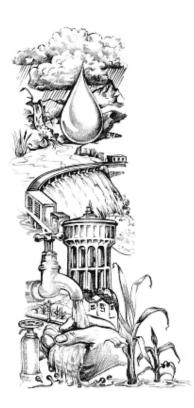
LEARNING AND TEACHING ABOUT WATER IN OUR CLASSROOMS



South Africa is extraordinarily rich in natural resources - except for water. Water is a vital but scarce resource, distributed unevenly in time (frequent droughts alternate with periods of good rainfall) and space (the eastern half of the country is markedly wetter than the western half). Increasing demand for water, and decreasing water quality, make careful water management a priority in our country. It has been estimated that by the year 2025 South Africa's human population will have doubled, and there will be insufficient water for domestic use, agriculture and industry.

Our average rainfall is less than 500mm a year, with the driest part of the country receiving less than 200mm/year and the wettest receiving more than 2 500mm/year! Rain does not always fall where it is most needed, and some areas of high demand, such as Gauteng, receive less water than they need. Most rain falls in a narrow belt along the eastern and southern coasts. The rest of the country receives only 27% of South Africa's total rainfall. In addition, hot dry conditions result in a high evaporation rate.

Water is thus a very scarce resource in South Africa.

In support of learning and teaching about water and water-related issues, the Water Research Commission of South Africa and Share-Net (a project of the Wildlife and Environment Society of South Africa) have developed a series of lesson plans on water. These lesson plan packs, from Grade R to Grade 10, are linked to the South African National Curriculum.

Each pack contains five lessons, with each lesson focusing on a different learning area – these can either be used as they are, or adapted to suit the local context. Each lesson is concluded with a rubric of criteria to assess the learners. Learning Outcomes and Assessments Standards covered during each lesson are given in the summary at the beginning of the pack.

Did you know?

- the Northern Cape receives very little rain and many of the people living there rely on aroundwater:
- the Western Cape, south western Cape and KwaZulu-Natal are areas with many RAMSAR wetland sites:
- the Free State is home to one of the most important river catchment areas in the country.

Use the map on the following page to, wherever possible, contextualise your lesson plans – in other words, if you live in the Northern Cape, bring groundwater and evaporation issues into your lessons, if you teach in KwaZulu-Natal or the Western Cape, wetlands could form the focus areas of your teaching lessons.

All these lesson plan packs are available on www.envirolearn.org.za Other useful websites are the Water Research Commission's website www.wrc.org.za and the Wildlife and Environment Society of South Africa's website www.wessa.org.za







LIMPOPO Limpopo is in the savanna biome, an WATER IN SOUTH AFRICA area of mixed grassland and trees generally known as bushveld. A LIMPOPO summer-rainfall region, the northern and eastern areas are subtropical with hot and humid summers and mist in the mountains. The bushveld is cattle **GAUTENG** Rain does not always fall country, where extensive ranching where it is most needed, and operations are often supplemented by areas of high demand, such controlled hunting. Sunflowers, cotton, as Gauteng, receive less **GAUTENG** water than they need. Using **NORTHERN CAPE** several small rivers along the Huge areas of our country have few Johannesburg way, water moves from the **MPUMALANGA** people living there because it is so dry. 800mm/vear Katse Dam in Lesotho to the People must depend on water from The province is a summer-rainfall area. Ash River that flows into the boreholes that suck up water trapped by Vaal to supply industry and An abundance of citrus and many other underground rock formations beneath people in Gauteng. subtropical fruit as well as nuts and a the soil surface. We have about 30 000 variety of vegetables are produced in billion litres of water underground. In Mpumalanga. Nelspruit is the secondsome areas, groundwater is replenished largest citrus-producing area in South by rainfall, but in many places the water FREE STATE Africa and is responsible for one third of is left from ages past when the climate the country's export in oranges. The was wetter. This water is called fossil **FREE STATE** water and once used, cannot be Institute for Tropical and Subtropical Bloemfontein is the Afrikaans word for Crops is located in the city. replaced. 'fountain of flowers'. It originated as a resting point for oxen next to a spring KWAZULU-NATAL where water could always be found. Port Nolloth receives only The Free State is home to one of the Durban 1100mm/year 58 mm of rain per year! NORTHERN CAPE most important river catchment areas **EVAPORATION** in South Africa, with more than 50% of Why is the west coast so dry? Water that evaporates from the Atlantic Ocean condenses **KWAZULU-NATAL** the water supply for the country The eastern part of country coming from the upper catchment area to form thick mists over the cold sea. But when receives more rain than the rest of the Little Caledon River. these mists move in over the hot land, the water of the country. It also has many evaporates again instead of falling as rain. RAMSAR wetland sites in the northern part of the province. Health and sanitation related to water-borne diseases, such as cholera, are serious issues for this region. **WESTERN CAPE** East London The Western Cape, unlike the rest of **EASTERN CAPE** 1400mm/year the country, receives its rain during the winter months. There are many WESTERN CAPE important RAMSAR wetland sites in Indian Ocean **EASTERN CAPE** this part of the country. The province's diverse climates and landscapes range from the dry and desolate Great Karoo to the lush forests of the Wild Cape Town Coast and the Keiskamma Valley, the fertile Langkloof, 600mm/year renowned for its rich apple harvests, and the mountainous southern Drakensberg region around the town of Elliot. Atlantic Ocean