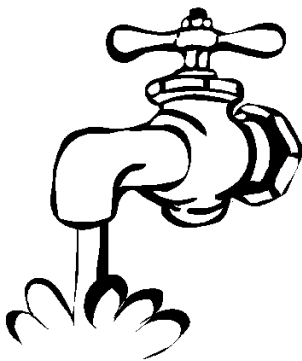
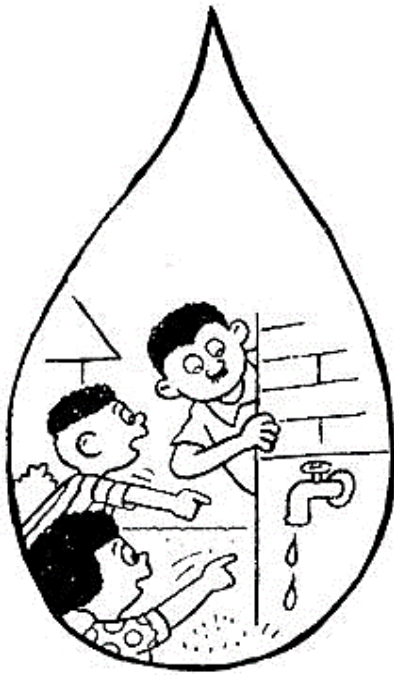


SOCIAL SCIENCES
GEOGRAPHY
GRADE 4: / Term 4
Water in South Africa
MEMO

Name: _____ Gr. 4 _____



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The Kenmont School

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Geography: Water in South Africa

Grade 4

Term 4

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Water in South Africa

Introduction

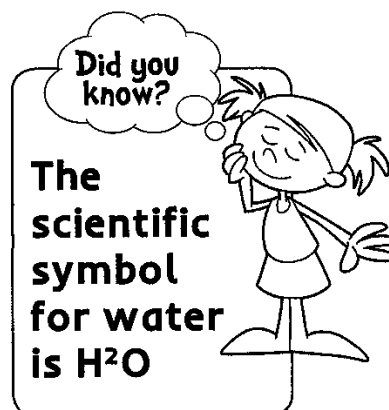
There would be no life on earth without water. People use water in many different ways. We use water in our homes, on farms and in factories. Water first comes to us as rain. People can collect and store rainwater.

We need clean water to stay healthy. Dirty water spreads diseases. Many children in Africa die because of diseases spread in dirty water. We need to look after our water so that there is enough safe water for everyone. We can look after our water by making sure that we do not waste it or make it dirty.

Help Save Water



Dallas Code Compliance, what it all means
COMMUNITY



Unit 1: Uses of water

1. Daily uses of water

Everyone uses water every day. The pictures below show some of the ways people use water in their homes.



Washing myself



Brushing my teeth



Washing dishes



Having a shower



Cooking



Cleaning the house



Taking a bath



Flushing the toilet



Doing washing

ACTIVITY 1 : Ways we use water

Look at the pictures above.

1. Do you use water in any of these ways? Write down which ways.

Own answer

2. How much water do you use when you:

2.1 Take a bath? 80 litres

2.2 Flush the toilet? 9 litres

2.3 Brush your teeth? 2 litres

2.4 Take a 5 minute shower? 75 litres

2.5 Do the washing in an automatic washing machine? 60 litres

2.6 Boil a packet of spaghetti? 3 litres

2.7 Drink a cup of coffee? Approximately 200 ml

3. How much water should you drink every day to stay healthy? Approx 1 1/2

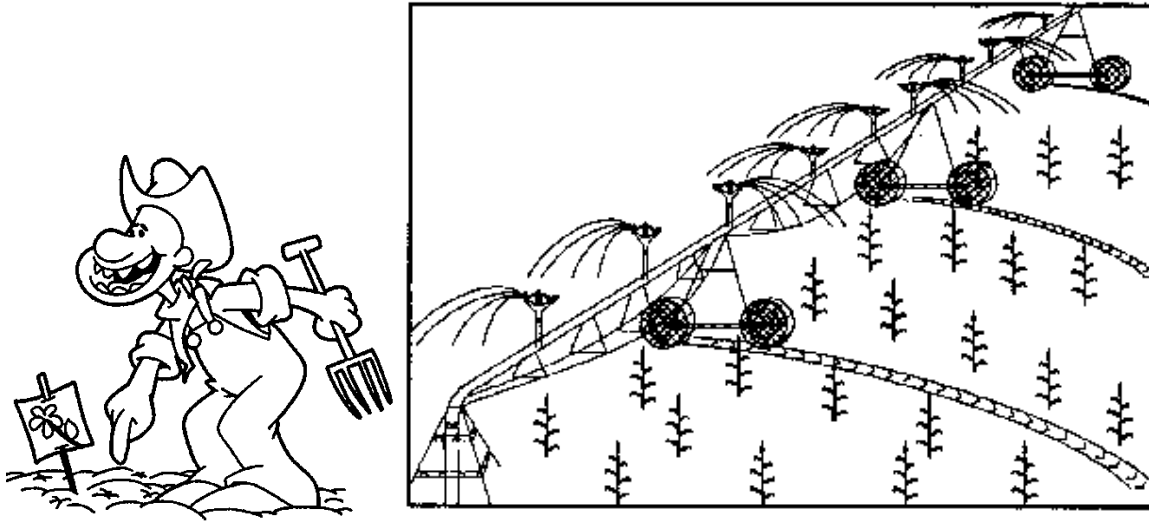
litres

4. What does the following sentence mean? Water must be conserved.

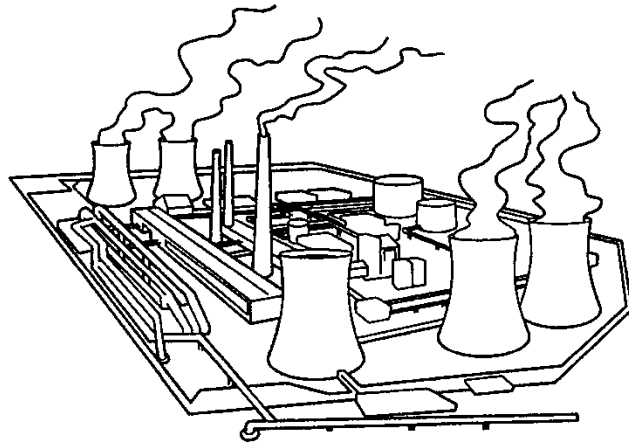
It means that we must not waste water. We must use our water supply wisely and be responsible.

2. Other uses of water

- Farms use water to help crops to grow.



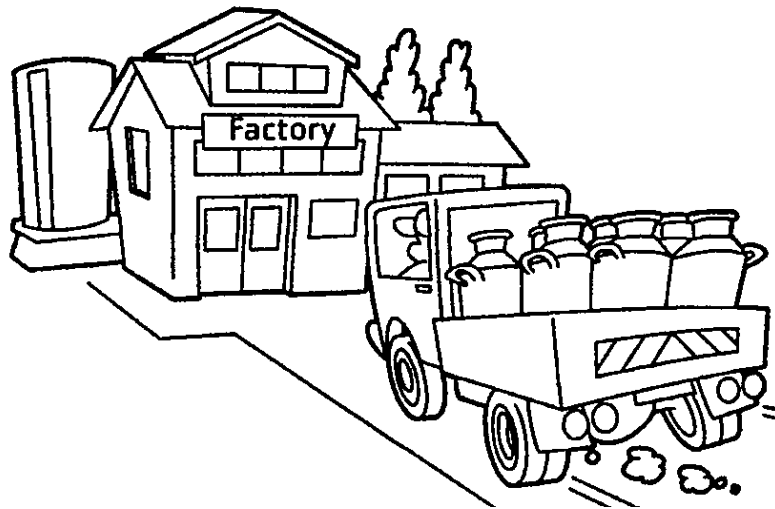
- Power stations use water to make electricity.



- Mines use water to keep drilling machines cool.



- Factories use water as part of making things.



- We use water to water the plants in our garden.



- We use water for fun and leisure

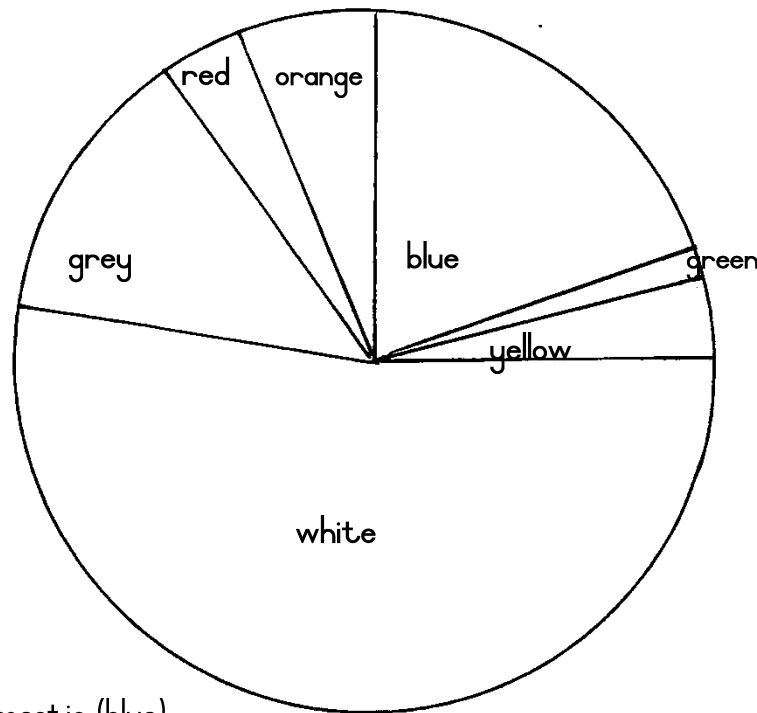


ACTIVITY 2 : Water usage in South Africa

Look at the pie chart below that shows the different ways in which we use water in South Africa. Answer the questions that follow.

Water usage in South Africa

Learners colour the pie chart in different colours as indicated below.



Municipal and domestic (blue)
 Nature conservation (green)
 Municipal and domestic (blue)
 Nature conservation (green)
 Water for livestock (yellow)
 Irrigation (white)
 Industrial (grey)
 Mining (red)
 Making electricity (orange)

1. What is the biggest user of water in South Africa?

Irrigation

2. List all the users of water from biggest to smallest.

1. Irrigation

2. Municipal and domestic

3. Industrial

4. Making electricity

5. Mining

6. Water for livestock

7. Nature conservation

Unit 2 : Water as a resource

New words

fresh water: water that people and animals can drink.

salt water: water that contains salts which are not good for most plants and animals.

evaporation: when heating changes a liquid into a gas called vapour.

resources: useful things that people need and use in their lives.

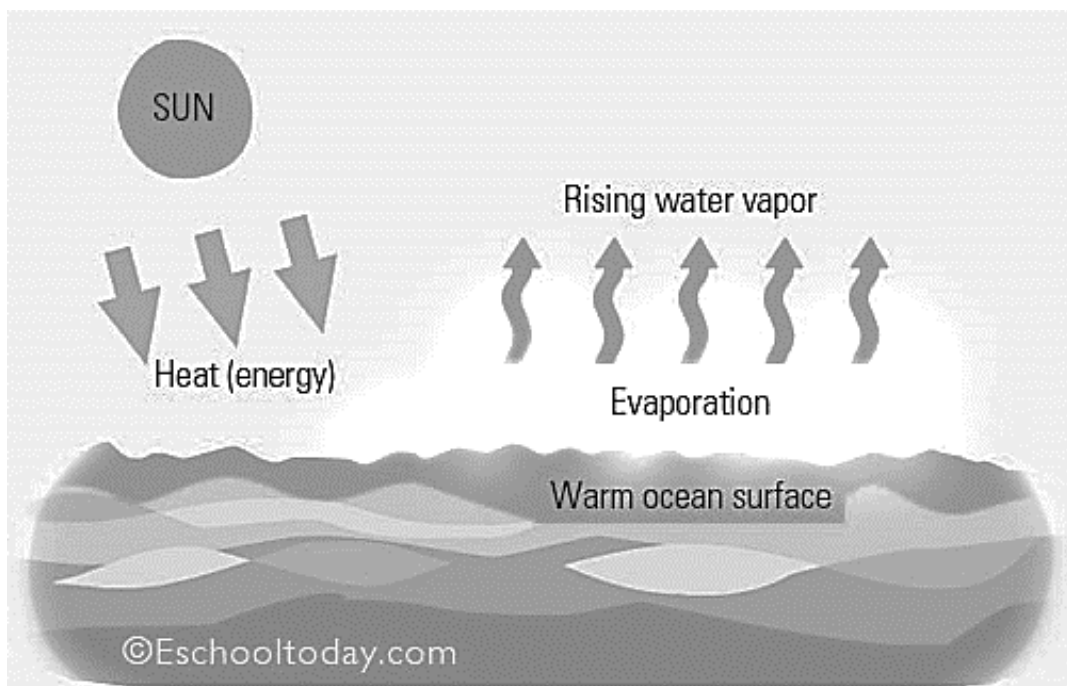
I. Salt water and fresh water on earth

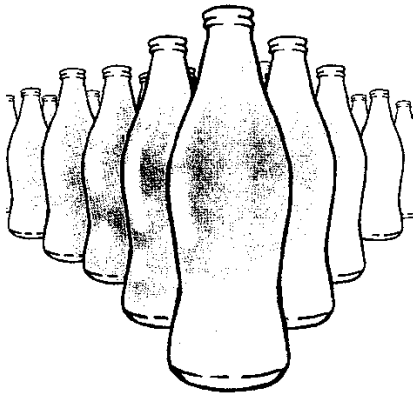
Fresh water is water that is not salty. People need fresh water to stay alive. Nearly all of the water in the world is in the oceans. This is **salt water**. People and animals cannot drink salt water. They can only drink fresh water.

The process of **evaporation** changes salt water into fresh water. We find fresh water in **lakes, rivers, wetlands, streams** and also **under the ground**.

Most of the Earth's water is at the **North and South poles** in the form of **ice**.

The process of evaporation





Most of the water on earth is salt water. If we could put all the water on earth in 100 bottles, 97 bottles would be salt water and only 3 bottles would be fresh water.

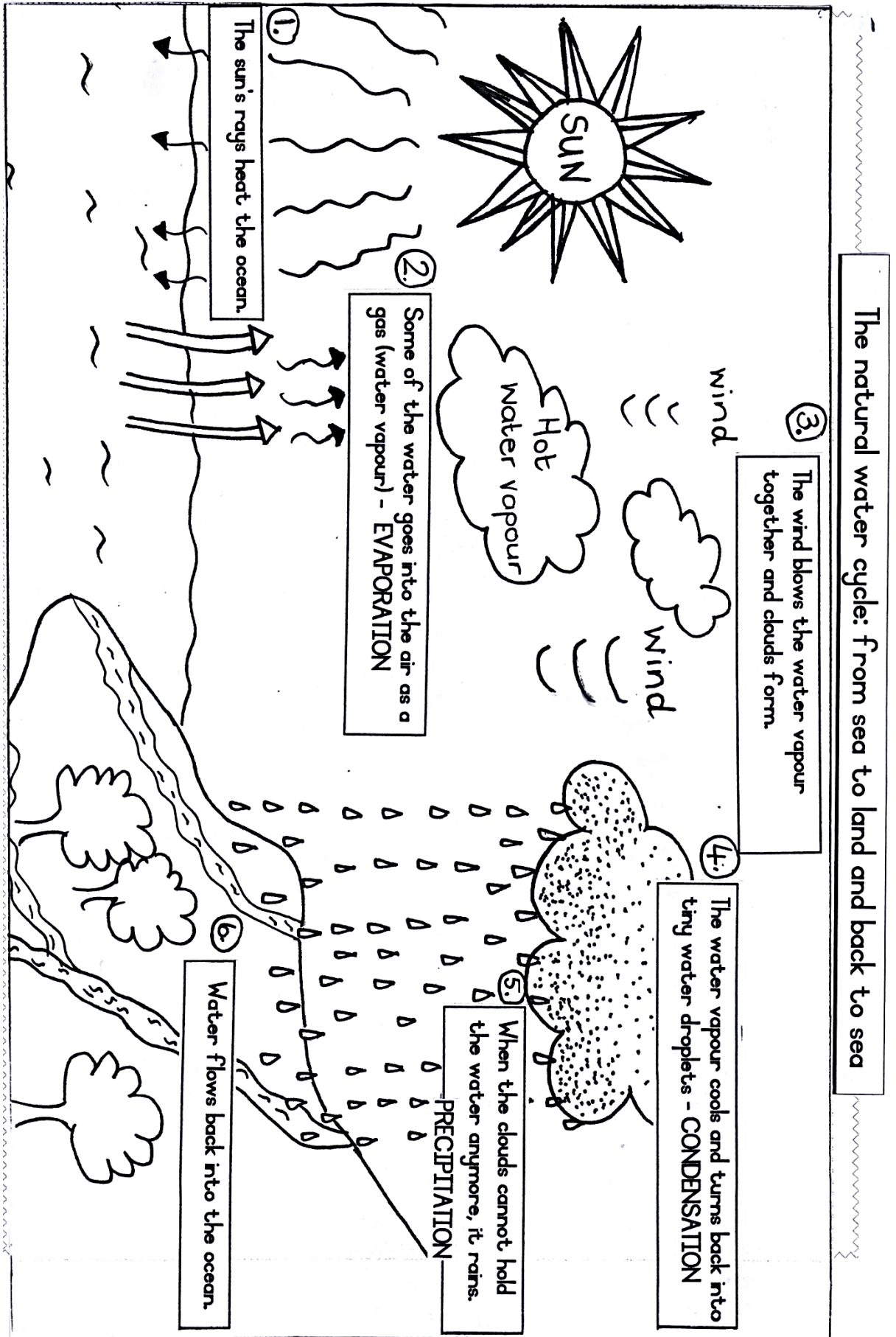
ACTIVITY 3 : Water usage in South Africa

Read the sentences below and fill in the correct words:

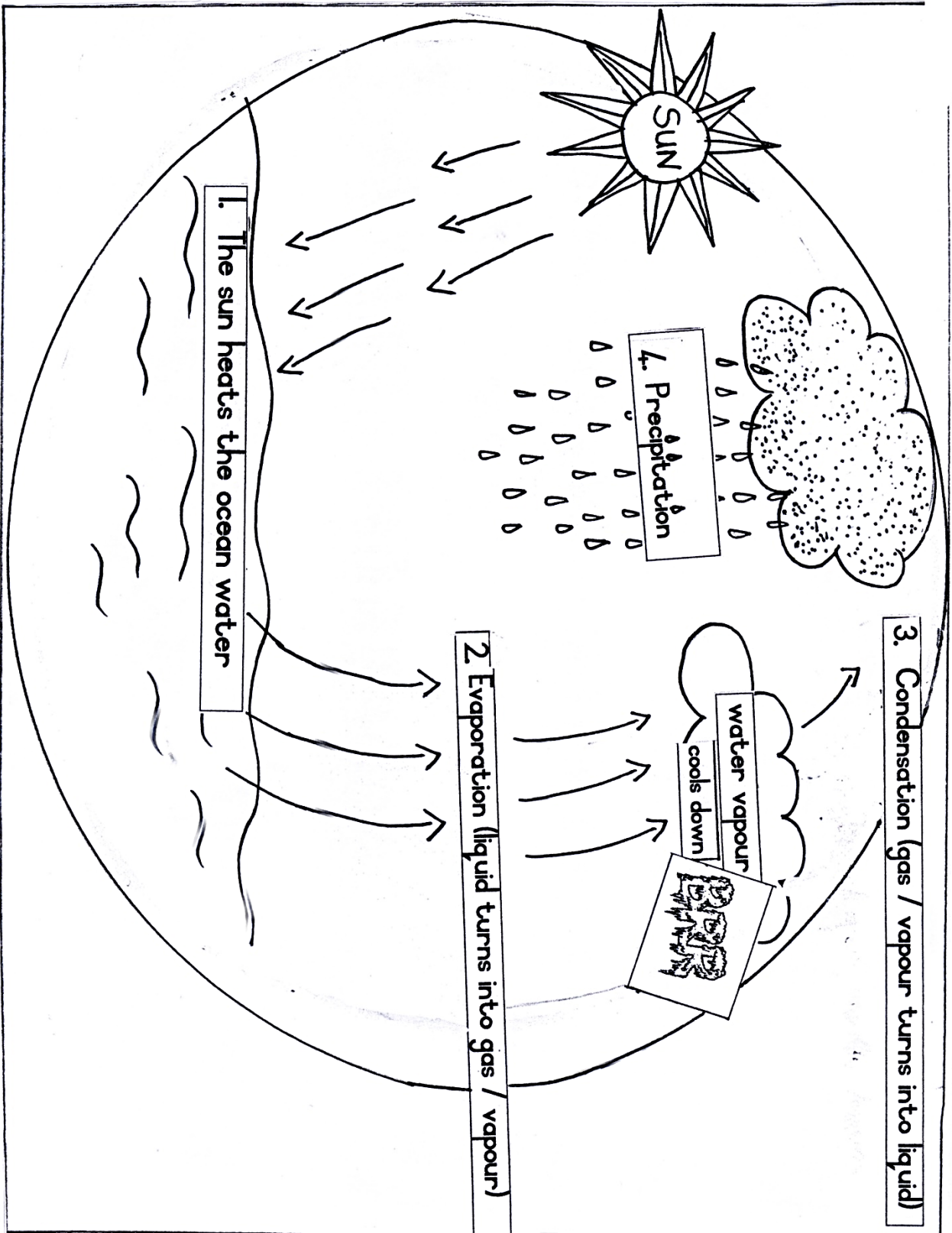
1. Most of the water in the world is salt water.
2. There will be no life on earth without fresh water.
3. We get fresh water from lakes, rivers, wetlands, streams and also under the gound.
4. The process of evaporation changes salt water into fresh water.
5. Draw your own picture of the process of evaporation.

Similar to picture on page 8

2. The natural water cycle: from sea to land and back to sea



The natural water cycle



ACTIVITY 4 : The water cycle (A water making machine!)

Make your own drawing of the natural water cycle. Then shortly write down all the steps of the water cycle in your own words. Follow the steps as set out on page 10.

The natural water cycle

Learners draw their own interpretation of the water cycle.

Step 1: The sun's rays heat the ocean water.

Step 2: The water goes into the air as a gas . This is called evaporation.

Step 3: The wind blows the water vapour together and clouds form.

Step 4: The water vapour cools down and turn back into droplets. This is called condensation.

Step 5: When the clouds cannot hold the water anymore, it rains. This is called precipitation.

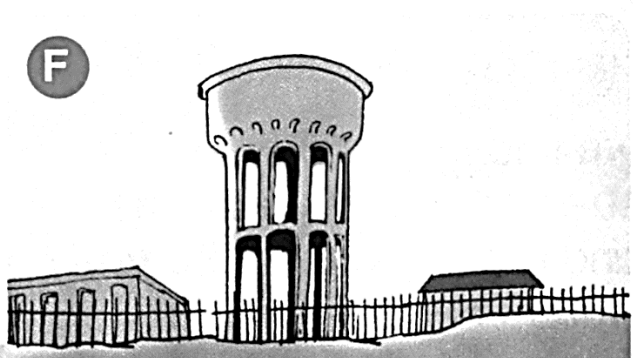
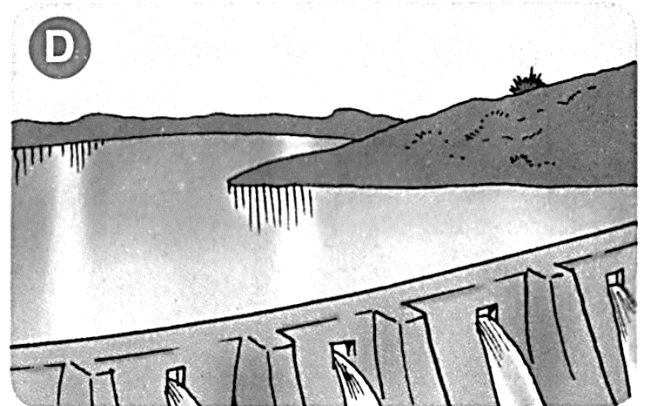
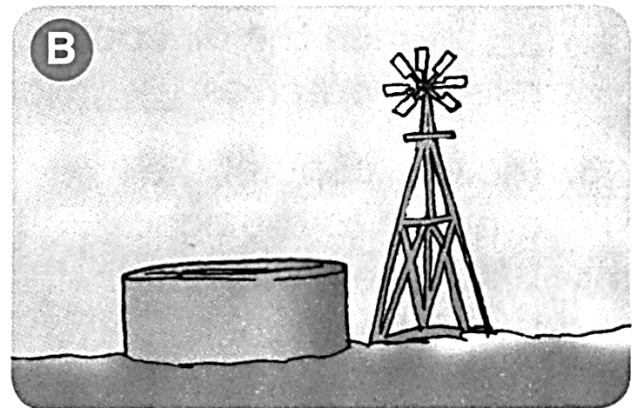
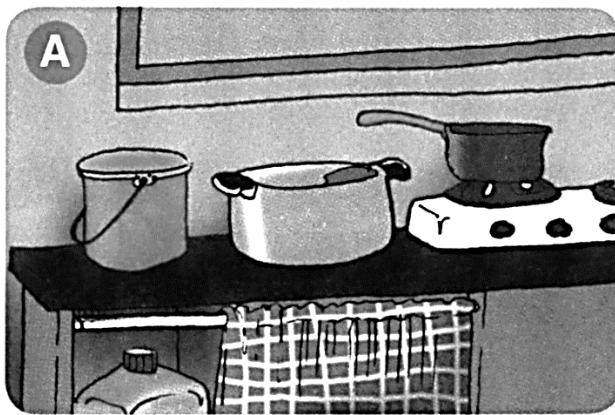
Step 6: Water flows back into the ocean.

3. Storing water

People store water so they can use it at a later time. People may store enough water for a day, a week or a few months. People store water in different containers.

3.1 Ways of storing water

Water can be stored in the following ways:



ACTIVITY 5 : How we store water

1. Look at the pictures and write down the ways in which water has been stored and where the water comes from:

- Picture A *buckets and pots: water in pipes*
- Picture B *Farm dam: rain water and underground water*
- Picture C *Large tank: rain water*
- Picture D *Large dam on a river: rain water*
- Picture E *Plastic bottle: water in pipes*
- Picture F *Water tower: water from a dam in pipes*

2. Why do people make dams? People make dams to store water for people and animals when there is no rain (drought).

Unit 3 : How people get their water

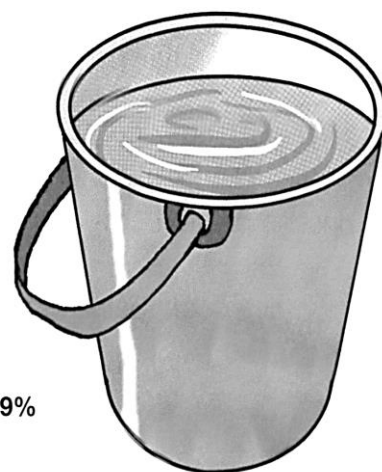
1. Ways people get water

New words

borehole: a deep narrow hole that people dig to get water from under the ground.

well: A larger hole that goes deep down into the earth to the groundwater. People usually lower a bucket down a well and pull it up, filled with water

public taps: outside taps in a settlement that many people use.



- Piped water inside homes – 37%
- Piped water inside yard – 27%
- Piped water within 200 m – 17%
- Piped water further than 200 m – 9%
- Borehole – 2%
- Spring – 1%
- Dam/pool – 1%
- River/stream – 4%
- Other – 2%

This is how South Africans get their water

Look at the photos below. They show some ways people in South Africa get their water:

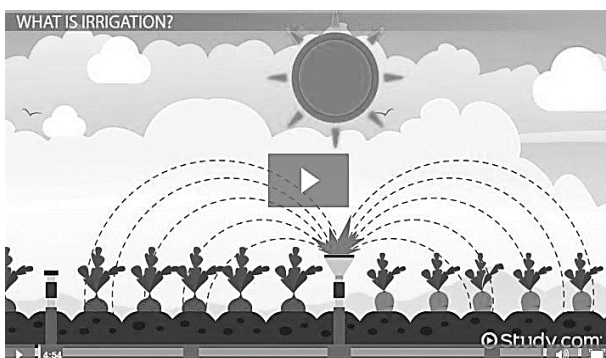


1. Some South Africans get their water from a river. They have to carry the water to their homes. Sometimes the water is dirty or the water dries up in the river.

2. South Africans living in towns and cities get municipal water through pipes and taps into their homes. The water is available in kitchens, bathrooms and outside the garden.

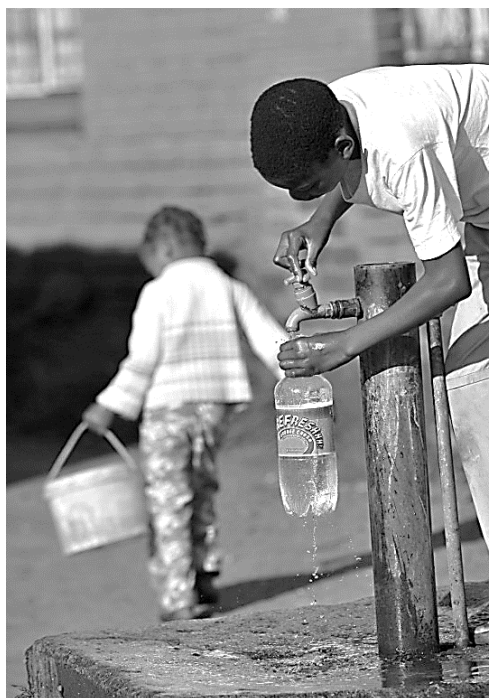


3. Some South Africans get water from a borehole, which has a pipe going down to underground water. They pump water to the surface and a pipe takes the water to their home.



4. South Africans living on farms, use water from dams, rivers and boreholes to water their crops. Sometimes municipal water is also used on farms close to a town.

5. Many South Africans get water from a communal tap. They may have to walk far to get to the tap and then they must carry the water to their home.



6. Some South Africans get their water from a well.



7. Some South Africans do not have a source of water. A truck has to deliver water to them. Then they must carry the water to their homes.

ACTIVITY 6 : How people get their water

1. Name the different ways people get their water in the photos numbered 1 to 7 on the previous 2 pages:

Photo 1: The women gets water from a river.

Photo 2: The children get water from the taps in their homes.

Photo 3: The boy gets water from a borehole.

Photo 4: The farmer gets water from a dam, river or borehole.

Photo 5: The man gets water from a communal tap.

Photo 6: The people in the picture get water from a well.

Photo 7: Some people get water from a water truck.

2. Complete these sentences: (*definitions on page 14*)

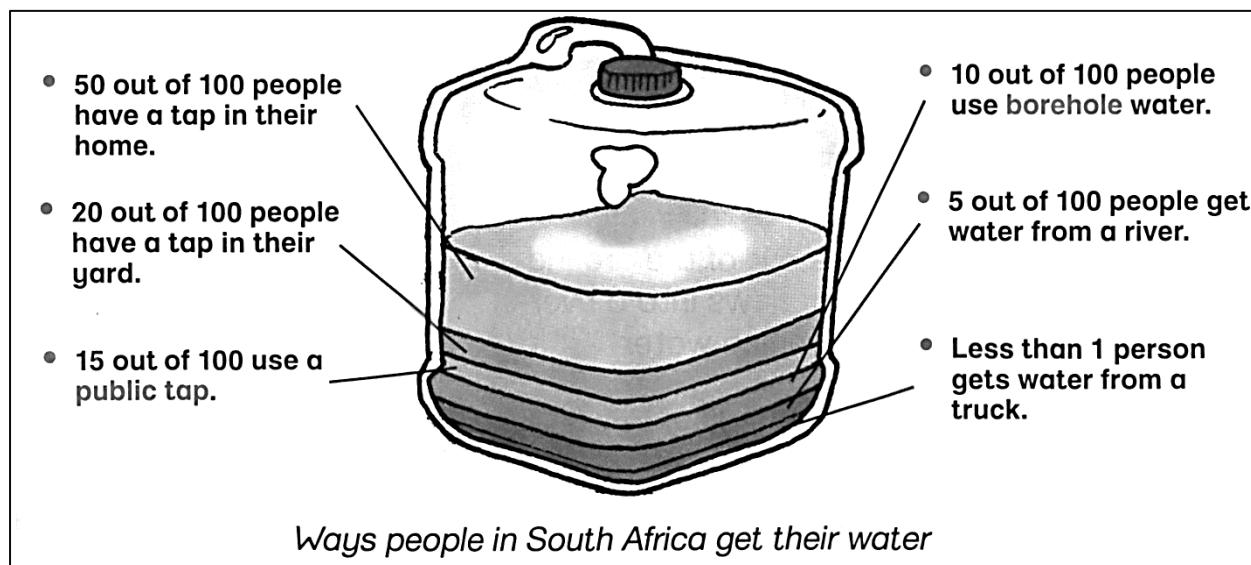
A well is a large hole that goes deep down into the earth to the groundwater. People usually lower a bucket down a well and pull it up, filled with water.

A borehole is a deep narrow hole that people dig to get water from under the ground.

3. Where does the water farmers use to water their crops (irrigation) come from?

Farmers use water from dams, rivers and boreholes to water their crops on the farm.

4. People in South Africa get their water in six main ways. Look at the drawing of the water carrier below and answer the questions:



4.1 How do most people in South Africa get their water?

Most people get their water from taps in their home.

4.2 How do the fewest number of people get their water?

From a water truck.

4.3 What percentage of people have a tap in their homes?

50%

4.4 What percentage of people use a public tap?

15%

4.5 What percentage of people get their water from a water truck?

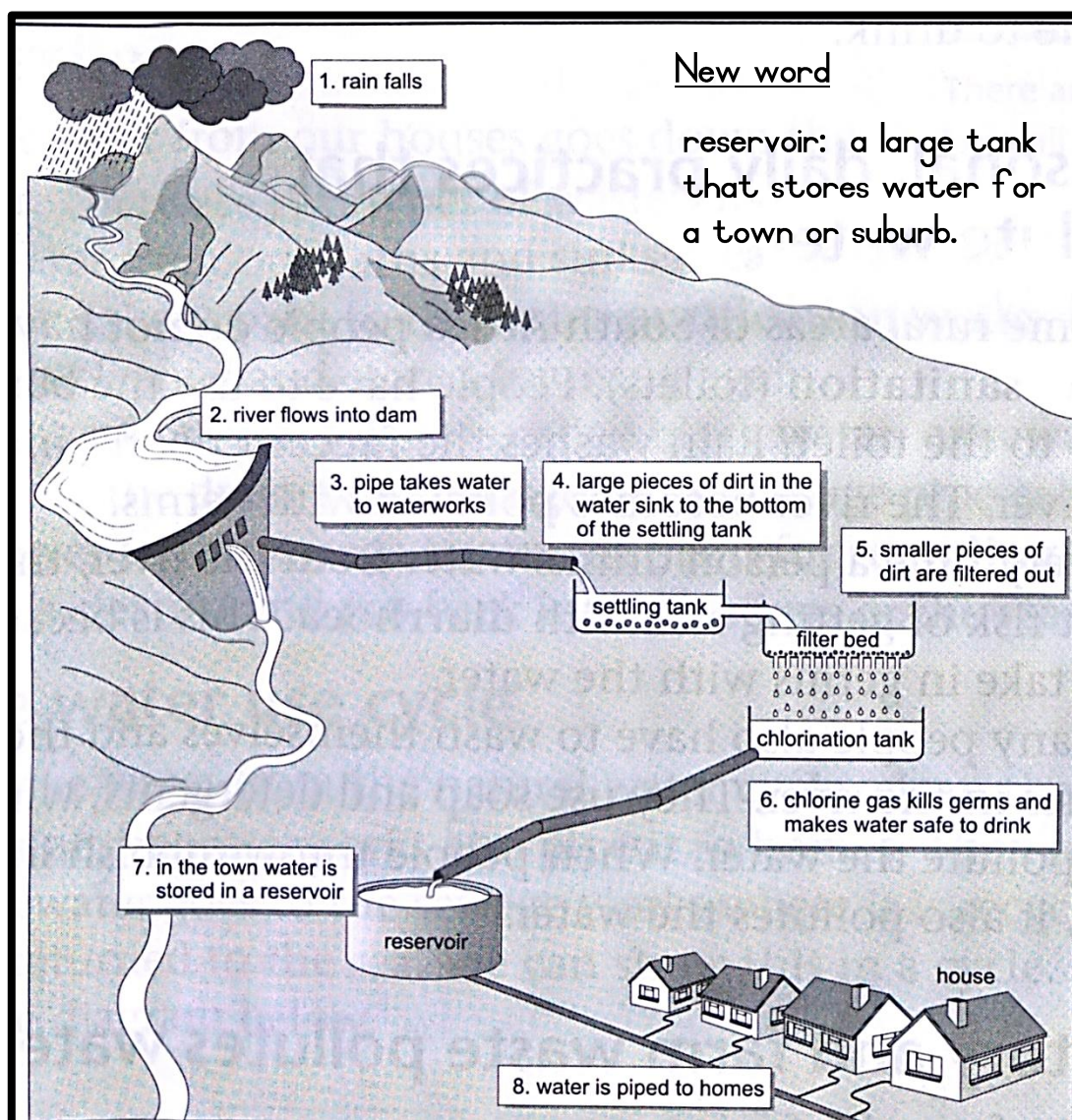
Less than 1%

4.6 How many people out of every 100 in South Africa get their water from a river?

5 out of every 100 people get their water from a river.

2. How water get to the taps in our homes

In towns and cities many people have taps in their homes. This water is called piped water because it travels in pipes from a reservoir. The reservoir stores water for the town. It is a big tank built on a high stand in the town. The diagram shows how water from the river is collected, cleaned, stored and then piped to our homes.



ACTIVITY 7 : How water get to our taps

1. Describe the three stages of cleaning the water at the waterworks.
Large pieces of dirt in the water sink to the bottom of the settling tank.
Smaller pieces of dirt are filtered out in the filter bed.
Chlorine kills germs in the last stage.

Unit 4 : Pollution and waste water

New words

chemicals: natural and human-made substances that we use in homes, factories and farms. Some chemicals are poisons.

bacteria: tiny life forms that can get into our bodies and make us sick.

sewage treatment works: place where polluted water is cleaned.

filters: layers of sand that trap tiny pieces of solid material.

sewage: waste that comes from toilets and drains.

1. Personal, daily practices that pollute water

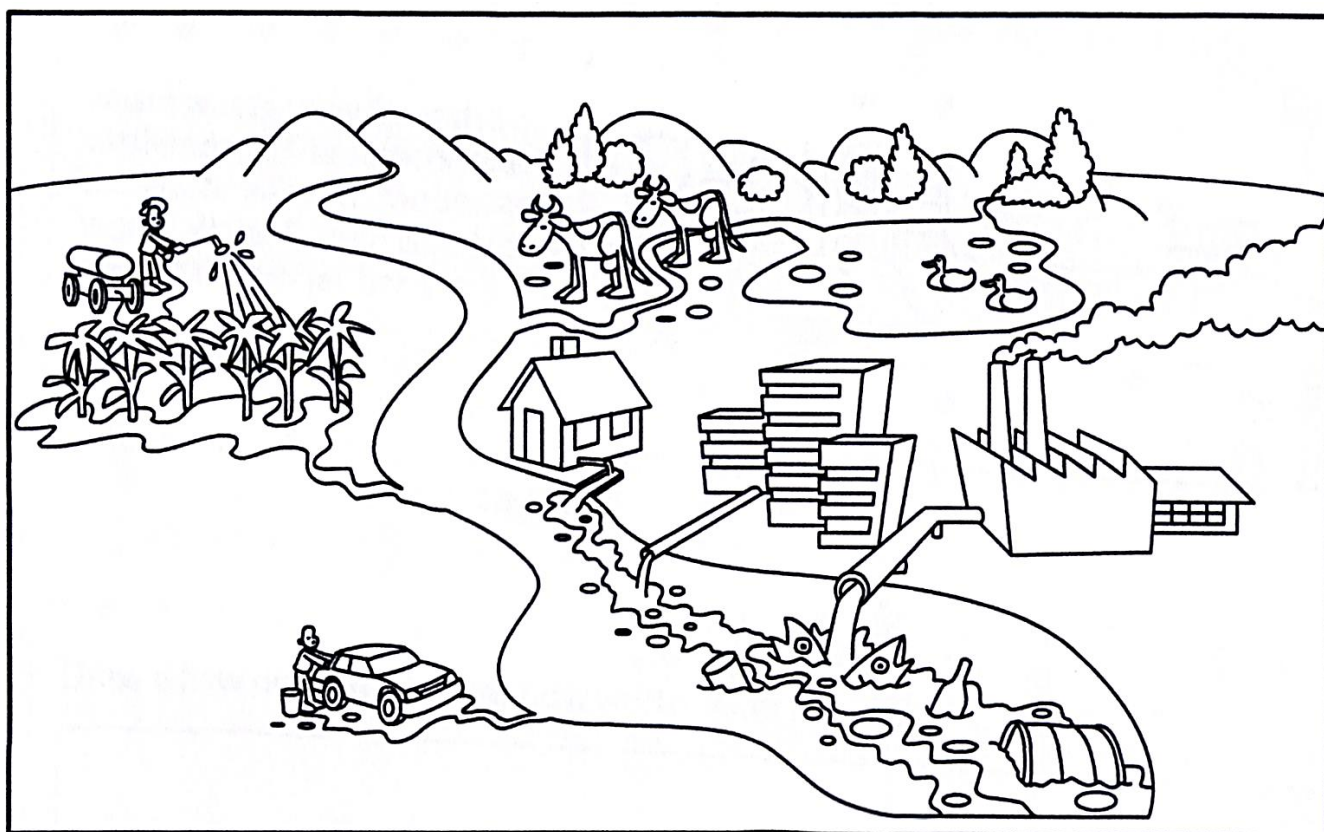
Water is polluted in the following ways:

- Soap and cleaning products wash into rivers.
- Cleaning substances contains chemicals that pollute water.
- People burn fuels that let off chemicals and dirt into the air, which then becomes part of the water cycle. The rain washes chemicals from the air into the soil, rivers and dams.
- People's toilets may leak into rivers. Toilet
- Waste contains harmful **bacteria**.

2. Factory and farming waste pollutes water

Waste water from factories and farms contains harmful chemicals. This polluted water flows from drains into rivers and dams. Farmers uses fertilizers, which contain harmful chemicals, to make their crops grow. They also spray crops with chemicals to kill certain insects. Some of these chemicals end up in rivers and dams. Farm animals can also pollute water.

Look at the picture below and then answer the questions.



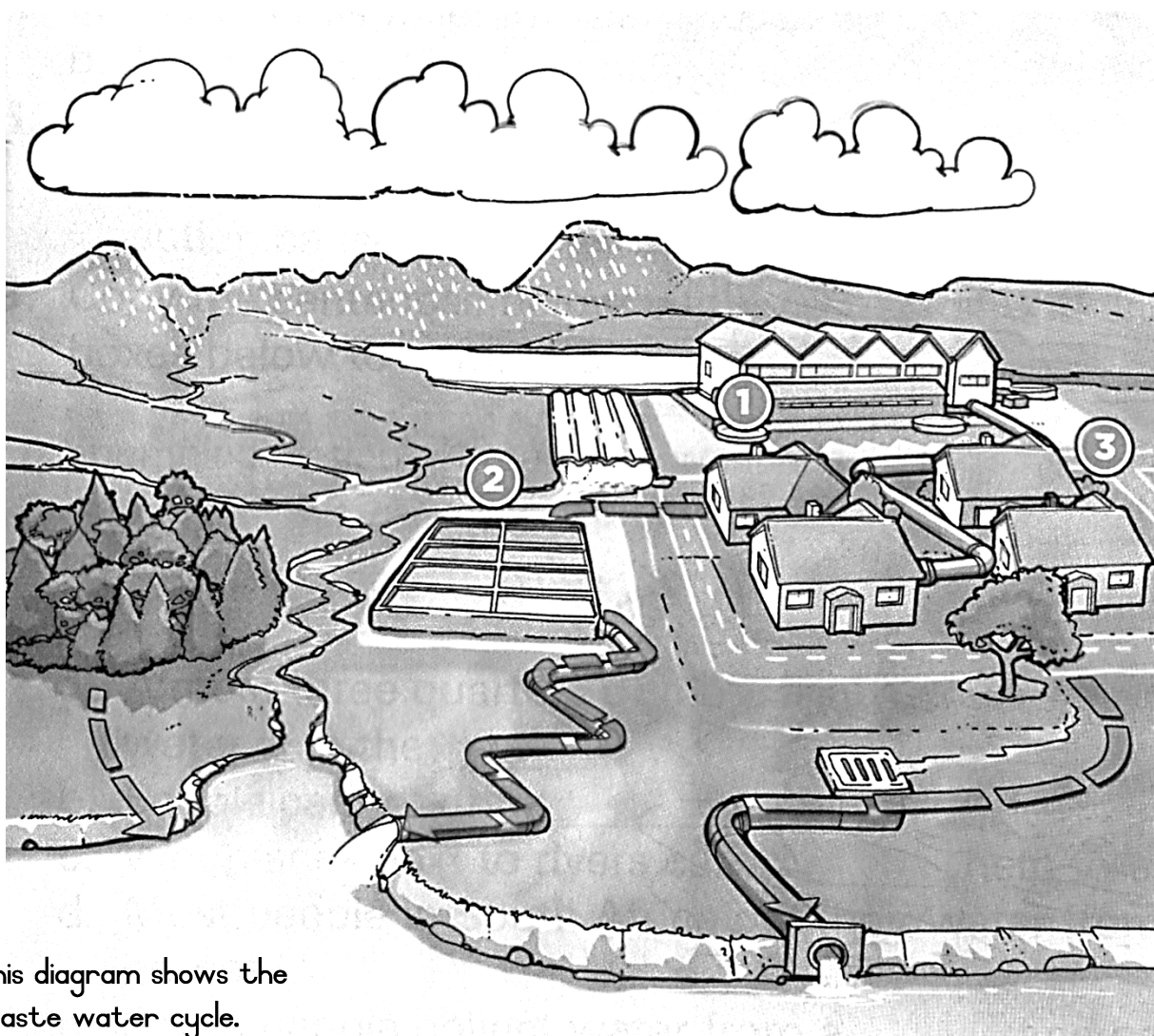
Activity 8: Water pollution

- I. Explain 5 ways in which the river in the picture above is being polluted.
 - I.1 The waste from the cows are getting into the water.
 - I.2 The soap and cleaning products from the house is washed into the river.
 - I.3 The soap from the car that is being washed gets into the river.
 - I.4 Waste water from the factories contains chemicals and pollutes the river.
 - I.5 The farmer is using chemicals on their crops to kill insects. Farmers also use fertilizers to make their crops grow. These chemicals goes into the river.

3. Waste water and sewage recycling

Much of the dirty water from settlements passes through pipes as **sewage**. When the dirty water arrives at a **sewage treatment works**, it is cleaned. Then the clean water is put back into the rivers or the sea. When we clean water and make it safe to drink, we say we are recycling the water.

1. Water treatment centre
2. Sewage treatment works
3. Settlement



This diagram shows the waste water cycle.

Note to teacher:

Explain to learners sewage and waste water first goes to the water treatment centre, thereafter it goes to the sewage treatment works to be cleaned. Then the clean water is put back into the rivers or the sea. Thereafter, the water follows the process on page 19 before it goes to the houses in the settlement.