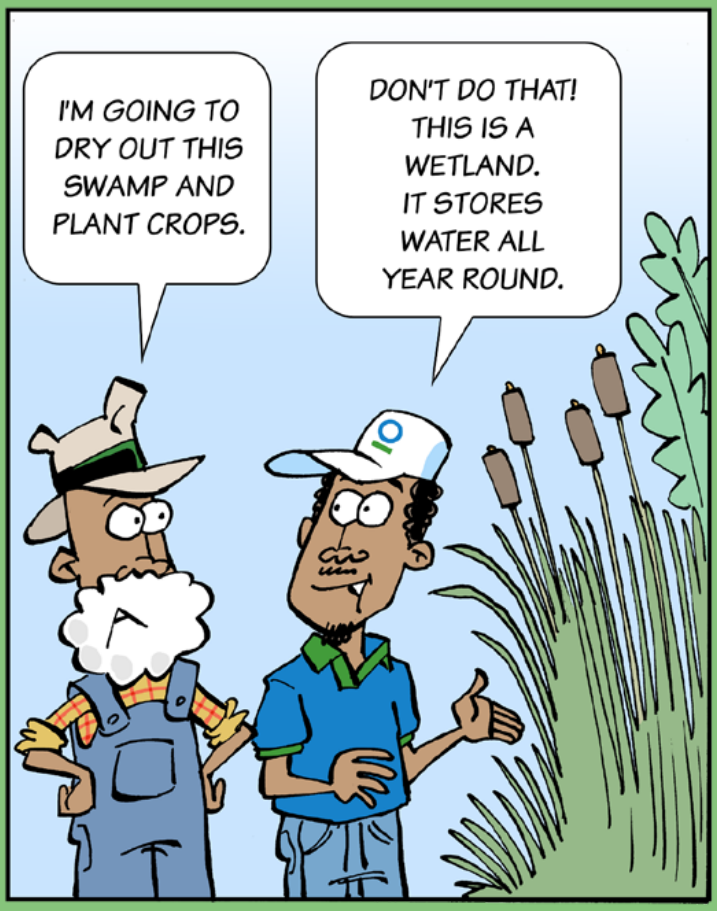
WATER STORAGE



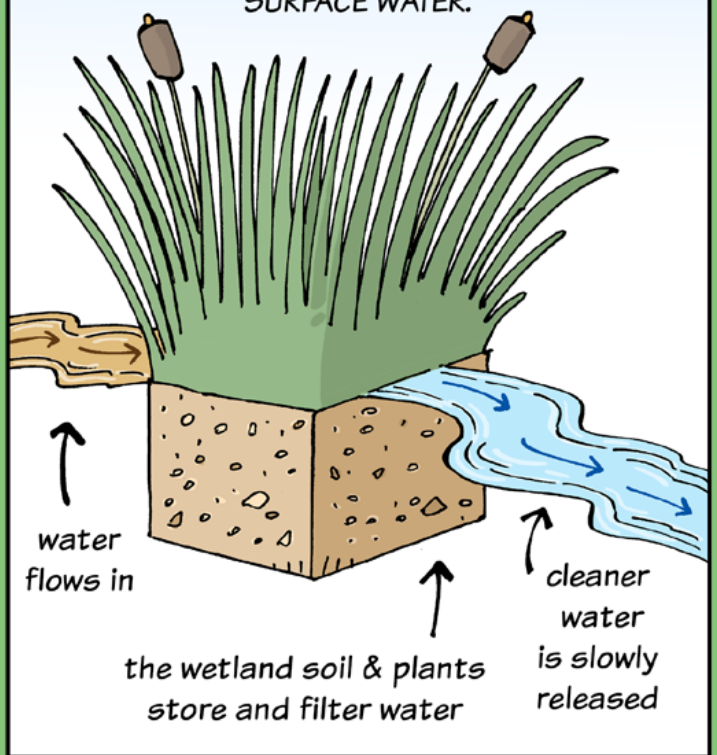
WATER COLLECTS IN A RIVER FROM GROUNDWATER AND SURFACE RUN-OFF. HUGE VOLUMES OF WATER ARE TRANSPORTED DOWNSTREAM TO THE SEA.

DAMS ARE MAN-MADE RESERVOIRS THAT STOP OR RESTRICT THE FLOW OF RIVER WATER. DAMS ARE USED TO RETAIN WATER FOR HUMAN CONSUMPTION, CROPS AND INDUSTRIAL PROCESSES. THEY ARE ALSO USED FOR FISHING, BOATING AND SWIMMING.

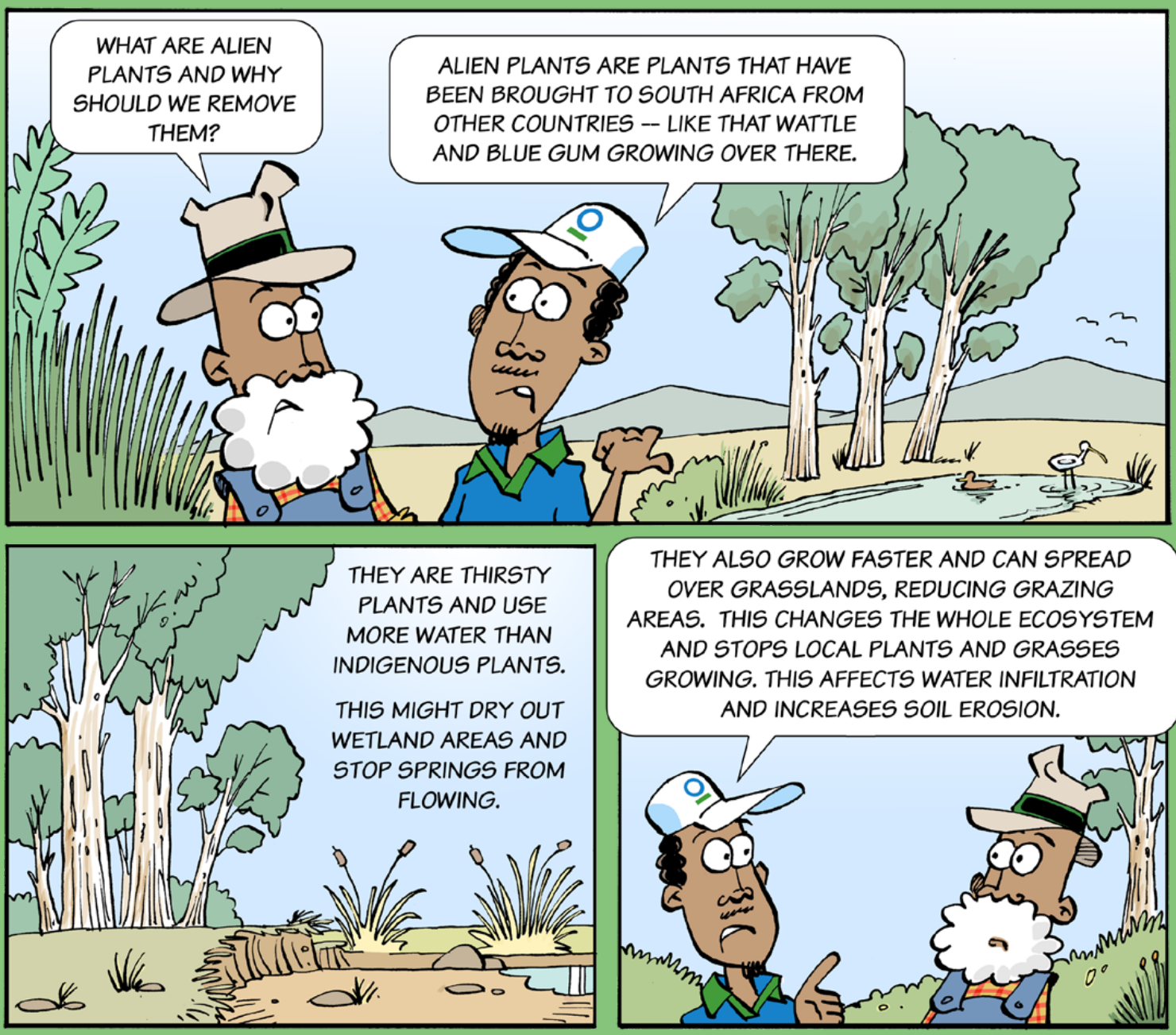
WHAT KINDS OF WATER SOURCES CAN YOU THINK OF IN YOUR AREA?



WETLANDS STORE AND NATURALLY CLEAN WATER. THE WATER MIGHT NOT BE SAFE FOR HUMANS TO DRINK. THE WETLAND CLEANS OUT SOME POLLUTANTS, OFTEN MAKING IT CLEAN ENOUGH FOR PLANTS AND ANIMALS. IT ALSO RELEASES CLEANER WATER INTO SURFACE WATER.



Alien plants and water sources



Key messages: VELD SANITATION

Now that we know about the areas we live in and the water cycle, let's talk about veld sanitation by focusing on six key messages.

MESSAGE 1

Know what germs are and what they do.

MESSAGE 2

Wash your hands properly.

MESSAGE 3

Remember the critical times for handwashing.

MESSAGE 4

Clear water is not necessarily clean water.

MESSAGE 5

Store water safely.

MESSAGE 6

Prevent rubbish from being dumped in water channels.

Key message sections

Remember, there are three sections as discussion points for each message.

WHY IT MATTERS?

Offers an explanation

WHAT TO DO?

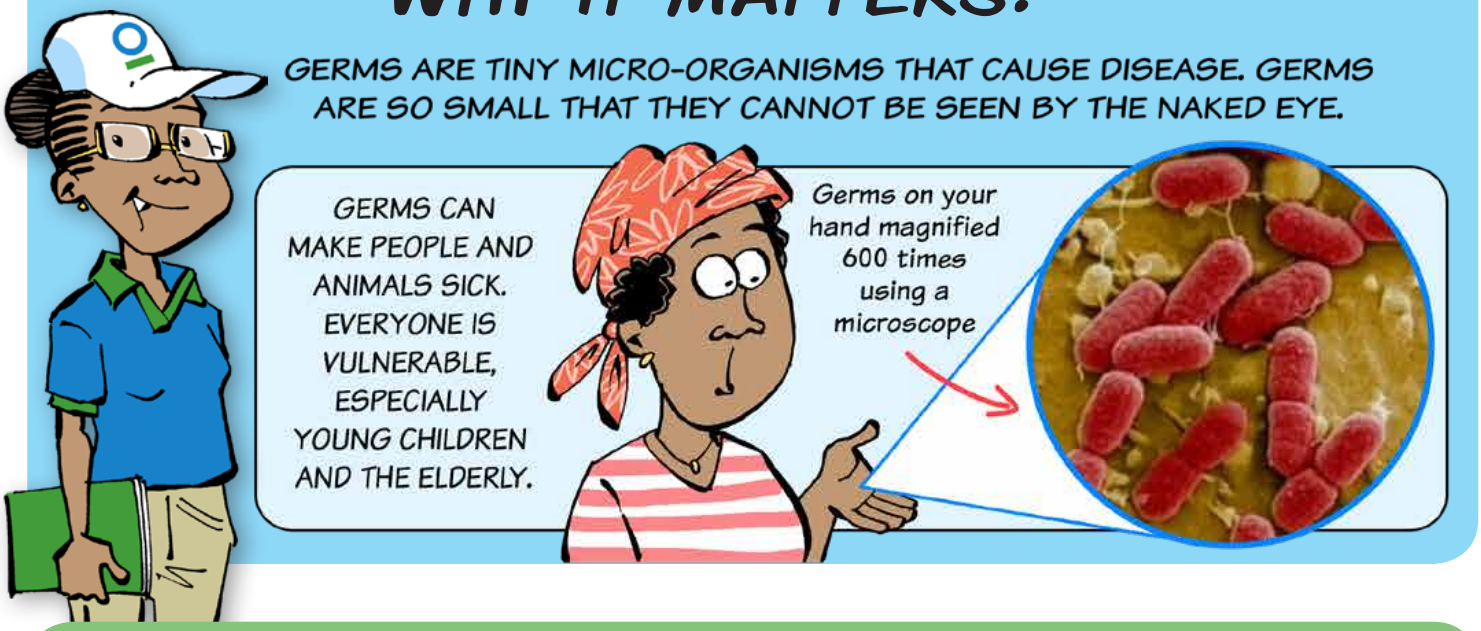
Focuses on practical actions that can be taken

KEYWORDS

Helps trainers to remember key concepts

Message 1: Know what germs are and what they do

WHY IT MATTERS?

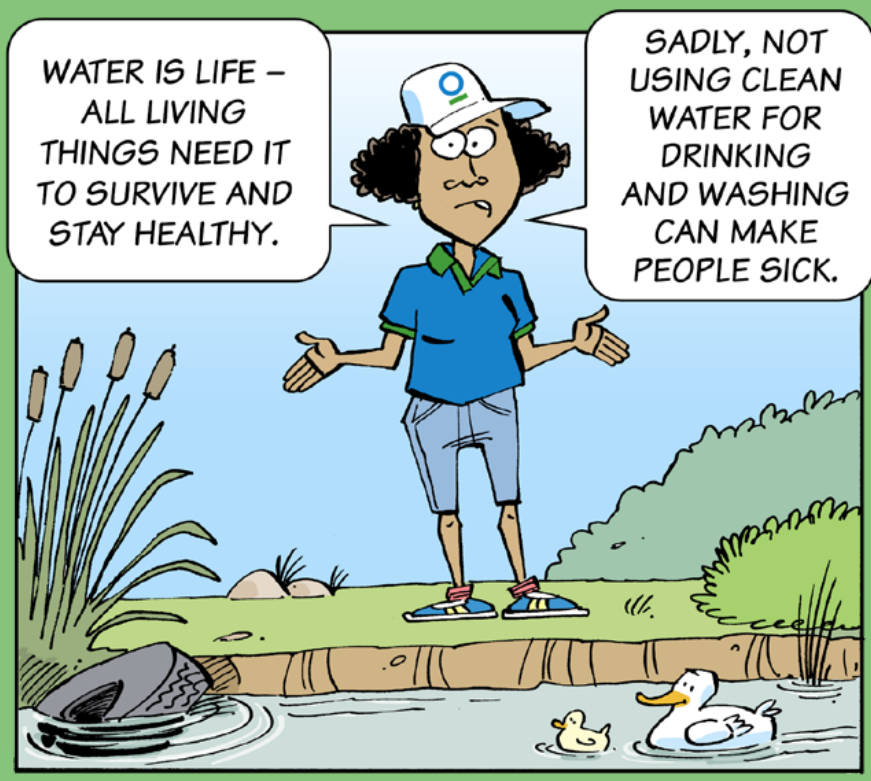


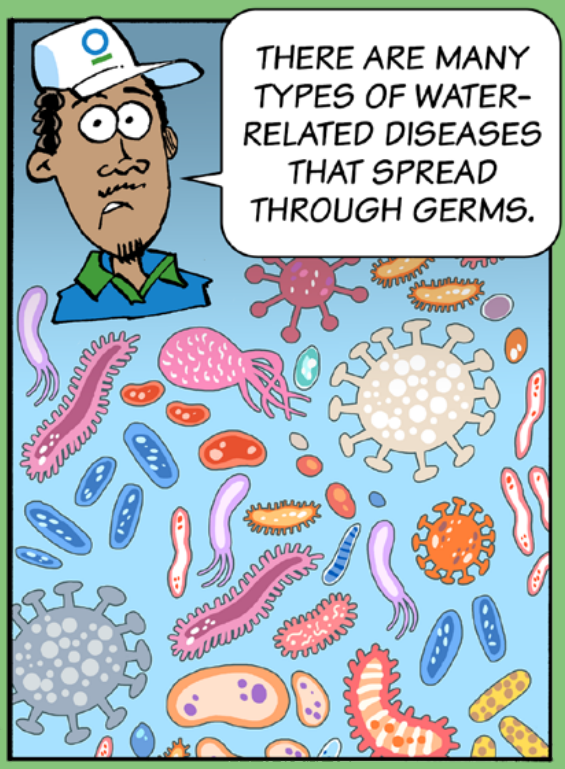
WHAT TO DO?

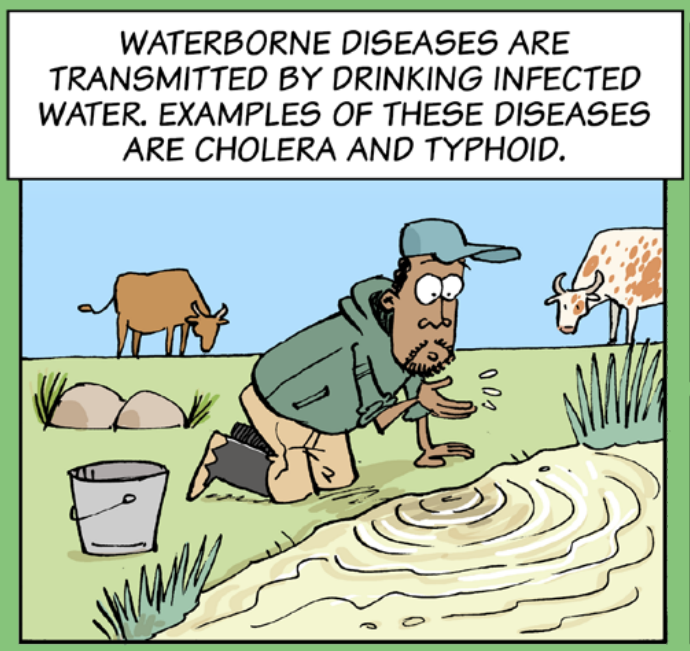
- Wash your hands properly using soap and clean water.
- Prevent germs from spreading by practising good hygiene.
- Know the critical times for handwashing.
- Do not drink dirty or untreated water.
- Cover food and plates/utensils to prevent contamination by flies.
- Build toilet structures away from water sources. Do not defaecate near water sources.
- If you need to go to the toilet when you are away from a formal structure, dig a hole and cover it. If the soil is too hard, cover the faeces with leaves, twigs or stones.
- Be aware of water-related diseases.

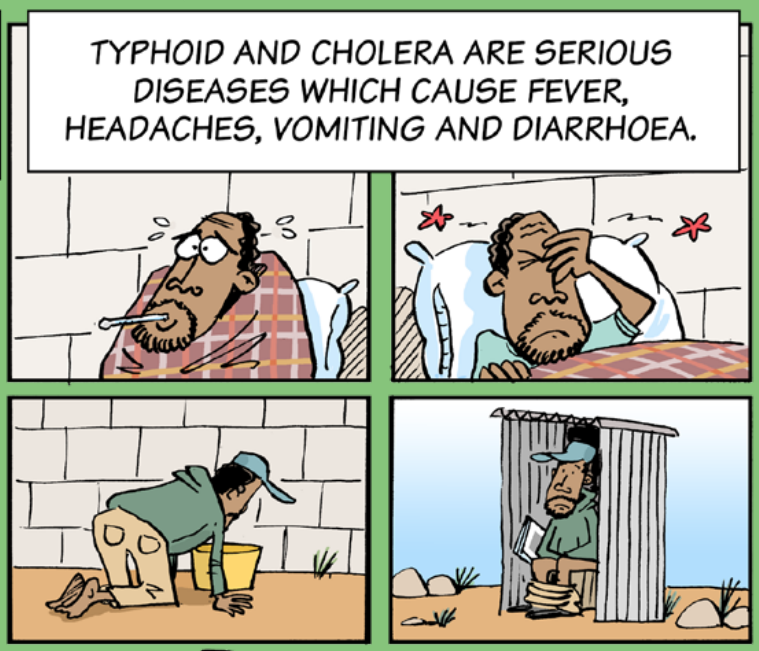
KEYWORDS: DISEASE GERMS SPREADING DIRTY

Staying healthy with water

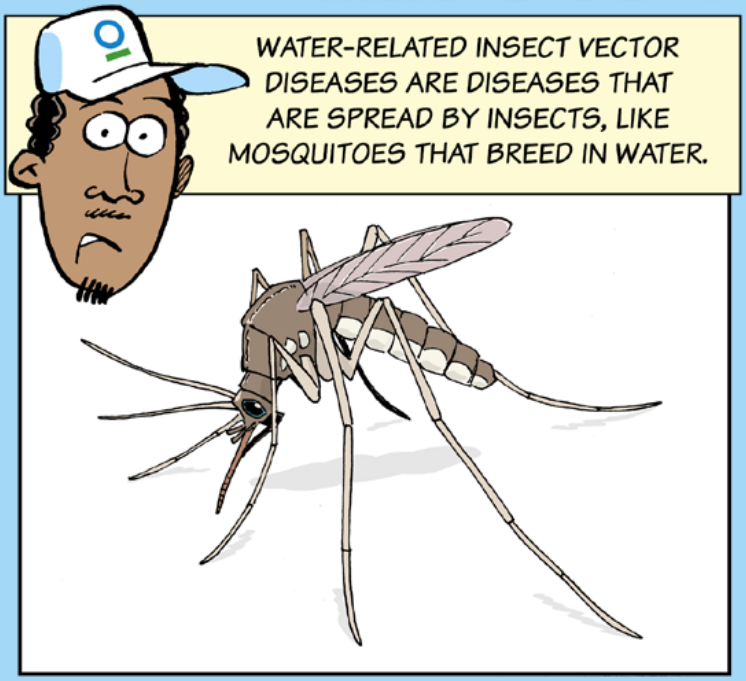








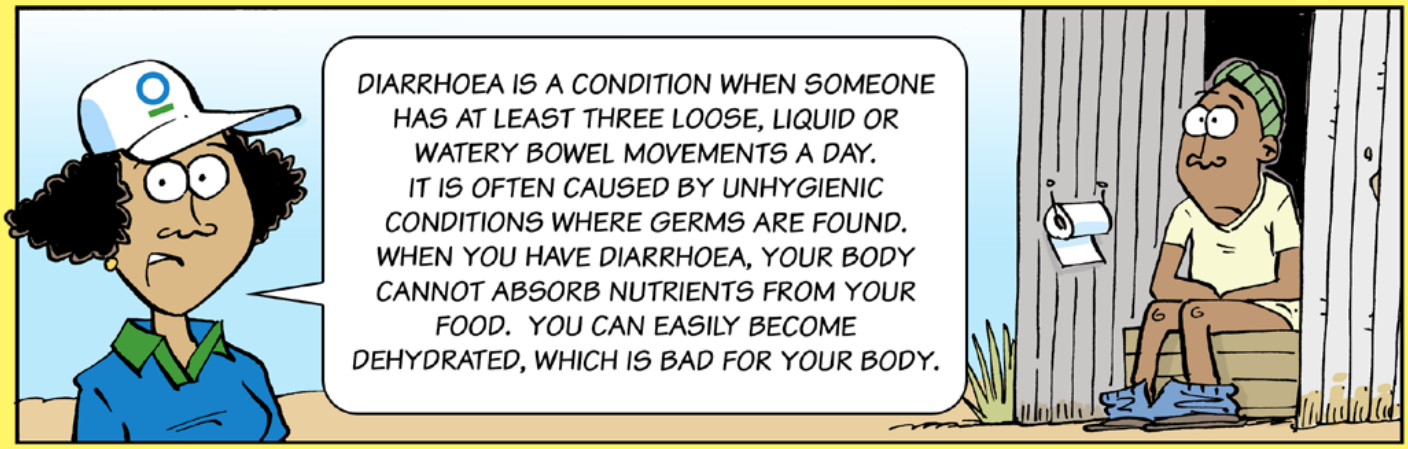
What are water-related insect vectors?



MANY PEOPLE, ESPECIALLY CHILDREN, GET ILL WITH DIARRHOEA. ELDERLY PEOPLE AND BABIES UNDER 2 YEARS ARE ESPECIALLY AT RISK. THEY MUST BE TREATED QUICKLY, AS IT CAN LEAD TO SERIOUS ILLNESS OR DEATH. WITH A LITTLE BIT OF KNOWLEDGE, MOST OF THESE DISEASES CAN BE PREVENTED AND PEOPLE CAN LIVE HEALTHIER LIVES.

- WHAT DO THE PEOPLE IN YOUR AREA KNOW ABOUT THE CAUSES OF DIARRHOEAL DISEASES?
- WHAT CAN BE DONE TO PREVENT THEM?

What is diarrhoea?



NOTE: WATERBORNE DISEASES IN YOUR AREA

SAVANNA, GRASSLAND
(Mpumalanga, Limpopo)
Malaria and bilharzia

GRASSLANDS
(Eastern Cape, KwaZulu-Natal)
Cholera and diseases causing diarrhoea

LET'S TALK ABOUT IT!

1. Can you name some water-related diseases in your area?
2. What good personal hygiene habits can help prevent spreading germs and these diseases?

TAKING THE NEXT STEP: Check that all your food and plates are covered at home. If not, find lids to cover them.

Message 2: Wash your hands properly

WHY IT MATTERS?

Knowing the 'proper way' to wash your hands ensures that your handwashing is effective and your hands are clean.

WHAT TO DO?

To wash properly, you must:

1. Wet your hands and put soap on them.

If there is no soap, use ash or clean, dry soil.

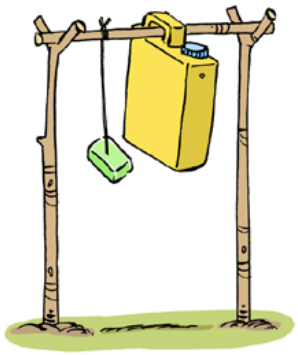
2. Scrub all sides for 20 seconds, including palms, the back of your hands and in between your fingers.

3. Rinse well with clean water.

4. Dry with a clean cloth or wave your hands in the air.

5. Sing the 'Happy Birthday' song twice to remember to spend 20 seconds washing.

6. If you don't have running water, make your own tippy tap.



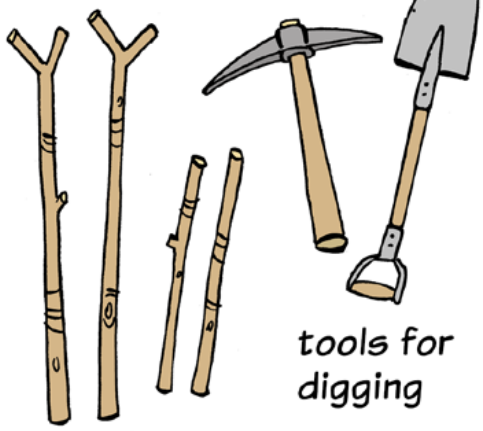
KEYWORDS: HANDWASHING SOAP ASH WATER

How to make a tippy tap

If you don't have running water at home, you need to ensure you still have clean water available for washing, cleaning, drinking and cooking. Having clean water helps to prevent germs from spreading and prevents you from getting sick.

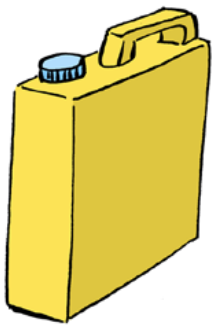
Clean water should be stored in containers, and a tippy tap can help with keeping water for handwashing clean.

What you need to make a tippy tap:



2 forked sticks 2 metres long
2 straight sticks 1 metre long

tools for digging



plastic water container

bar of soap

candle and nail

string

gravel

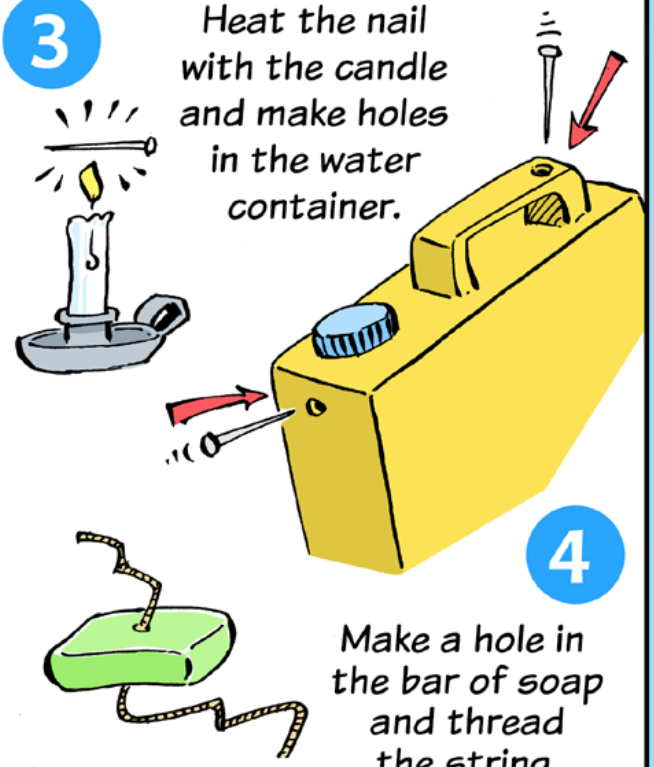
1 Dig 2 holes 45 cm deep and about 60 cm apart.

2 Place the forked sticks into the holes, making sure they are level.

Oil bottom of sticks to prevent termites.

3 Fill holes with soil and rocks, and pack tightly.

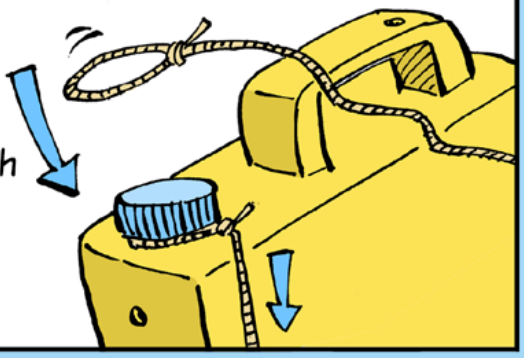
3 Heat the nail with the candle and make holes in the water container.



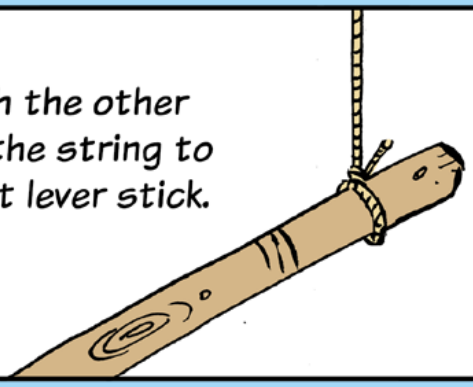
4 Make a hole in the bar of soap and thread the string.

5 Hang the container and soap on the cross-sticks and place them on the supports.

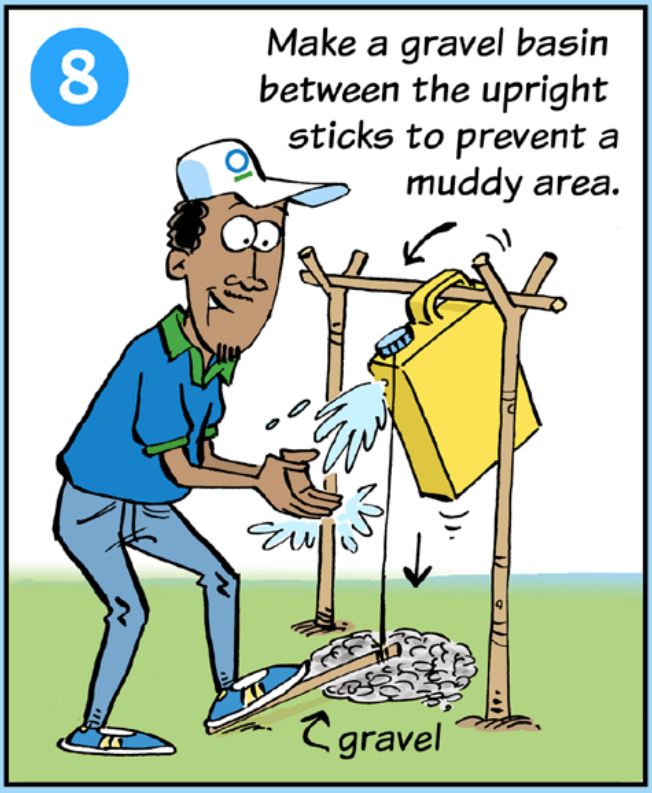
6 Fill the container with clean water and attach the string.



7 Attach the other end of the string to the foot lever stick.



8 Make a gravel basin between the upright sticks to prevent a muddy area.



LET'S TALK ABOUT IT!

1. Do you think about washing your hands at home or when you're in the veld?
2. What do you use to wash your hands?

TAKING THE NEXT STEP: Teach your family to sing the Happy Birthday song **twice** when washing their hands to make sure they wash properly.

Message 3: Remember the critical times for handwashing

WHY IT MATTERS?

Prevent the spread of germs and protect yourself from disease with handwashing. There are 5 times that are critical for protecting yourself and others from germs.

WHAT TO DO?

Wash your hands with soap and clean water frequently, especially...

1 BEFORE preparing food or eating.

2 BEFORE feeding a child.

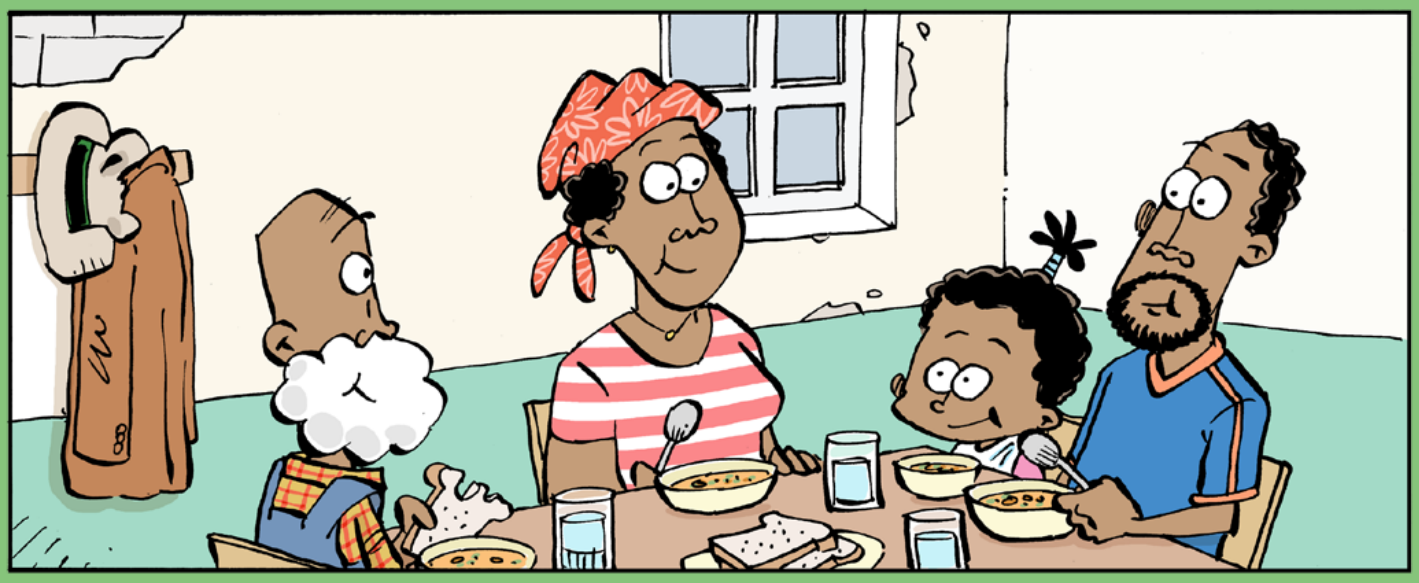
3 AFTER defaecating or using the toilet.

4 AFTER returning home from working outdoors.

5 AFTER changing a nappy or cleaning a child.

KEYWORDS: PROTECTION 5 CRITICAL TIMES HANDWASHING

It is critical to wash hands before and after we eat food. This is important when we are eating with family and friends both at home and at ceremonies where food is shared.



LET'S TALK ABOUT IT!

How can you best share this information with others?

TAKING THE NEXT STEP: Be an example to others by remembering to wash your hands at these important times.

Message 4: Clear water is not necessarily clean water

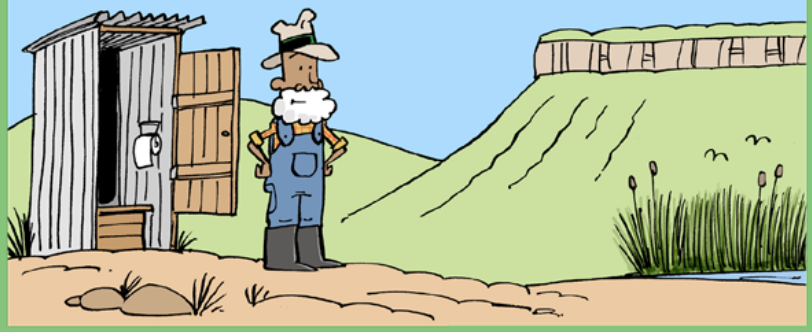
WHY IT MATTERS?

Water can be contaminated when pollution or germs make it dirty. It can look clean but still be harmful. Water contamination can happen when:

- *Toilets are built next to water sources or channels.*
- *Faeces wash into streams when it rains.*
- *Rubbish, including nappies and dead animals is dumped into water channels.*
- *Gravesites are located too close to water channels.*
- *Livestock defaecate in or near water.*
- *Cattle dip tanks are not maintained.*

WHAT TO DO?

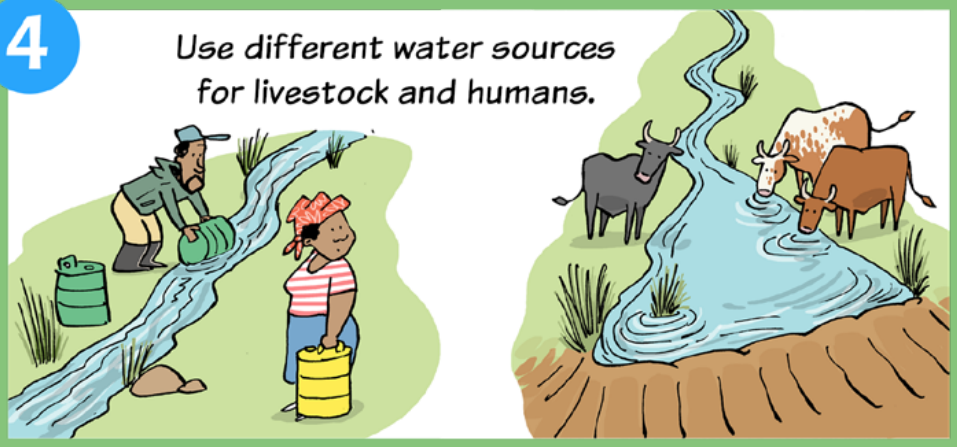
1. Build toilets away from water sources and wetlands.



2. When there is no toilet, dig a hole and cover faeces with soil.

3. Nappies must be disposed of in designated places and not near water sources. Nappies contain germs that are harmful to animals and humans.

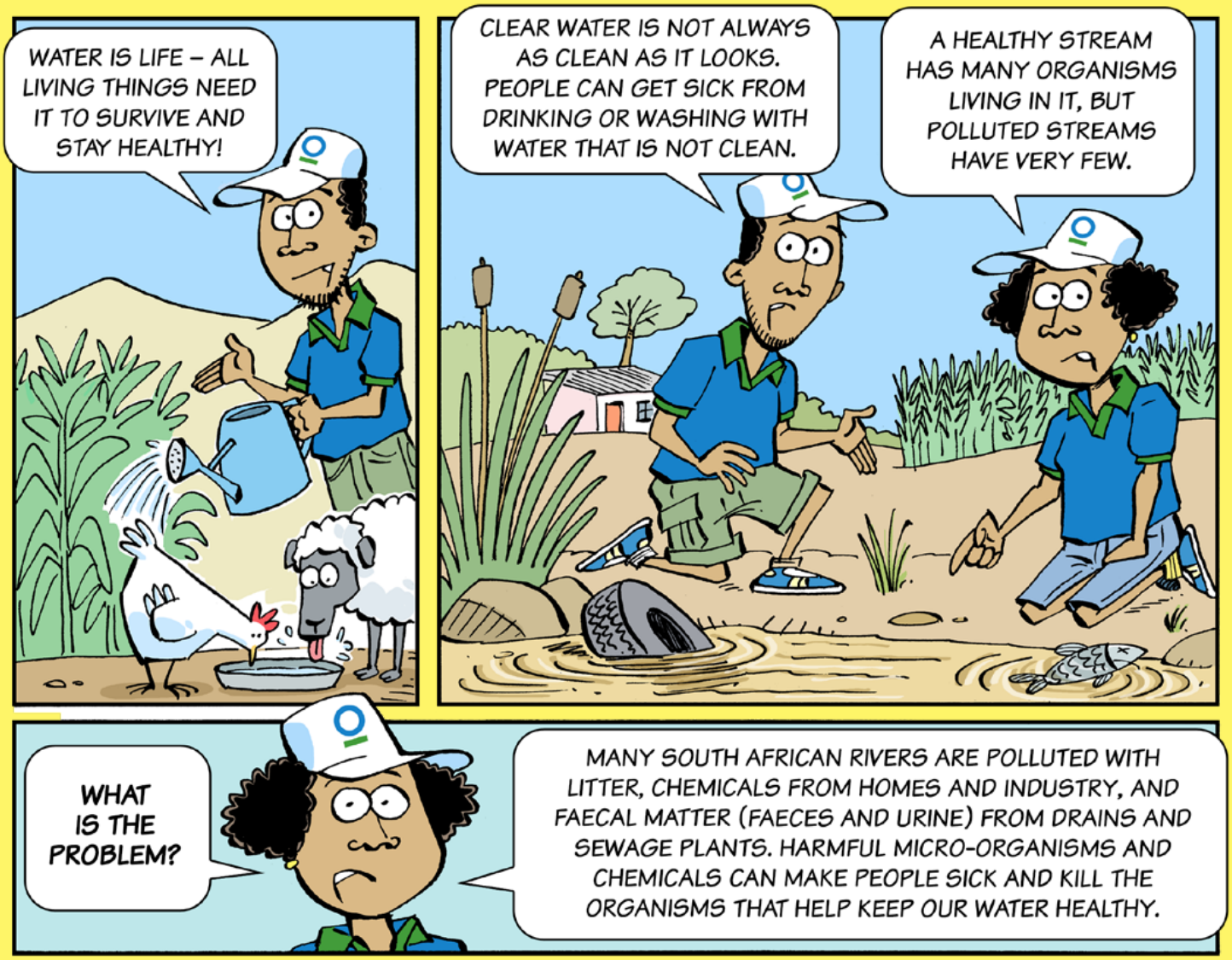
4. Use different water sources for livestock and humans.



5. Fence areas around water sources used for people.

6. Dump dip tank waste far from water sources.

KEYWORDS: CONTAMINATION TOILETS RUBBISH



NOTE: ISSUES IN YOUR AREA

SAVANNA, GRASSLAND
(Mpumalanga, Limpopo)

Erosion, littering, dumping rubbish and nappies in water channels, alien plants, sand mining and broken taps

SUCCULENT KAROO
(Northern Cape)

Old infrastructure, leaking sewage plants, erosion and alien plants

GRASSLANDS
(Eastern Cape)

Dumping of rubbish, carcasses and nappies, alien plants, old infrastructure, toilets too close to water sources and erosion

LET'S TALK ABOUT IT!

1. What issues can you think of in your area?
2. What can you do about these issues?

TAKING THE NEXT STEP: Make sure your toilet isn't near a water source. If it is, work with your family to move it.

Message 5: Store water safely

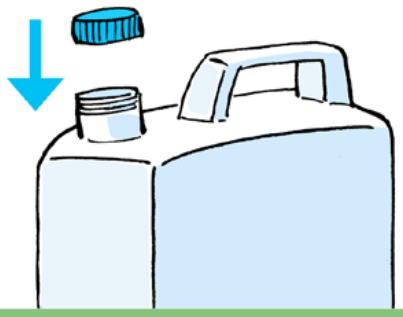
WHY IT MATTERS?

Water that is safe at a collection point can be contaminated at the water source, while transporting water or inside the home due to flies and dirty hands.

WHAT TO DO?

1. Use containers that are 'food safe' to store water.

2. Use containers with lids and narrow necks to reduce contamination.



3. 

Do **NOT** use containers that have previously held chemicals, milk or juice.

4. Treat water by boiling it and then letting it cool. This kills germs.

5. Do not collect water from sources where livestock drink. Animals urinate and defecate in water, making it unsafe for humans.

Store water containers away from heat and direct sunlight.

6

LET'S TALK ABOUT IT!

Do you boil your water before storing it?

TAKING THE NEXT STEP: *When you get home, make sure all your water containers are covered with a clean lid or cloth.*

KEYWORDS: STORAGE HANDWASHING CONTAMINATION

Message 6: Prevent rubbish from being dumped in water channels

WHY IT MATTERS?

Dumping rubbish in water channels can make people and animals sick and allows germs to spread. It affects plants that grow in and around the water.

WHAT TO DO?

1. Nappies must be disposed of in designated places and not dumped near water sources.

Do not dispose of animal carcasses near water sources.

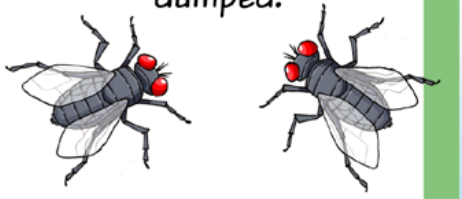
2. 

Avoid using chemicals, pesticides, fertilizers or insecticides near water sources. These can harm plants, animals and humans.

3. When disposing of rubbish, always aim to recycle, reuse or recover.

4. Grow your crops away from water sources to prevent chemicals from entering the water channels. Wash your fruit and veggies to remove insecticides.

5. Work with your community to decide where rubbish can be dumped.

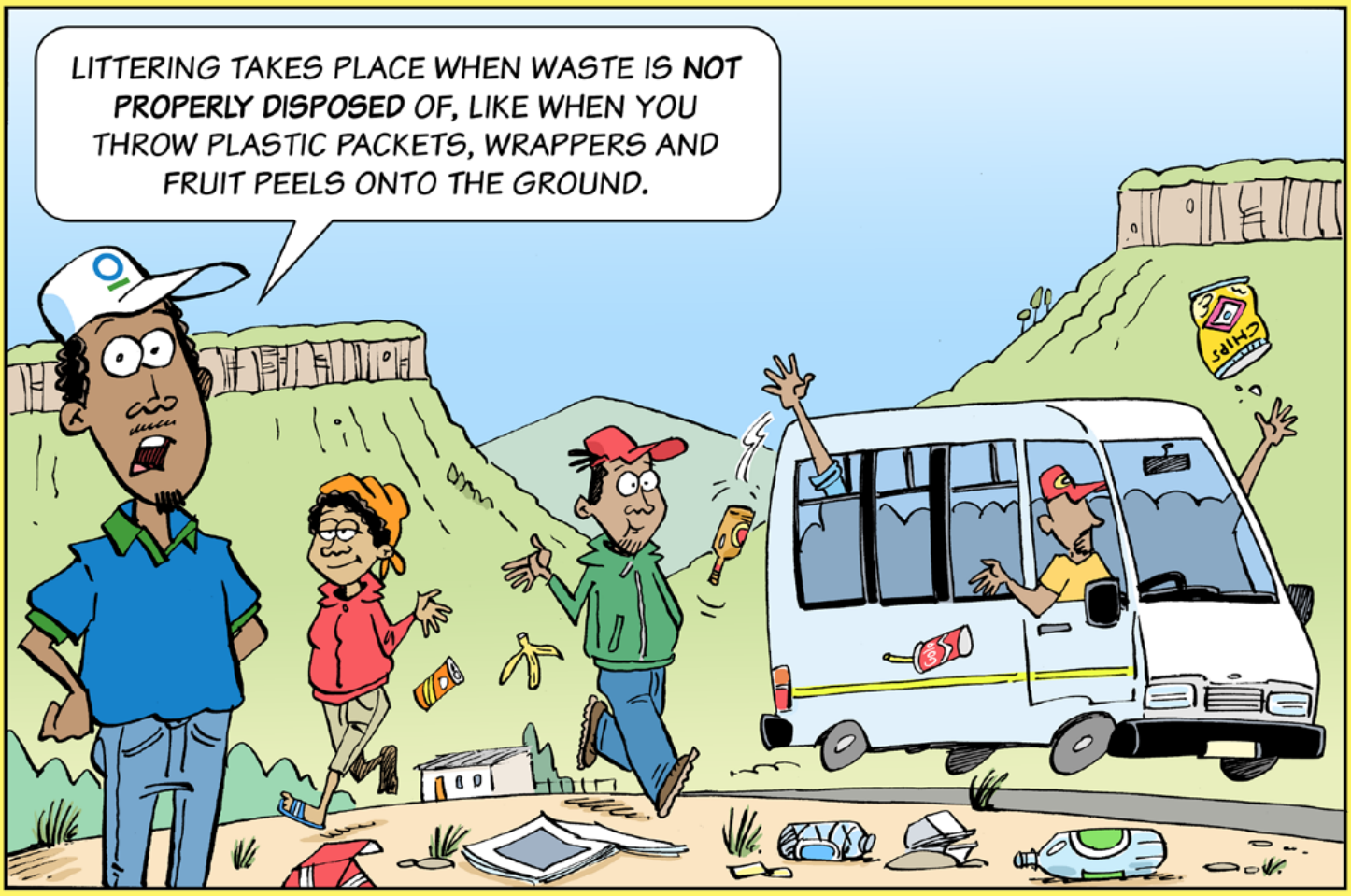


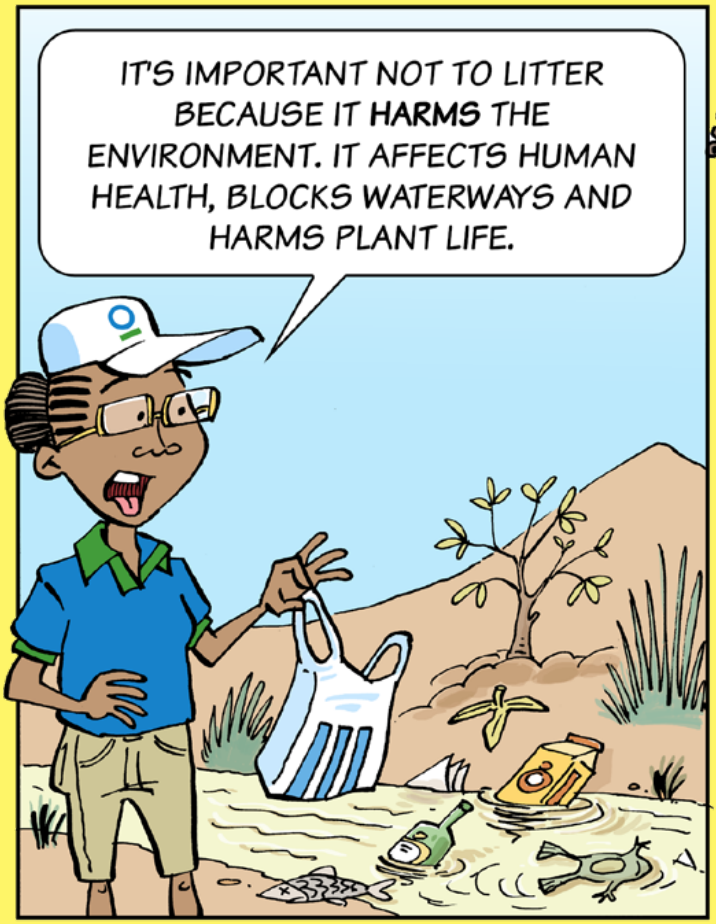
Don't litter. Keep your environment clean. Flies are a sign of dirty conditions.

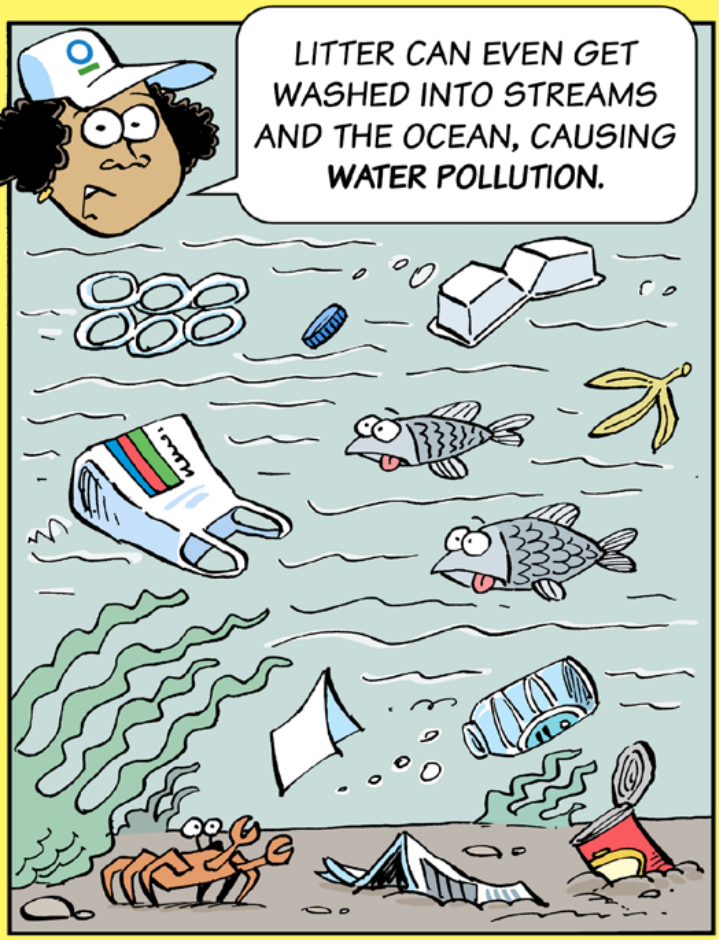
6. When outside, do not drop rubbish. Keep it until you find a bin.

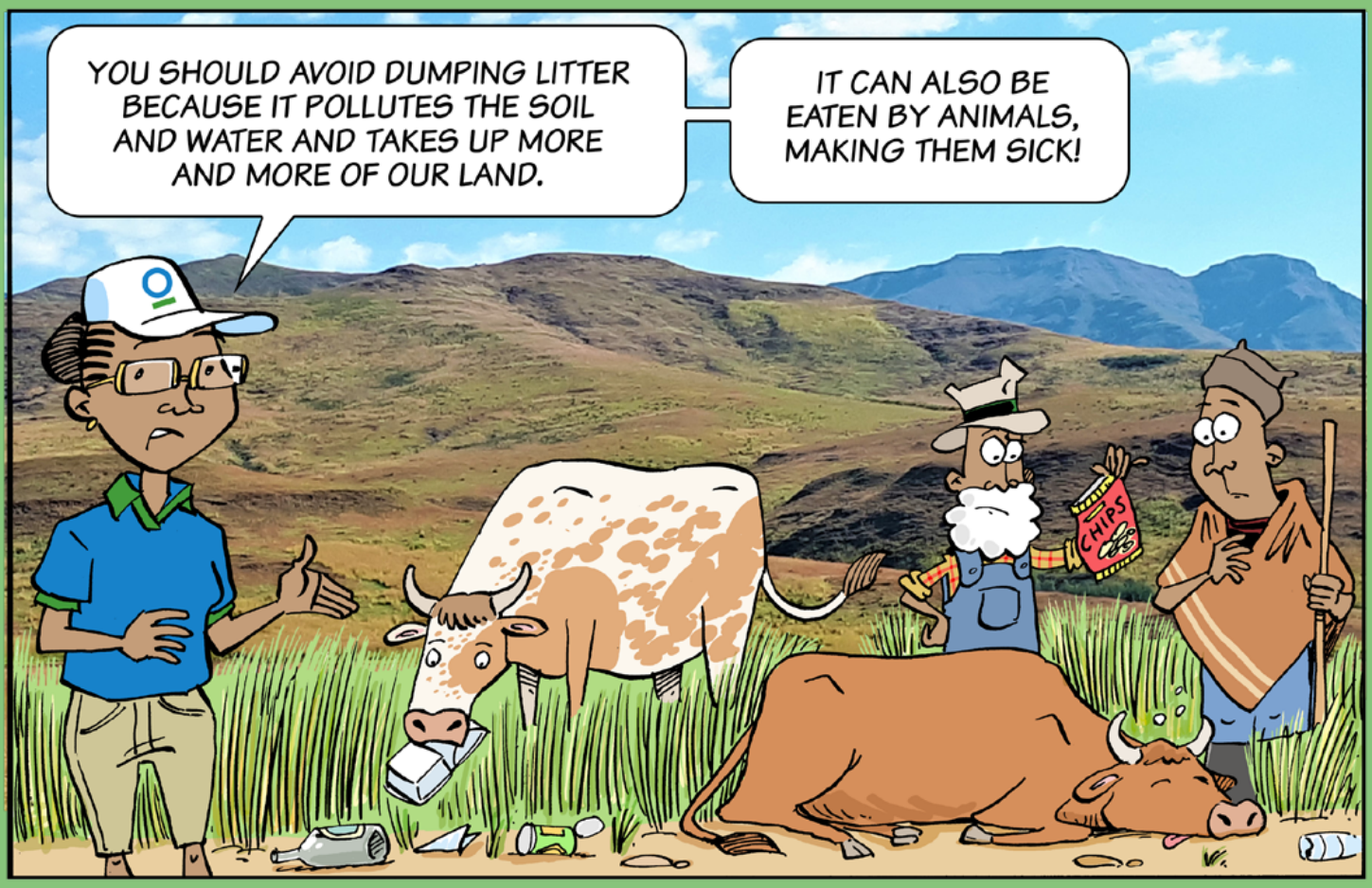
KEYWORDS: CONTAMINATION TOILETS RUBBISH

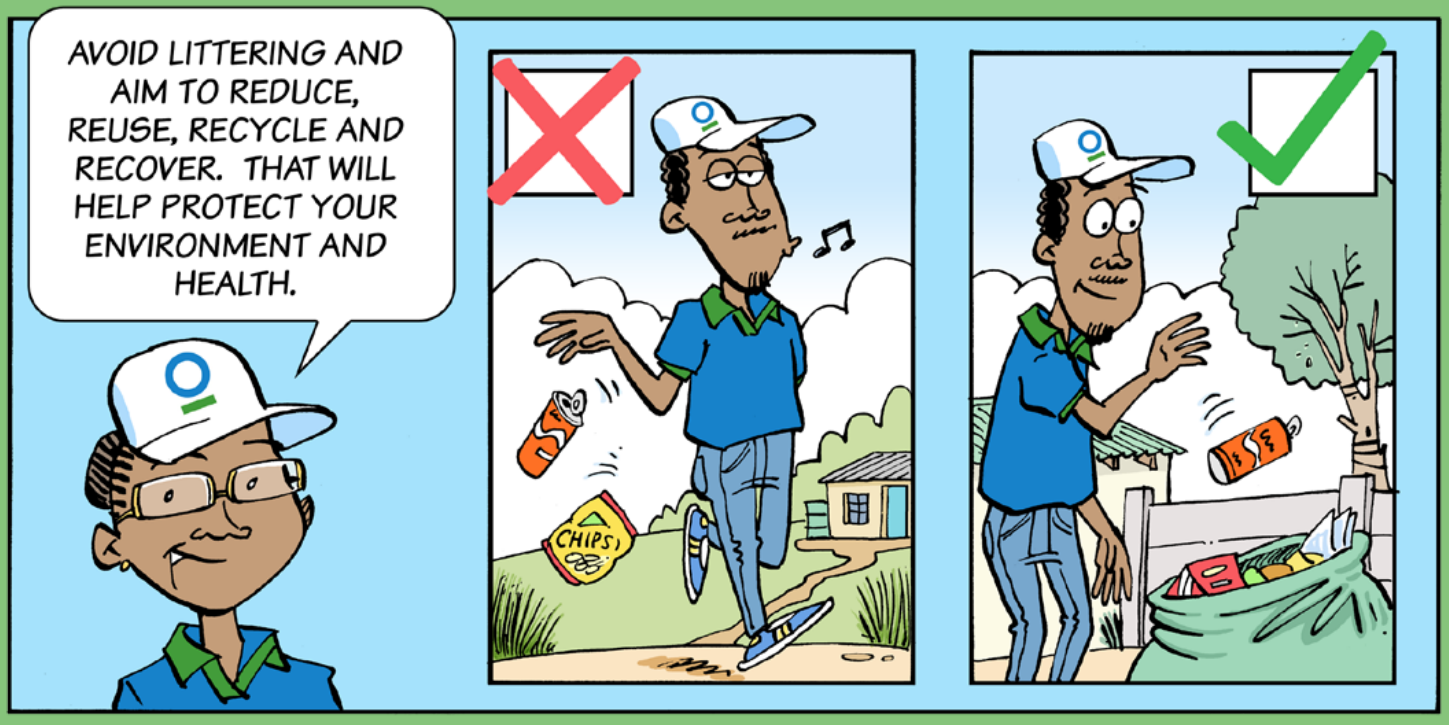
What is littering?











LET'S TALK ABOUT IT!

1. *Where do you dump your rubbish?*
2. *Does your community have designated rubbish dumps?*

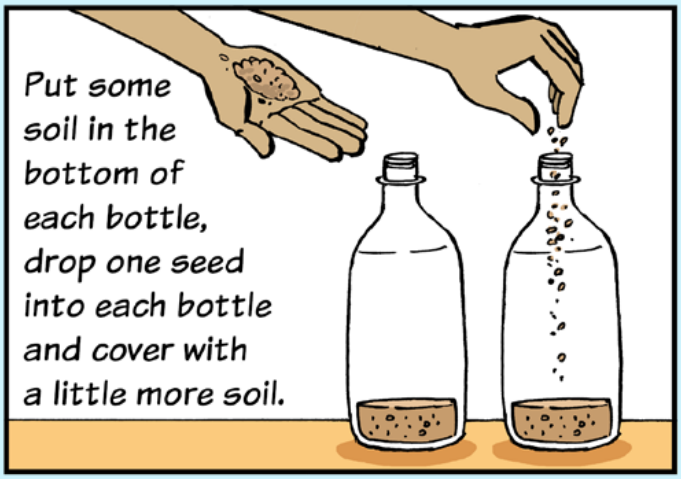
TAKING THE NEXT STEP: *Talk to your community about having a designated rubbish place that is away from water sources and homes.*

MAKE A WATER SYSTEM IN A BOTTLE

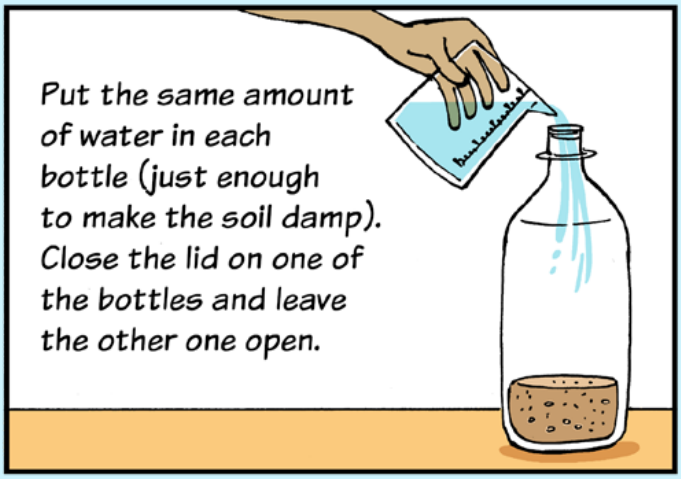
THIS ACTIVITY IS FOR SCHOOL OR YOUTH GROUPS THAT MEET REGULARLY

YOU WILL NEED:

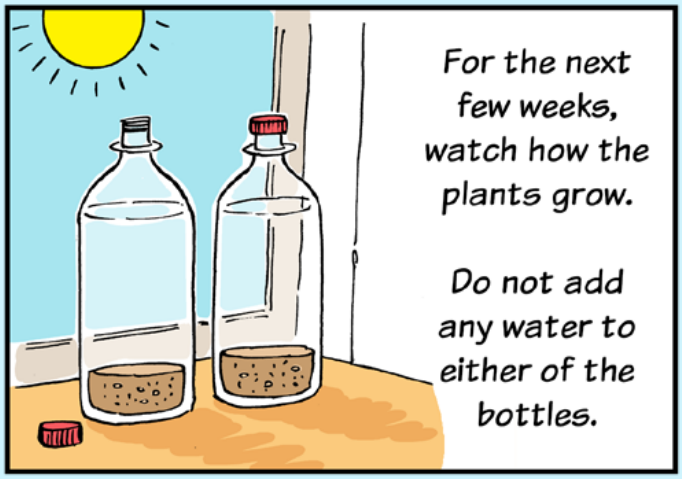
2 plastic 2-litre bottles
2 seeds of the same type (sugar beans work well)
soil
water



Put some soil in the bottom of each bottle, drop one seed into each bottle and cover with a little more soil.



Put the same amount of water in each bottle (just enough to make the soil damp). Close the lid on one of the bottles and leave the other one open.

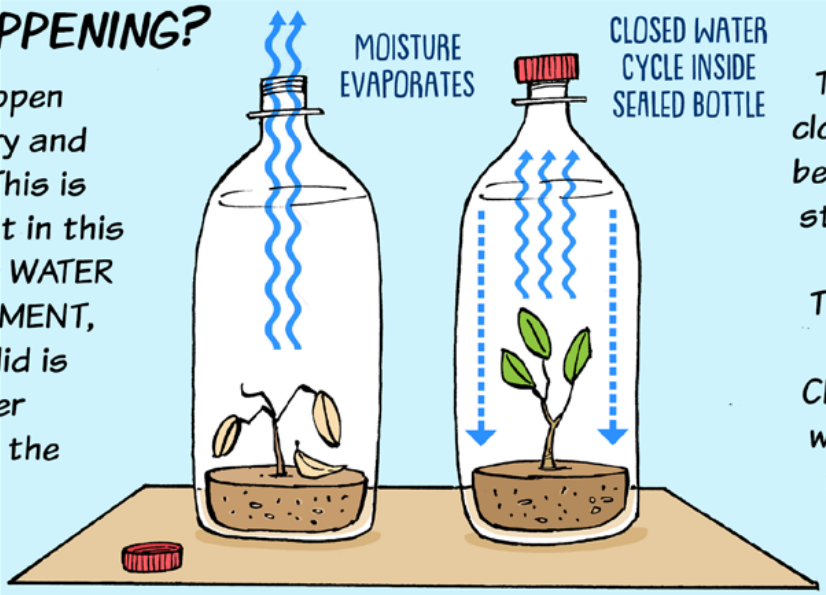


For the next few weeks, watch how the plants grow.

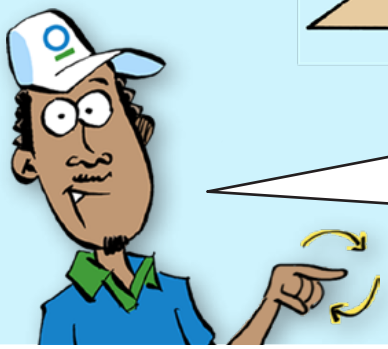
Do not add any water to either of the bottles.

WHAT IS HAPPENING?

The plant in the open bottle became dry and eventually died. This is because the plant in this bottle is LOSING WATER TO THE ENVIRONMENT, and because its lid is open, all the water eventually leaves the bottle.



The plant in the closed bottle grew because the water stayed inside the bottle.
This bottle is an example of a CLOSED SYSTEM, which allows the water to cycle around inside the bottle.



This is an example of how the water cycle works and how water moves from the earth up into the clouds and falls back down to the earth again, cycling around in the same pattern.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