<u>ACTIVITY ONE</u>: THE WATER CYCLE IN NATURE AND THE WATER CYCLE IN ME

During this LANGUAGES lesson, learners find out some amazing facts about water, and practise their reading, listening and speaking skills.

ACTIVITY:

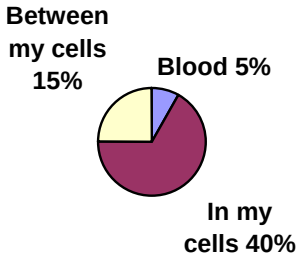
1. Divide the class into groups of 4 or 5 learners. Each learner will need a photocopy of 'Two Water Cycles', which can be found on page 3.

2. Learners need to read the 'Two Water Cycles' silently, to themselves.

3. Next, each learner must take a turn to read aloud to the rest of their group. *Remind the learners to vary their tone and tempo of voice for emphasis to make the listening for the other learners more enjoyable. Learners must also take note of question marks and exclamations in the text and vary their voices accordingly. They also need to read in full, any abbreviations such as 'ybw' which stands for 'your body weight'. You, the teacher, will need to move between groups, checking that the children are following these instructions.*

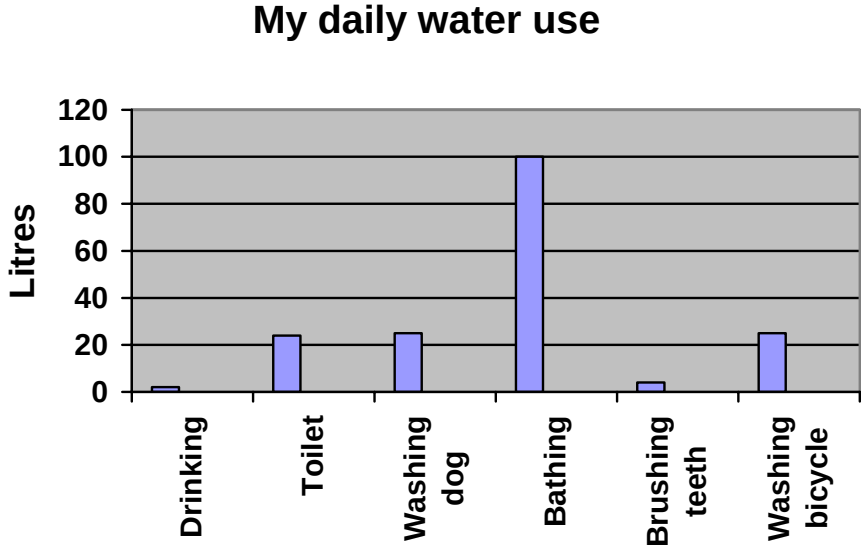
4. Using the information given in the reading, learners now need to make a pie chart showing where water is stored in our body *(see pie chart below).*

Water stored in my body as a % of my body weight



5. How else can the information given in the reading about how water is stored in our body, be displayed in a creative way? Learners need to creatively design a book cover with text and graphics (the book is called "Water in the human body"), using the factual information given in the 'Storing Water' paragraph on page 3.

6. Using the bar chart given below, learners must interpret the information given and write a short paragraph *(in other words they need to transfer the information they are given in the bar chart to another form, in this case, written text).*


My daily water use
Litres
120
100
80
60
40
20
0
Drinking
Toilet
Washing dog
Bathing
Brushing teeth
Washing bicycle

TWO WATER CYCLES

There are many different cycles in nature, but the most important one is probably the water cycle, as this gives life to our planet. Find out more about "the water cycle in nature" and "the water cycle in you".

THE WATER CYCLE IN NATURE

Energy to go

The warmth of the sun's rays drives Nature's water cycle. Here's how:

1. The heat from the sun evaporates water, mainly from the sea, to form water vapour.
2. The vapour cools as it rises into the sky, and forms tiny water droplets that group to form clouds.
3. As they get colder the droplets join to make larger drops that fall as rain.

Fact: It has been calculated that all the Earth's water may have been through the water cycle over one million times since the oceans first formed.

Drinking water

Most of the Earth's water is either salty or frozen in the polar ice caps. Less than 1% is available as fresh drinking water for all the plants, animals and people on the planet!

Transporting water

Rivers and groundwater transport rainwater back to the sea. The water carries dissolved nutrients, air, soil particles and debris downstream, and finally into the sea.

Storing water

Mountain wetlands seep stored rainwater and release it slowly to rivers. Lakes and reedbeds lower in the catchment, also slow down and store rainwater run-off, reducing soil erosion and flooding. Rain that sinks into the ground is stored in aquifers – water-filled spaces in rocks and sand underground.

Cleaning water

The soils, plants and micro-organisms in wetlands absorb nutrients, debris and pollutants and release cleaned water to our rivers.

The freshwater discharge centre

Rivers carry rainwater run-off to estuaries and the sea. Groundwater discharges into rivers or directly into the sea.

The water users

People, plants and animals all rely on Nature's water cycle to provide fresh, clean water.

Are there water leaks?

None – it all stays on our planet.

THE WATER CYCLE IN YOU

Energy to go

Food fuels your body and its water cycle. If you eat nourishing foods then your body cells can work efficiently and keep you healthy.

Drinking water

Our drinking water comes from rivers or rain stored in tanks, dams or underground aquifers. It is then purified and piped to taps in our homes. However, more than one third of South African homes still don't have taps.

Fact: South Africa has nearly 48 million people, all of whom need to consume about 2 litres of clean water each day to stay healthy.

Transporting water

Our blood vessels are like rivers that carry watery plasma, blood cells, nutrients and oxygen to all our body cells which are the tiny factories that keep us going.

Storing water

Your body stores water in the blood (5% of your body weight (ybw)), in your cells (40% ybw) and between the cells (15% ybw). Your body needs this amount of water to function properly.

Fact: Your body is two-thirds water – if you weigh 30kg you are carrying 20 litres (80 cups!) of water inside you!

Cleaning water

The blood carries body waste products to the kidneys. They clean your water system and expel waste in your urine.

Fact: The kidneys of an adult filter 180 litres of liquid each day. Most is reabsorbed, so you wee only about one litre.

The freshwater discharge centre

The bladder stores waste water until you offload it into the toilet.

The water users

All body cells use water for their chemical reactions. Our lungs and noses use water to make mucus, and our digestive systems make, and then reabsorb, about 7 litres of mucus and enzymes while digesting food each day.

Are there any water leaks?

Yes – we have very leaky bodies. We lose about 1.6 litres of water each day through urine (1.2 litres), breath and sweat (0.2 litres) and poo (0.2 litres).

Fact: You will lose more water if you are doing hard exercise or living in a very hot climate. Remember to drink more water when it is hot.

Criteria to assess learners during this languages lesson

Criteria	Exceeded requirements of the Learning Outcome	Satisfied requirements of the Learning Outcome	Partially satisfied requirements of the Learning Outcome	Not satisfied requirements of the Learning Outcome
The learner faced the group when he/she was reading				
The learner varied his/her tone and tempo of voice when reading to the group				
The learner was able to draw a pie chart from the information given in the text (question 4)				
The learner was able to design a book cover, with text and graphics, using the information given in the 'Storing Water' paragraph				
The learner was able to write a paragraph using the information given in the bar graph (question 6)				