

# GEOGRAPHY

## Grade 7

### Term 4

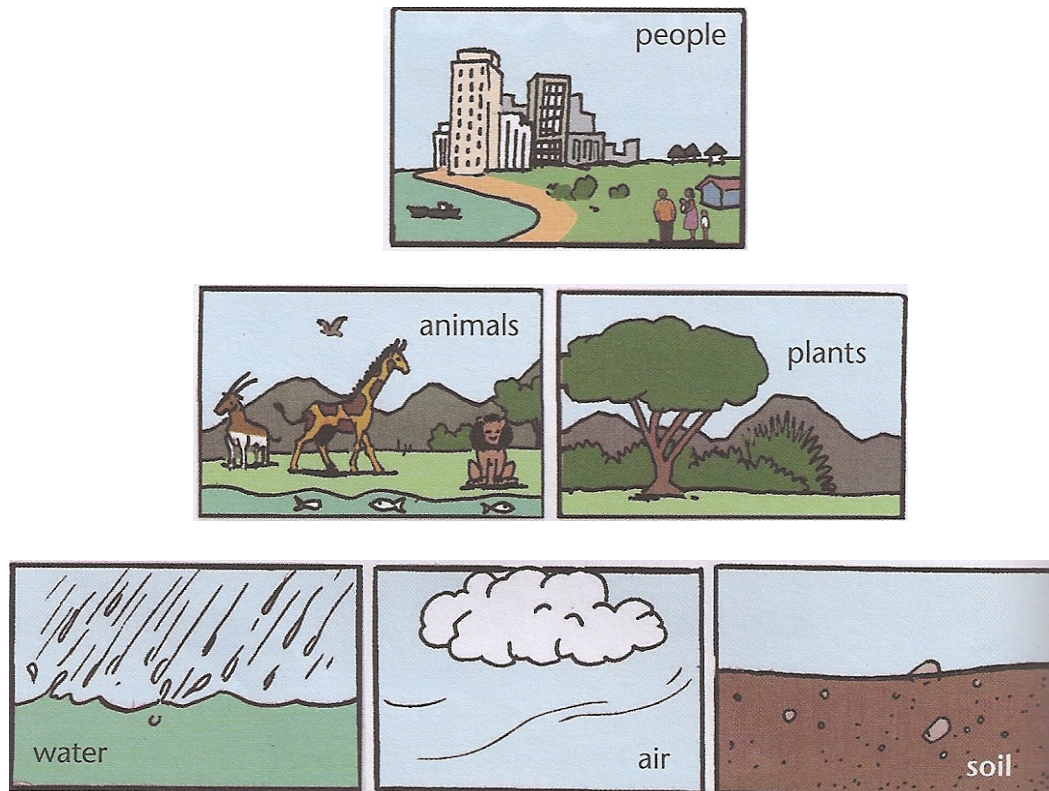
# 2016

#### Table of Contents

|   |                         |
|---|-------------------------|
| <b>Topic:</b>   |                         |
| <b>Natural resources and conservation in South Africa</b> |                         |
| <b>Page</b>   | <b>Content</b>          |
| 2   | Natural resources       |
| 8   | Management of resources |
| 11  | Water in South Africa   |

## NATURAL RESOURCES

Natural resources come from nature. They include water, air, soil, forests, plants, animals and marine life. People and animals cannot survive without certain natural resources. There are many links between natural resources and all forms of life.



### Activity 1

Study the diagrams above and answer the following questions:

1. Name the 3 most important natural resources in the diagrams. (3)
2. What natural resources do plants need to survive? (3)
3. What natural resource do animals need to survive? (1)
4. Name the natural resources people need to survive. (2)
5. Name two things that would happen to the diagram if:
  - a. water, air or soil was damaged or missing? (1)
  - b. plants or animals were missing or damaged? (1)
6. Which is the only part of the diagram that can be removed without harming the other parts of the diagram? (1)

[12]

## Water

All living things need water to live. A person can survive for several weeks without food, but will die in a few days if he/she does not have water to drink. Water is a valuable natural resource as we use it for many different things. People often waste and pollute water.

The natural water cycle



## AIR

Without air, there would be no life on Earth. Humans and animals need air to stay alive. They breathe in oxygen and breathe out carbon dioxide. These gases are part of the air. Machines that have engines also need oxygen to work.

## SOIL

### Key words:

**Decaying:** rotting

**Food chain:** feeding levels



Soil is the layer on the surface of the land where plants grow. It is made up of particles of rock, **decaying** animals and plants, water and air.

Soil is an important natural resource. Without soil, there would be no life on land. Plants grow in soil and then provide food for other animals through a series of feeding levels called a **food chain**. So, without soil there would be no food for animals.

A food chain



## Forests

A forest is an area that has many trees and plants growing in it. The trees and plants grow in soil. They need water and air to grow. People use the wood from trees to burn as firewood, build homes, make furniture and make paper.

Some forests grow naturally and others are planted by people. We call these forests, plantations. People plant plantations so that they can have enough wood.



## Animals and marine life

Animals and **marine** life are important natural resources. They are a source of food for other animals and for humans. We get meat from animals. Some also provide eggs and milk. Food from animals is high in protein. Protein builds, maintains and makes new tissues in your body. Animals can also help people do work, such as pulling machines on farms.



## Activity 2

1. Name 2 ways in which people use each of the natural resources:
  - a. Water (2)
  - b. Forests (2)
  - c. Animals (2)
2. Look carefully at the picture of the food chain. Name the natural resources in the diagram. (4)
3. Describe what would happen to people if all the soil in the world was suddenly washed away so there was no more soil. (1)

**Total: 11**

## Use and abuse of natural resources

### Use of natural resources

**Soil**

- Large areas of South Africa are too dry or too steep for farming.
- About 12% of South Africa's land is used for growing crops.
- Most farmland is used to raise animals.

**Water**

- Dams and rivers store water.
- Farmers use water to irrigate crops.
- Water is important for making electricity.

**Iron ore**

- It is used to make steel.
- Most manufactured goods have some steel parts.

**Natural beauty**

- A beautiful environment attracts tourists.
- Tourism creates jobs.

**Fruit**

- Fruit may be canned and dried and also made into juice.
- Grapes are used to make wine.

**Coal**

- Coal is used to make electricity.
- It is also burnt as a fuel.

**Fish**

- Fish is a source of food to feed people.
- Some fish products are made into animal feed and fertilisers.

The map shows the following provinces and their colors: Northern Cape (yellow), Western Cape (red), Eastern Cape (orange), Free State (light green), North West (green), Limpopo (brown), Mpumalanga (tan), Kwazulu-Natal (light orange), and Gauteng (orange).

## **Abuse of resources**

### **Key words:**

**Abuse:** to use something in a bad or harmful way.

**Landfill space:** the ground used for dumping waste material (rubbish).

The Earth's natural resources, such as food, water and forests are being used up very quickly. The world's population is growing quickly too. This rapid growth rate puts great strain on the world's natural resources. It is very important that we use all resources wisely.

Listed below, are some examples of ways in which people are destroying the world's natural resources:

- Clearing land for farming and building destroys the plants and animals that live in these areas.
- Cars and factories use huge amounts of oil every day. They also release poisonous chemicals that pollute the air, water, and soil.
- The dumping of ore and other waste materials from mines on the surface leads to soil and water pollution.
- Deforestation and pollution have led to increased Carbon Dioxide (CO<sub>2</sub>) levels in the air that we breathe.
- Hunting wild animals for pleasure or trade has resulted in many animals becoming endangered.
- Overfishing has endangered some species of marine life.

Many people are working to conserve natural resources. Scientists are working on ways to produce energy without causing pollution or using up valuable natural resources. Wind and sunlight are renewable resources that can be used to produce energy.

You can use resources wisely by recycling glass, plastic and paper. Re-using or recycling these products has the benefit of ensuring their continued supply, using less **landfill space** and using less energy.

**Activity 3**

1. Look at the five photographs. Write a caption for three of the photographs. The captions must explain how people are abusing the natural resources shown in the photographs.

(6)

2. Choose one of the photographs. Describe some of the effects abusing the resource in the photograph will have on people now and in the future.

(2)

**Total: 8**



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5

## Management of resources

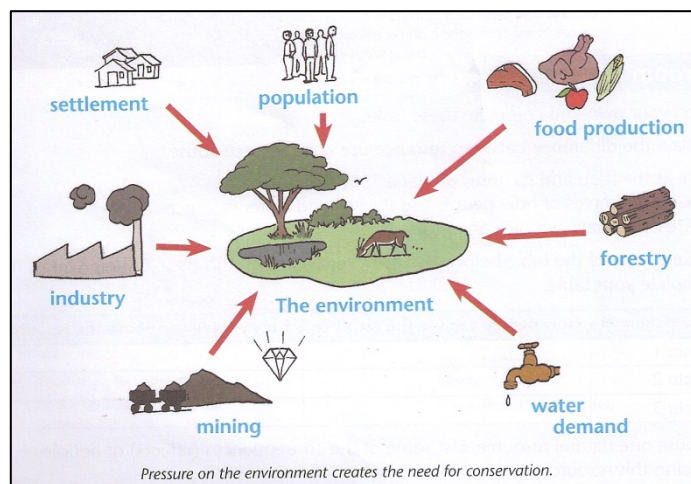
### Key word:

**Conservation:** to protect and keep something from damage or loss.

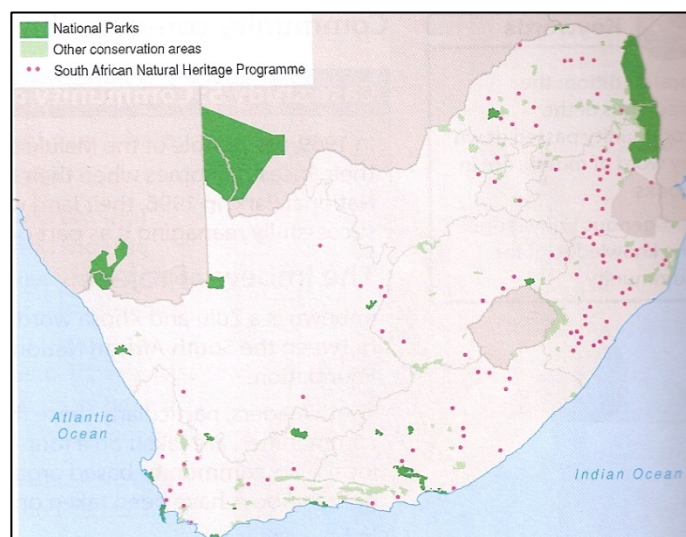
**Conservation** is not a new idea. The San hunter-gatherers and Khoikhoi herders knew how to conserve and look after the environment so that it would continue to provide food. Conservation uses some of the ideas found in indigenous knowledge.

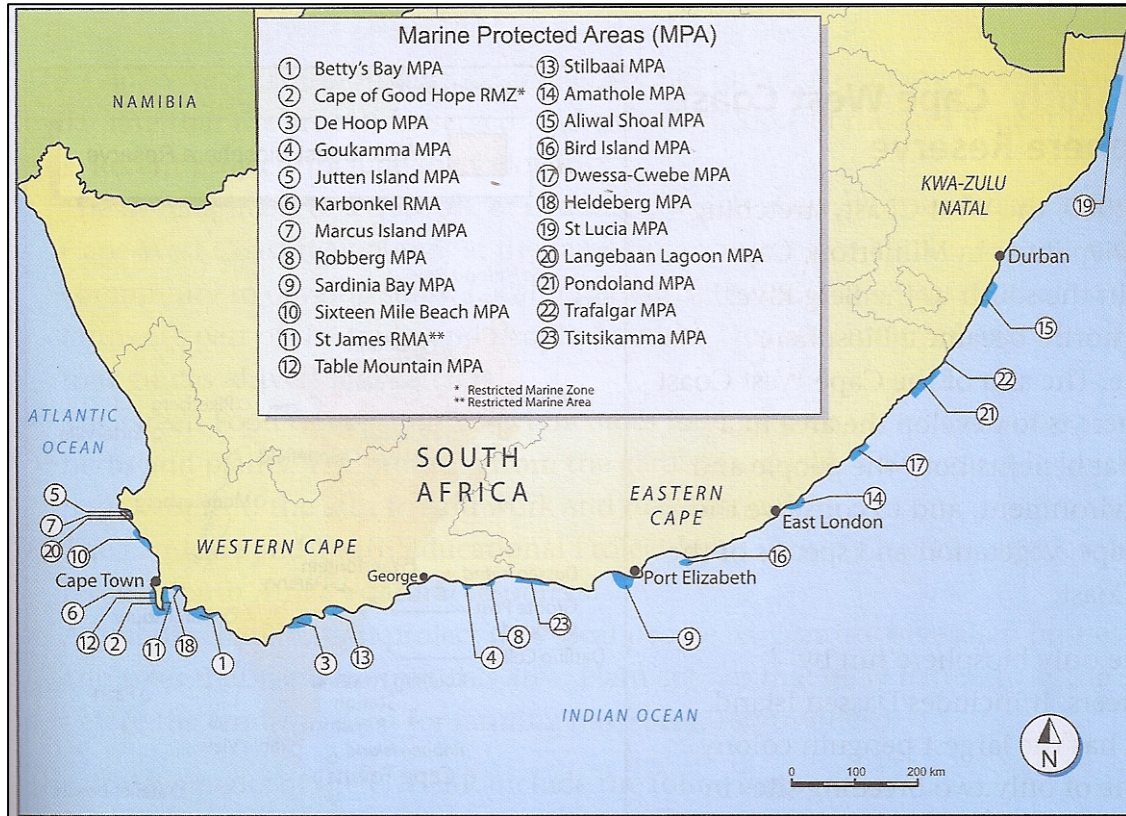
## Reasons for conservation

Conservation is necessary today because the environment is under pressure from many different uses. Conservation is one way people can manage the environment so that there will be enough resources to last into the future.



## LOCATION AND PURPOSE OF CONSERVATION AREAS





Large parts of South Africa have been declared as conservation areas. The purpose of most conservation areas is to protect the plants and animals of the area. Other areas are also conserved as important historical, scientific or cultural sites. Robben Island is an example of a South African conservation area that is protected for both historical and environmental reasons.

### Case study of a conservation area:

#### iSimangaliso Wetland Park

The map on the right shows a section of the very large marine reserve known as the iSimangaliso Wetland Park. This area has been named a World Heritage Site because of its natural beauty. A large number and type of plants (flora), and bird and animal (fauna) species live in these habitats. A habitat is a particular area where plants and animals live and these species are protected in this conservation area.



The large marine habitat is home to many species including humpback whales during the summer months as they **migrate** northwards towards the warm waters of the

Mozambique coastline. Loggerhead and Leatherback turtles return to Cape Vidal each November to December to lay their eggs along the beaches in this area. People who visit iSimangaliso Wetland Park can go on game drives and educational tours, bird-watch, fish in selected locations, hike and go boating.

**Key word:**

**Migrate:** to move from one area to another.

**Activity 4**

1. Why was the iSimangaliso Wetland Park declared a conservation area?  
Give examples to support your answer. (2)
2. Describe three things that tourists/visitors to the area could do. (Refer to the map as well as the case study.) (3)

**Total: 5**

**Community conservation projects**

Community conservation projects aim to protect sensitive areas in ways that can also benefit the local community.

Examples of Community conservation projects:

**A. Working for Water (WfW)**

Working for Water was started in 1995, by the government. Its aim is to clear alien invasive plants, which tend to use up a lot of water. Their removal frees water for both humans and the environment. Since 1995, the removal of more than one million hectares of invasive plants has provided jobs and training for about 20 000 people.

**B. Qhubeka Eco**

Qhubeka Eco provides bicycles to children across Africa in return for work done to improve their communities and the environment. This work includes planting trees, recycling waste and farming food. Qhubeka Eco provides bicycles to children who earn their bikes by growing trees (known as Treepreneurs) and by recycling and trading recyclables for bikes (known as Greenpreneurs).

## Eco-tourism

Eco-tourism is a form of tourism that uses nature as its main attraction.



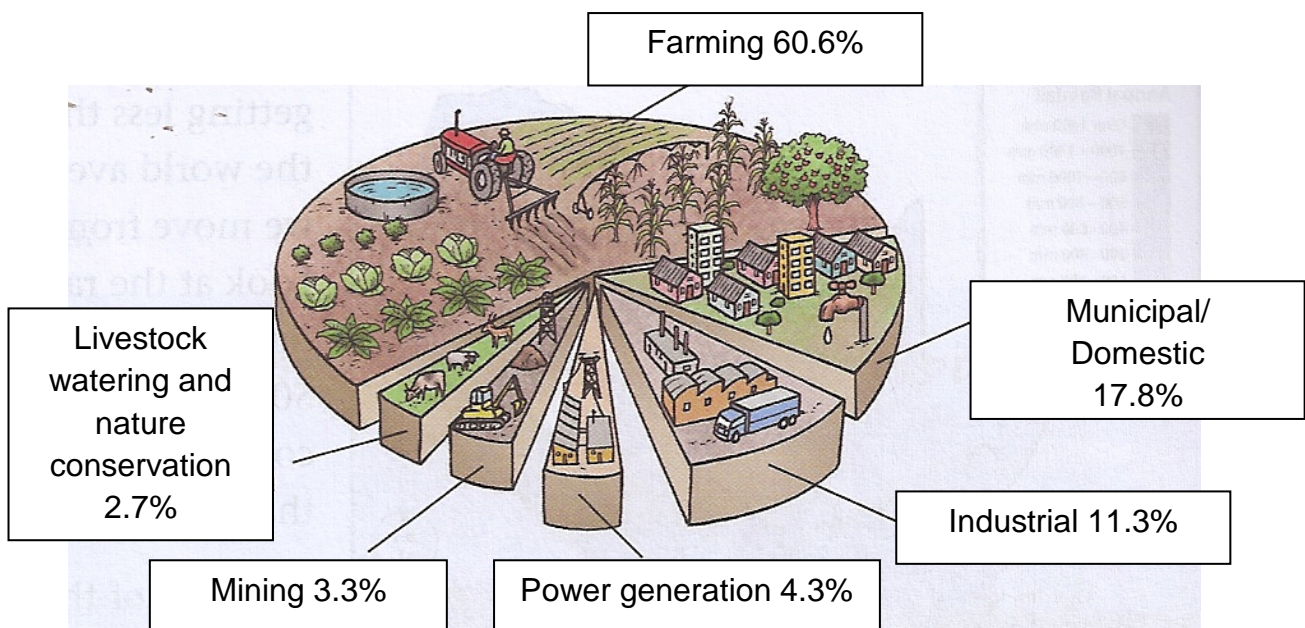
Examples of eco-tourism activities:

- hiking
- snorkelling
- examining historical and cultural sites
- horse riding
- home stays in villages
- rock climbing
- fishing
- bird watching
- swimming
- game viewing



## Water in South Africa

Who uses South Africa's water?



### **Activity 5**

1. List the water-use activities indicated in the pie chart, in order from the biggest uses to the smallest uses. (6)
2. Complete the table below to show which sectors are using water and the amount of water that they are using. An example has been done for you. (15)

| <b><u>Sector</u></b> | <b><u>Activity</u></b> | <b><u>% of water usage</u></b> |
|----------------------|------------------------|--------------------------------|
| a) Mining industries | Mining                 | 3.3%                           |
| b)                   |                        |                                |
| c)                   |                        |                                |
| d)                   |                        |                                |
| e)                   |                        |                                |
| f)                   |                        |                                |

3. Which sector uses the most water and for what purpose? (2)
4. Here is a list of some ways in which water is used. Which sectors listed in the table use water in each of these ways? (7)
  - a. To water crops
  - b. To cool machinery in factories
  - c. To water gardens
  - d. To cook supper for the family
  - e. For animals to drink
  - f. To cool the drills used by miners
  - g. In cooling towers at power stations.
5. Which sector or sectors can re-use its water? Explain how. (6)

[36]

### **Availability of water and requirements in South Africa**

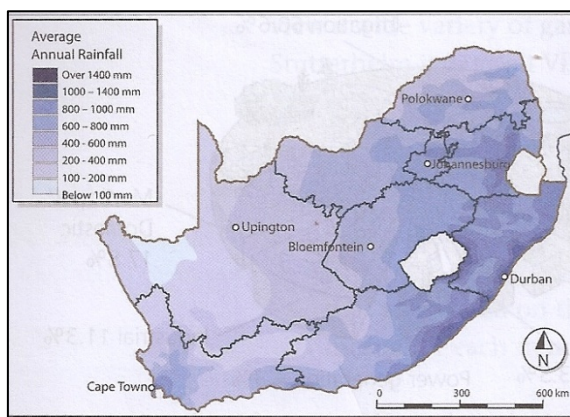
Water is a scarce resource in South Africa. This means that there is not really enough water for all the different water uses.

About 50 billion cubic metres of rain falls in South Africa every year. But only about 15 billion cubic metres is available as water that people can use. The rest evaporates, flows into the sea or soaks into the ground.

By 2025, our demand for water is likely to increase to 17 billion cubic metres a year. Where will we get the extra two billion cubic metres from?

The Department of Water Affairs believes that we must use our available water supplies better by doing the following:

- improve farming methods
- reduce water pollution
- avoid wasting water in homes
- repair broken pipes and water meters in municipalities.



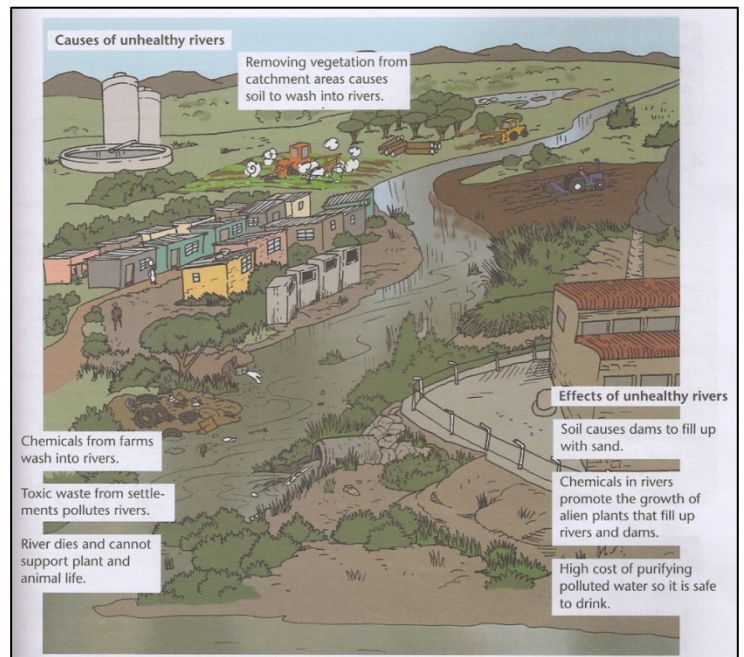
Rainfall map of South Africa

## **River health and the care of catchment areas**

### **Key word:**

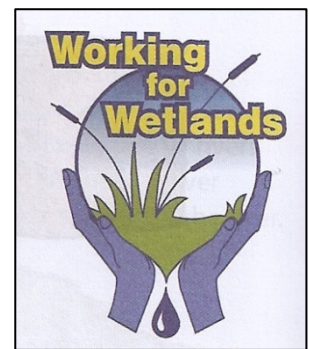
**Catchment area:** the area drained by one main river and all the rivers that flow into it

The biggest threat to South Africa's water resources is the pollution of rivers. A polluted river is an unhealthy river. The conditions in a river **catchment area** affect the water that gets into the rivers and dams.



### **Disappearing wetlands and why conservation is important**

Over 50% of South Africa's wetlands have been destroyed. A wetland is an area where the land and vegetation is nearly always wet. Wetlands store water in the soil and the roots of plants. Wetlands are at risk all around the world.



Wetlands are important because they:

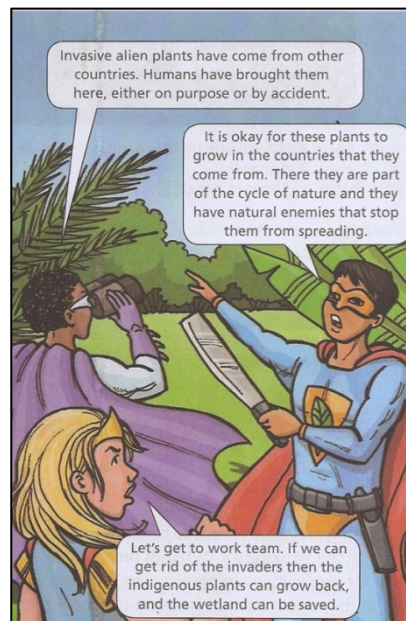
- serve as sponges by absorbing excess water and preventing flooding.
- help to keep river flow constant.
- provide habitats for a variety of plant and animal species.
- provide habitats for fish and water birds.
- help to absorb silt and cleanse water of pollutants.
- provide resources such as drinking water, reeds for weaving and medicinal plants.

### **Activity 6**

Use the comic strip to answer the questions:

1. What are alien invader plants? (1)
2. What are indigenous plants? (1)
3. Why do we need to remove alien invader plants? (1)
4. Name 3 reasons why it is important to conserve wetlands. (3)

[6]



## Responsible use of water resources

We have learned that water is a precious resource. The South African government believes that everybody in our society has a duty to use water responsibly. This includes agriculture, industry and domestic users.

### Improved agricultural methods

Farmers can use and conserve water more responsibly.

- Farmers use over 60% of South Africa's water.
- Some farmers waste water through poor farming methods. For example, irrigating crops in the heat of the day wastes millions of litres of water.
- Chemicals from farms wash off the land and pollute rivers.
- Farmers destroy wetlands, which causes valuable water to flow away in rivers instead of being stored in the ground.
- Removing alien plants makes more water available in South Africa's rivers.

### Reducing pollution from industry

- Removing alien plants makes more water available in South Africa's rivers.
- Factories and other industries that use water can also play an important part in conserving water.
- Chemicals from farms wash off the land and pollute rivers.
- Water from old mines and mine dumps mixes with chemicals from the rocks to make

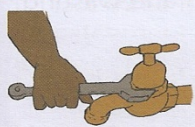
acids. This polluted water eventually gets into rivers.

- Polluted water is expensive to treat and purify.
- The government has made laws to control water pollution.

### Domestic water users

There is enough water in South Africa's dams and rivers to supply each person in the country with 300 litres of water each day. Some people use much more water than others. Everybody can use water more responsibly.

#### Use less water



Fix water leaks and dripping taps.



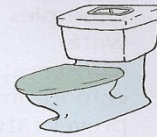
Replace shower heads with ones that use less water.



Use buckets of water to wash cars instead of using a hose pipe.



Switch off taps, e.g. when cleaning your teeth.

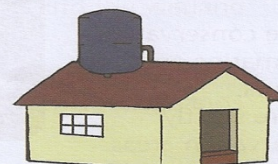


Put special toilets that use less water in homes.

#### Recycle water

Use rain water for cleaning and watering gardens.

Use bath water to water vegetables.



Collect rainwater from the roof in tanks.

Cover tanks and small dams in dry areas to reduce evaporation.

## SUMMARY

- Natural resources from nature, for example: water, soil, air and forests.
- People use natural resources to live and to satisfy their needs and wants.
- Some people damage and abuse natural resources.
- Examples of resource abuse include pollution, over-fishing, deforestation and wasting water.
- Conservation aims to protect and care for important resources to prevent them from being destroyed or damaged.
- Conservation areas are special areas set aside to protect animals and plants.
- Marine reserves are conservation areas that protect marine and coastal environments.
- Human activities are strictly controlled in conservation areas.
- Community conservation involves local communities participating in and benefitting from conservation and eco-tourism projects.
- Water is a vital resource that makes life on earth possible.
- South Africa is a water-scarce country because of its climate.
- Agriculture uses over 60 % of South Africa's available water.
- As South Africa's population increases, so does the demand for water.
- Managing and caring for existing water supplies is essential if South Africa is to avoid running out of water.

- Caring for wetlands and rivers and reducing pollution from farms and industries are measures that protect and conserve water resources.
- Individuals, farmers, industries and the government have a responsibility to use water in a sustainable way.

**Bibliography:** RANBY, P. Social Sciences Grade 7

RANBY, P. Platinum Social Sciences Grade 7

EARLE, J. Social Sciences Today Grade 7

Hambly, A. Social Sciences Grade 7