Education and Sport Development

Department of Education and Sport Development
Departement van Onderwys en Sportontwikkeling
Lefapha la Thuto le Tlhabololo ya Metshameko
NORTH WEST PROVINCE

PROVINCIAL ASSESSMENT

GRADE 10

GEOGRAPHY P1

NOVEMBER 2019

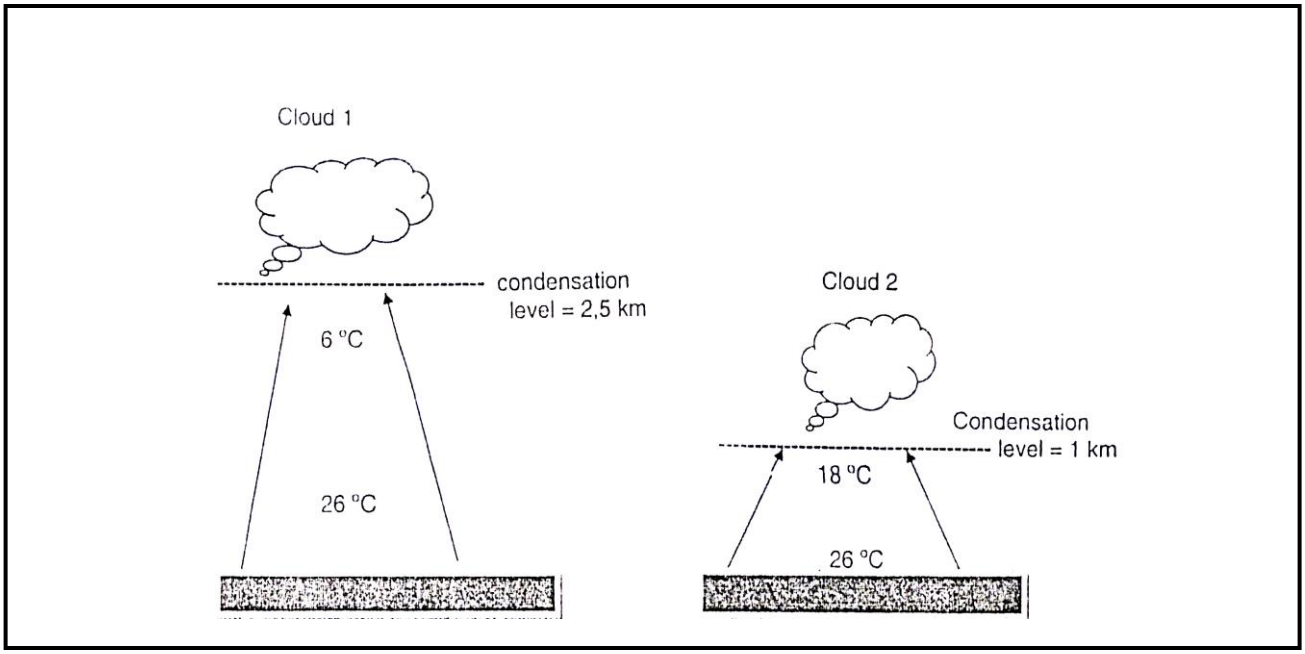
ANNEXURE

MARKS: 225

This Annexure consists of 13 pages.

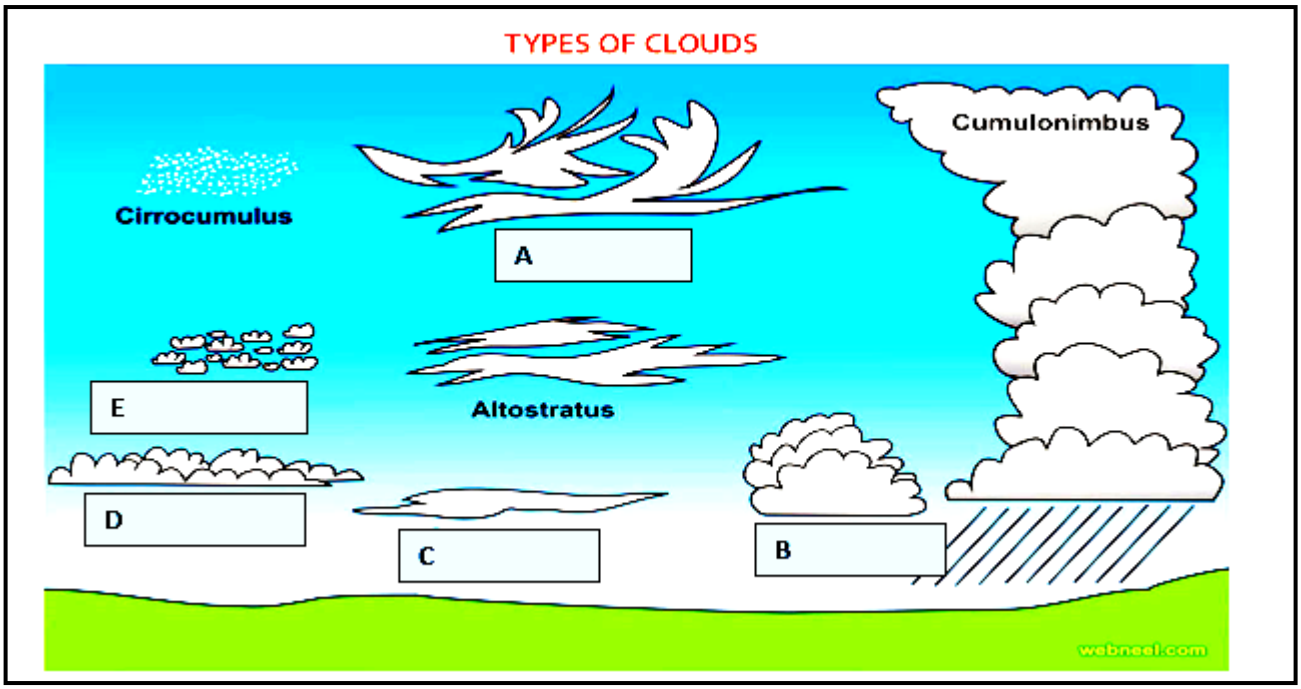
Copyright reserved

FIGURE 1.3(a) CONDENSATION LEVEL OF CLOUDS



[Source: *Examiner's sketch*]

FIGURE 1.3(b) CLOUD FORMATIONS



[Source: webneel.com]

FIGURE 1.4 EARTHQUAKES

POWERFUL EARTHQUAKE SHOOK MEXICO CITY

19 September 2017

Rescuers searched for survivors through the night after Tuesday's powerful earthquake shook Mexico City and surrounding states, killing scores and leaving many trapped under collapsed buildings.

At least 216 people died in Mexico City and in the states of Puebla, Mexico and Morelos, officials said. Previously, authorities had said that as many as 248 people had died. The death toll was later revised.

The epicenter of the 7.1-magnitude earthquake was 4.5 kilometers east-northeast of San Juan Raboso, in Puebla state, according to the US Geological Survey.

President Enrique Peña Nieto said 22 bodies were found in the debris of an elementary school in Mexico City that collapsed due to the earthquake. At least 30 children were still missing Tuesday night, he said.

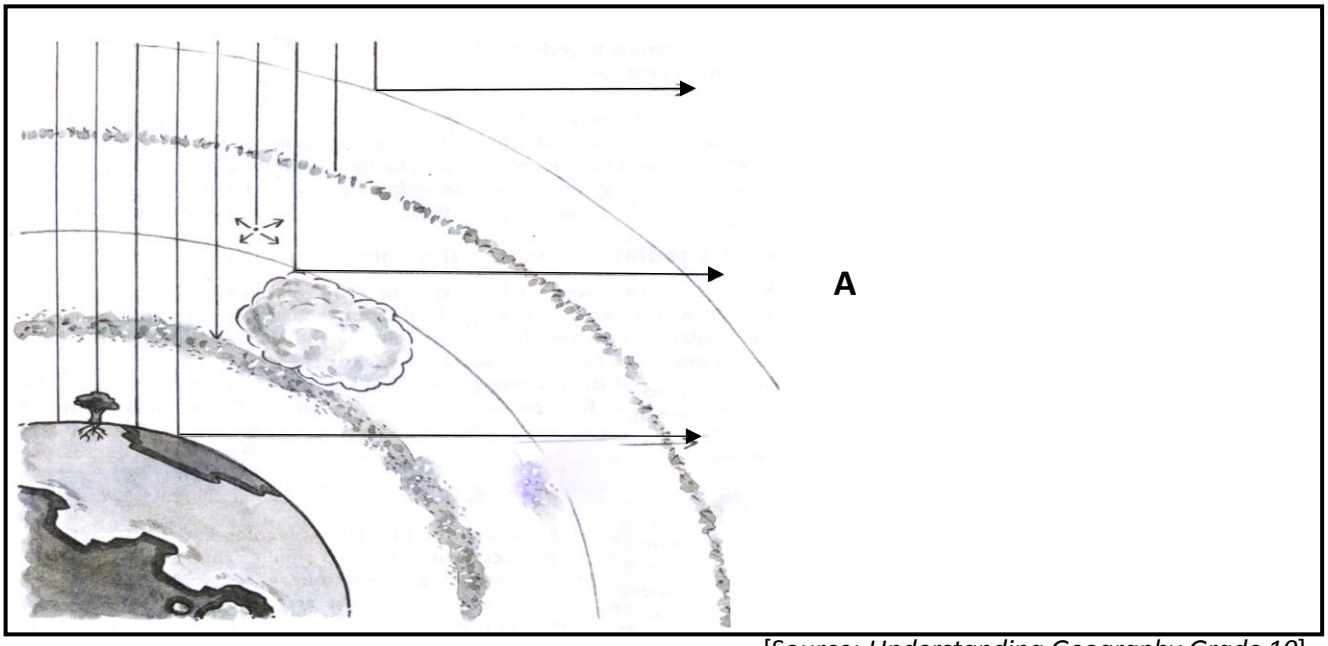
"We are facing a new national emergency," Peña Nieto told citizens earlier on his first address following the earthquake.

Tuesday's earthquake came more than one week after a magnitude-8.1 earthquake struck off the southern coast of the country, killing at least 90, according to the governor of the hard-hit state of Oaxaca.

In Mexico City, thousands of soldiers, rescuers and civilians were working side by side to dig through tall piles of rubble from dozens of crumbled buildings.

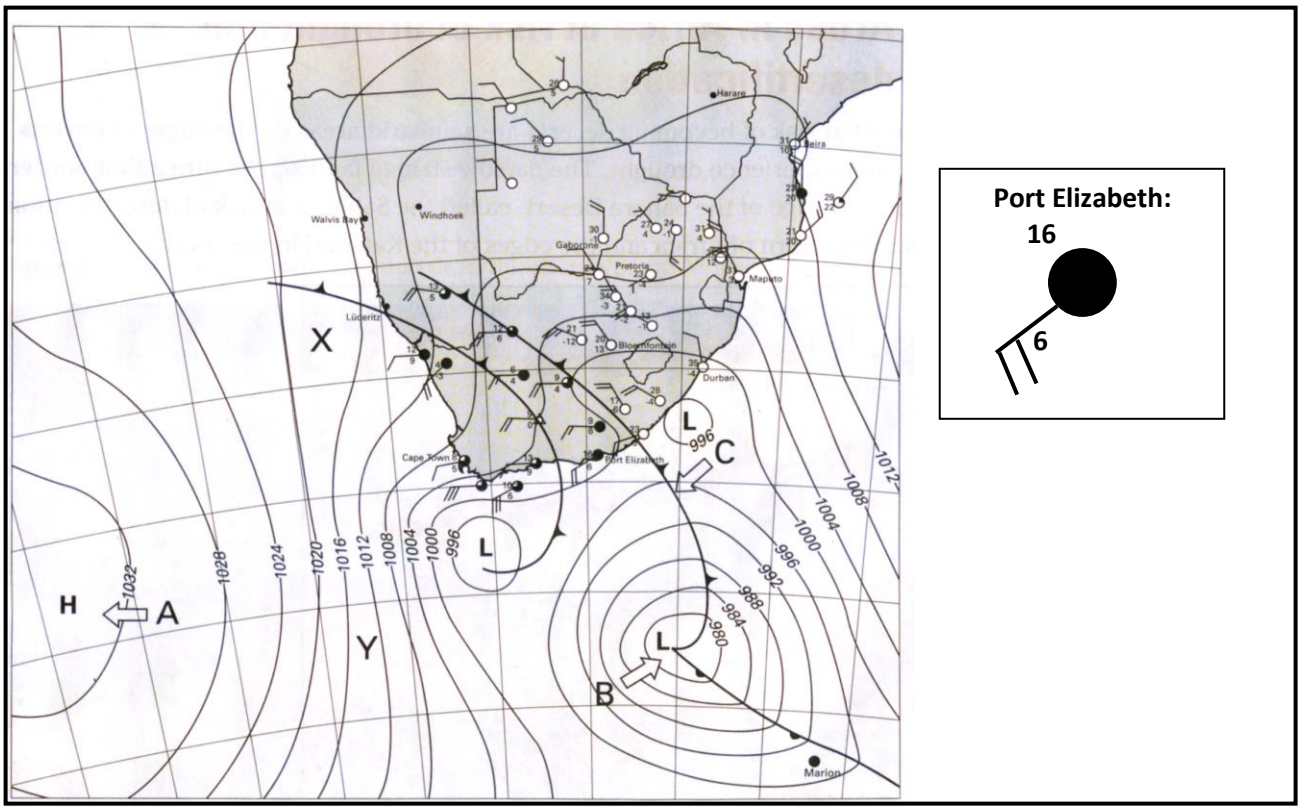
[Source: nbcnews.com/news/world]

FIGURE 1.5 HEATING OF THE ATMOSPHERE



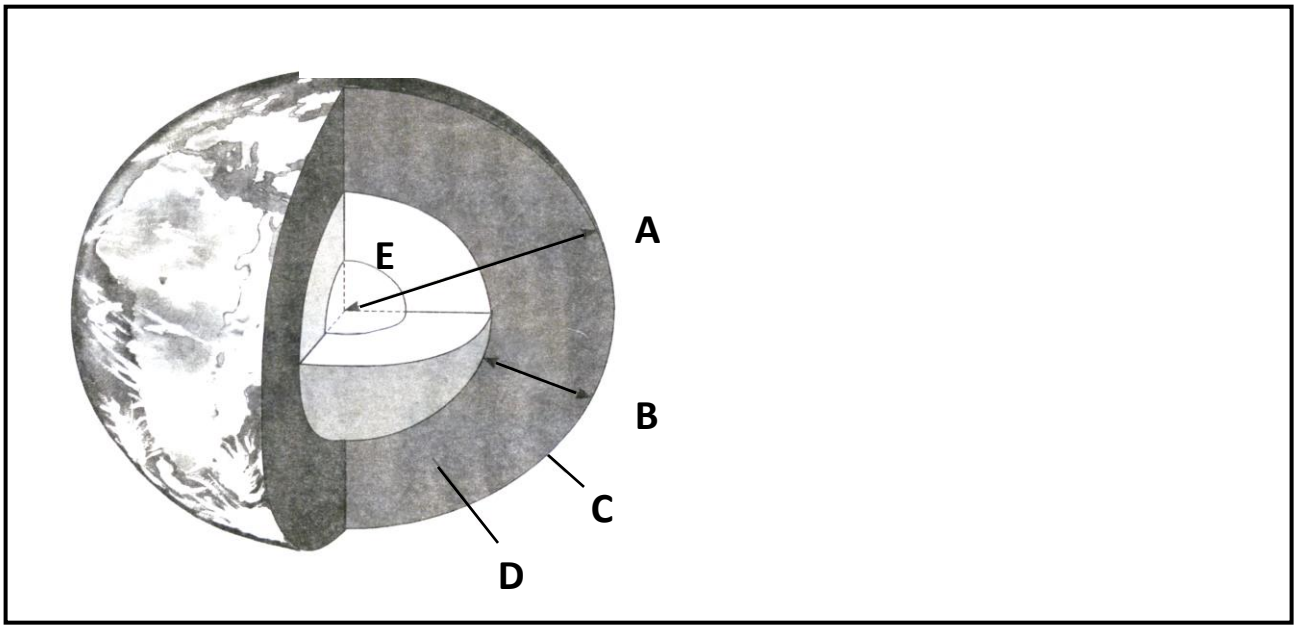
[Source: *Understanding Geography Grade 10*]

FIGURE 1.6 SYNOPTIC WEATHER MAP



[Source: *Focus on Geography Grade 11*]

FIGURE 2.2 CROSS SECTION OF THE EARTH



[Source: *Understanding Geography Grade 10*]

FIGURE 2.3 GLOBAL WARMING

Cow 'emissions' more damaging to planet than CO2 from cars

By Geoffrey Lean, Environment Editor

Meet the world's top destroyer of the environment. It is not the car, or the planeor even George Bush: it is the cow.

A United Nations report has identified the world's rapidly growing herds of cattle as the greatest threat to the climate, forests and wildlife. And they are blamed for a host of other environmental crimes, from acid rain to the introduction of alien species, from producing deserts to creating dead zones in the oceans, from poisoning rivers and drinking water to destroying coral reefs.

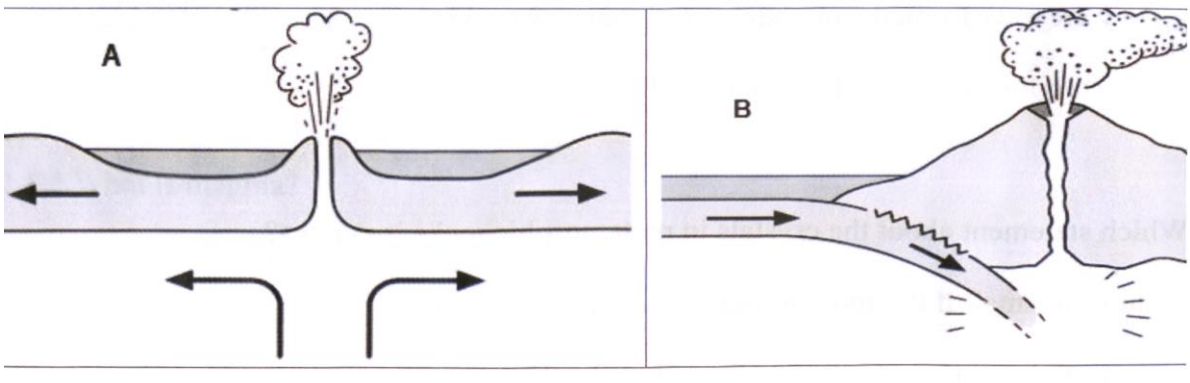
The 400-page report by the Food and Agricultural Organisation, entitled Livestock's Long Shadow, also surveys the damage done by sheep, chickens, pigs and goats. But in almost every case, the world's 1.5 billion cattle are most to blame. Livestock are responsible for 18 per cent of the greenhouse gases that cause global warming, more than cars, planes and all other forms of transport put together.

Burning fuel to produce fertiliser to grow feed, to produce meat and to transport it - and clearing vegetation for grazing - produces 9 per cent of all emissions of carbon dioxide, the most common greenhouse gas. And their wind and manure emit more than one third of emissions of another, methane, which warms the world 20 times faster than carbon dioxide.

Livestock also produces more than 100 other polluting gases, including more than two-thirds of the world's emissions of ammonia, one of the main causes of acid rain.

[Source: *Excel in Geography Grade 10*]

FIGURE 2.4 BOUNDARY MARGINS AND PLATE TECTONICS



[Source: *Excel in Geography grade 10*]

FIGURE 2.5 CLIMATE CHANGE

MELTDOWN!

The largest single block of ice in the Arctic, the Ward Hunt Ice Shelf in Canada, located at a latitude of 83°N and longitude of 74°W has always been the biggest, the farthest north and the one scientists thought might have been the most stable. It had been around for 3 000 years before it started cracking in the year 2 000.

Two years later, it split all the way through and in 2008, it further disintegrated into drifting ice masses leaving two separate ice shelves measuring 142 and 47 square kilometers respectively, reduced from 212 square kilometers the previous year. Fragments of ice continue to break away as can be seen in the picture below.



[Adapted from: *Excel in Geography grade 10*]

FIGURE 2.6(a) VOLCANOES

CASE STUDY: Chaos as Chile's Puyehue Volcano erupts

June 14, 2011

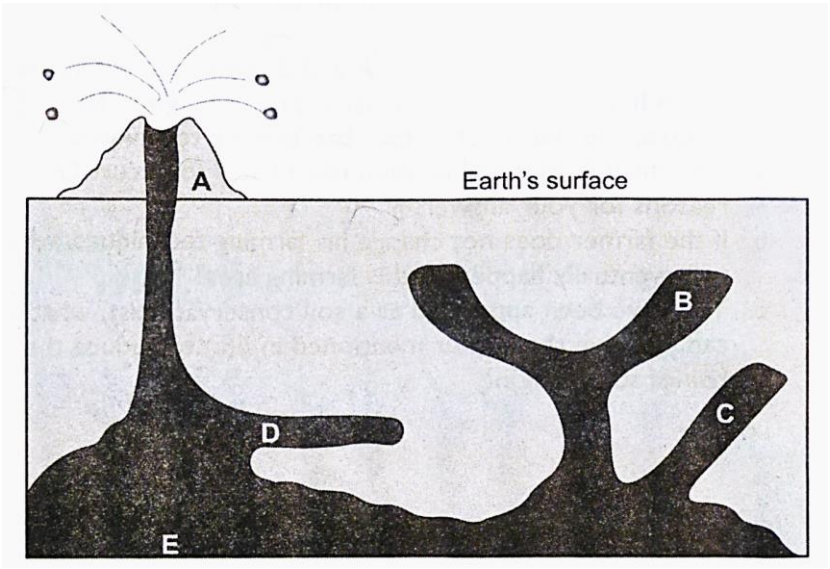
The Puyehue Volcano in Southern Chile erupted violently on June 5, 2011 billowing smoke and ash high into the sky, prompting the evacuation of 3 500 people and forcing cancellations of flights. Volcanologists say, the volacno which has erupted for the first time in half a century ejected an estimate one hundred million tons of ash, sand and pumice and produced a column of gas 10 kilometers high and 5 kilometers wide. The eruption blew ash more than halfway across the world, disrupting flights in two continents.

Several Latin American countries in the path of volcanic ash unleashed from the eruption are facing critical shortages of water, agricultural collapse, disruptions in transport and growing risks to human and animal health. Toxic ash clouds, dispersing toward Australia, have dumped the powdery substance across vast swathes of territory in Chile, Argentina, Brazil and Uruguay. The ski season in Argentina faced cancellations as volcanic ash affected airport opperations, and clogged waterways. Several thousand inhabitants of nearby towns and villages in Chile and Argentina remained displaced, though some were allowed to return to their damaged homes. Argentina siad it faced an agricultural emergency in its Patagonian region as the blanket of ash left thousands of farm animals without pasture and water. An estimated 750 000 sheep have been affected in Argentina alone which will result in a lower wool yield as a result of the ash contamination.

Infrastructural damage from the ash has added to disruptions. Ash, landslides snd snow blocked major trucking routes which left vehicles carrying cargo to and from Argentina, Brazil, Chile, Paraguay and Uruguay stranded in the border region.

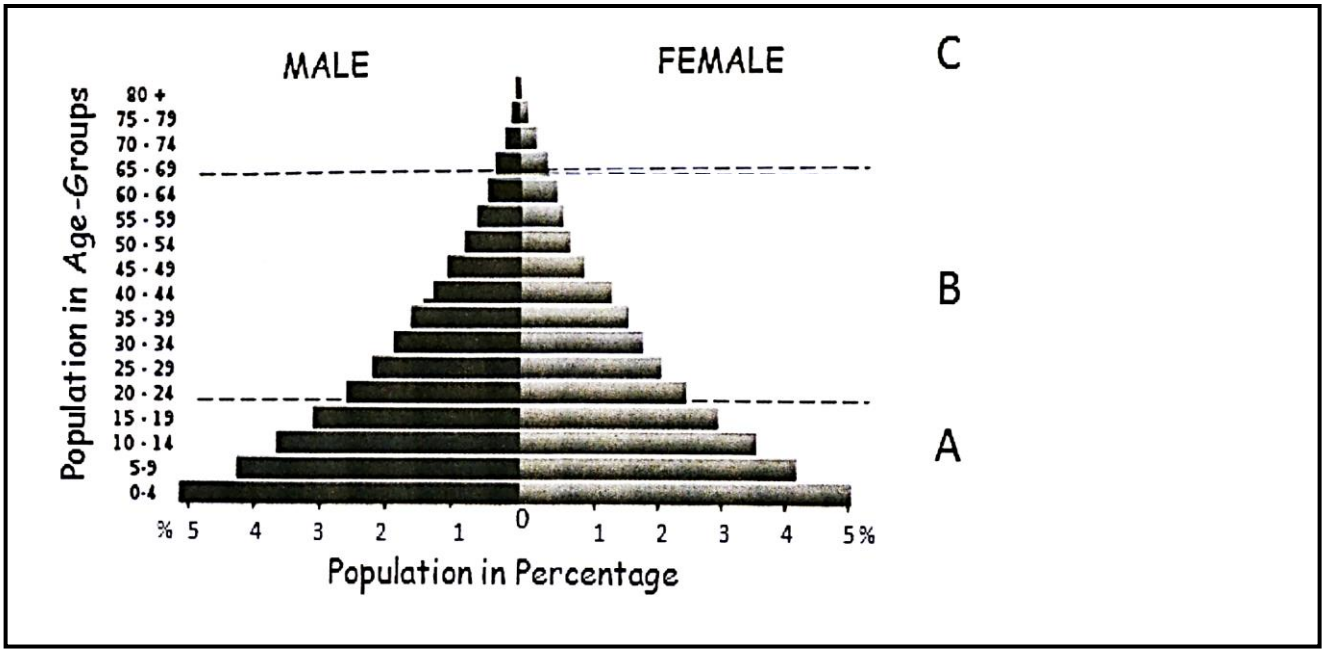
[Adapted from: *theextinctprotocol.wordpress.com*]

FIGURE 2.6(b) VOLCANOES



[Source: *Understanding Geography Grade 10*]

FIGURE 3.3 POPULATION PYRAMID



[Source: *Excel in Geography grade 10*]

FIGURE 3.4 WATER MANAGEMENT

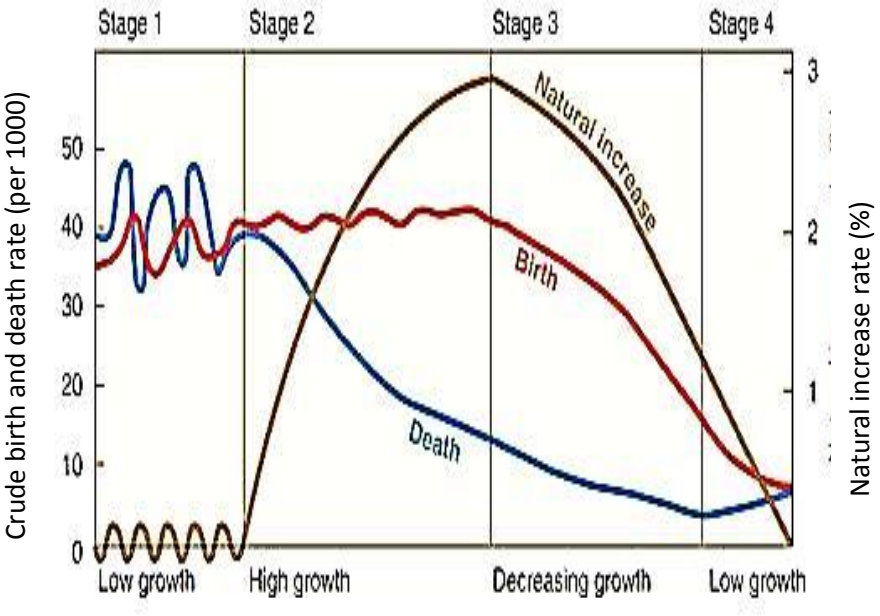
South Africa faces a water crisis and could start having shortages as early as 2020; experts told the South African Water and Energy Forum. Mike Muller told delegates that 'a crisis is looming ... if we don't panic now and take action we will be in a crisis by 2020'. The shortages will largely be due to water demand outstripping supply and to a lesser extent by poor water quality due to infrastructure deteriorating.

Other factors that will contribute include leaking pipes and the theft of water by farmers along the Vaal River. Governments and municipalities are urged to build water infrastructure immediately. It is also important that companies understand their water footprint. Companies in Europe are thinking of detailing the water footprint of every item they sell.

[Adapted from: *Times,* 15 February 2011]

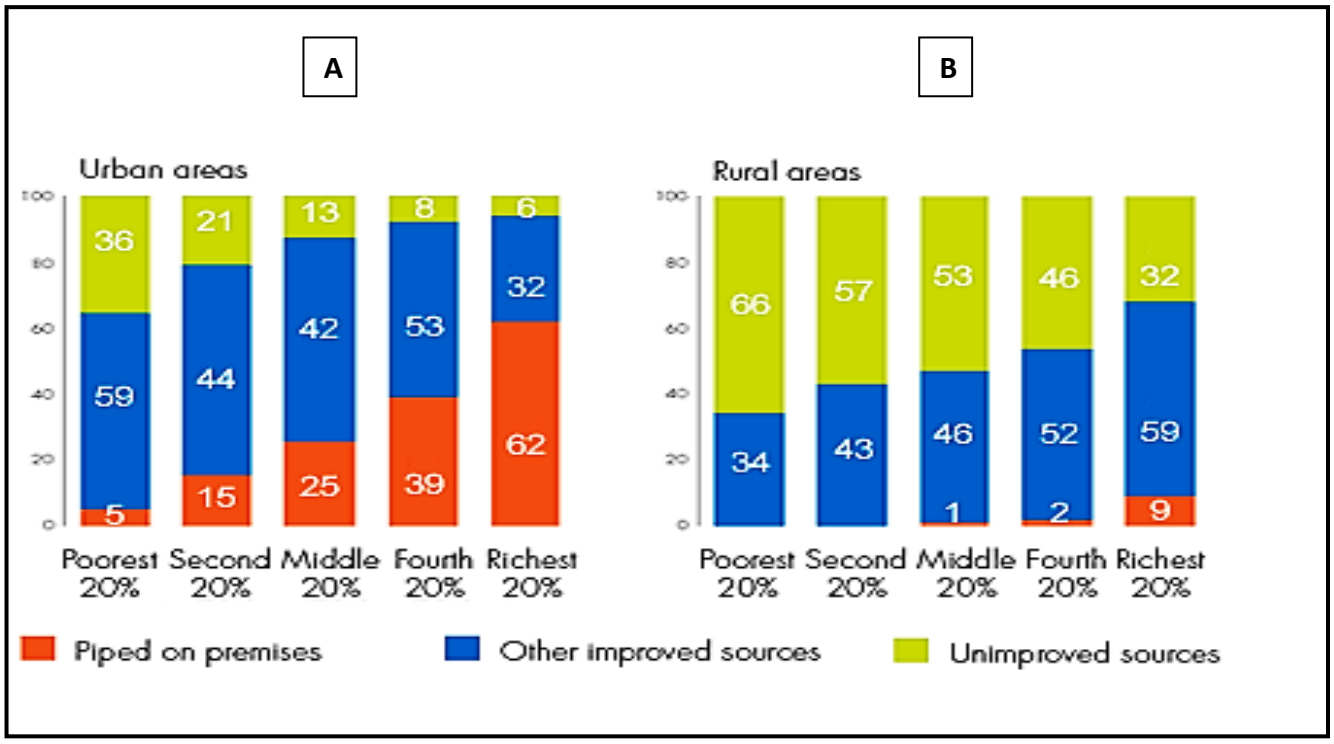
FIGURE 3.5 POPULATION GROWTH

Norway -
The minister of Home Affairs in addressing the media highlighted the problem of decreasing birth rates facing developed countries in general, and Norway in particular.
He stated that if the trend continues, within the next 8 years there will be a negative natural growth rate. The current figures do not look so bad because of the immigration of foreigners into the country. This helps boost the figures. He continued to say that the immigrant population could only be part of the population solution.



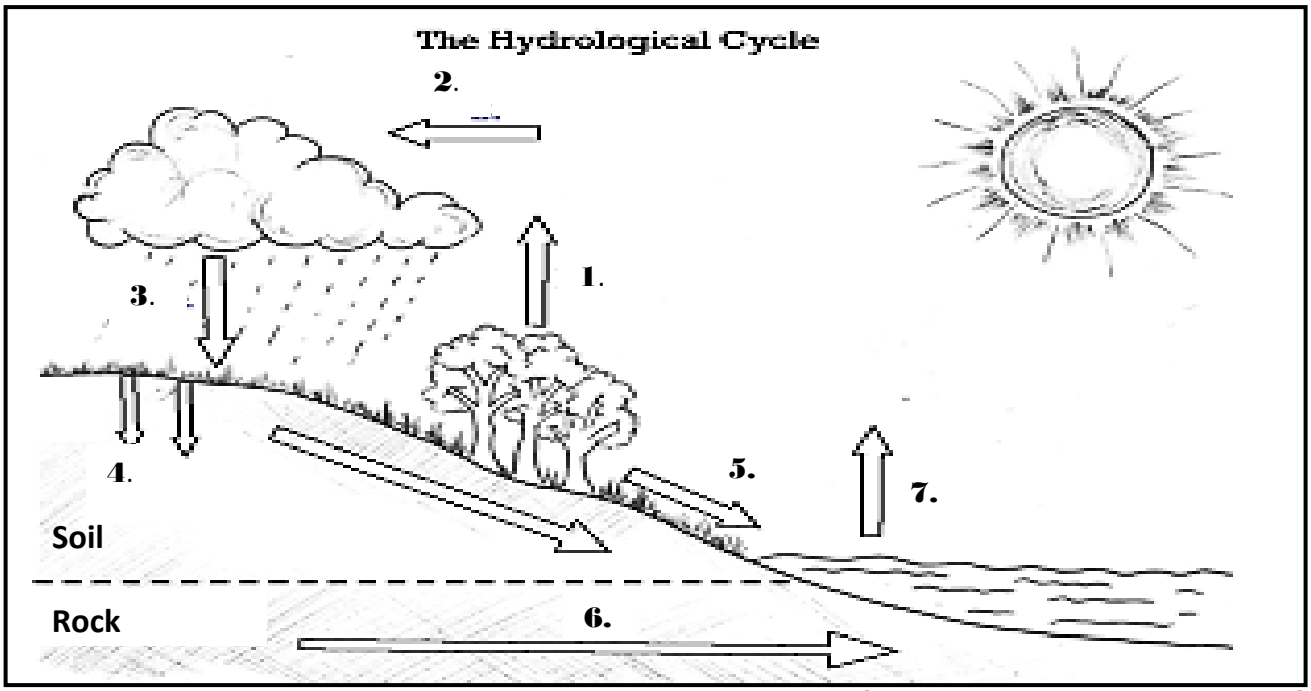
[Source: *Mind Action Series Grade 10*]

FIGURE 3.6 WATER SUPPLY IN SOUTH AFRICA FOR 2008



[SOURCE: *Google*]

FIGURE 4.2 HYDROLOGICAL CYCLE



[Source: *geobytesgcse.blogspot.com*]

FIGURE 4.3 ECONOMIC MIGRANTS

Economic migrants

These are people who normally leave their homes and countries voluntarily to seek a better life elsewhere.

Economic migrants are therefore different from refugees who flee their homes and countries because of the threat of persecution. Economic migrants can normally return home when they choose to, will not face the threat of persecution and will continue to receive the protection of their government.

Refugees on the other hand are not able to return safely to their homes unless or until the situation forcing them to leave has been resolved. However, according to a number of reports, some of these people may in fact be environmental refugees, but because there is no international recognition of environmental refugees they end up being classified as economic migrants.

There is also the emigration of skilled citizens who seek a better life elsewhere. Several travel agencies and international removal companies said the increase in the number of well-educated people leaving the country is alarming.

The reasons which emigrants gave for leaving South Africa included the drop in the standard of education and health services, crime and the falling value of the rand. People leaving the country include members of all race groups. Young professionals with no children or financial burdens take the opportunity to start a new life somewhere else.



[Source: *www.globalfootprints.org*]

FIGURE 4.4(a) DESALINATION

Should desalination play a bigger role in South Africa's water future?

25TH MAY 2018
BY: NATASHA ODENDAAL

South Africa's prolonged drought conditions and arid environment are increasingly highlighting the country's existing water infrastructure weaknesses and demand that alternative and nonconventional sources of water beyond the traditional surface and groundwater resources be explored. Various methods to make up the current and future shortfall in available natural water resources are being considered. These range from reuse, rainwater and storm water harvesting to water demand management and seawater desalination.

However, the extreme drought situation in the Western Cape has seen seawater desalination as a solution to South Africa's water problems, following the example of Israel. Desalination is often identified as the 'ultimate endless resource' of fresh water.

This will be relevant in a future where demand will exceed supply by 17% in 2030, leaving a deficit of between 2.6-billion and 3.8-billion cubic metres as demand grows beyond 18-billion cubic metres.

Despite the deployment – and success – of several small-scale desalination plants across coastal towns such as Mossel Bay, Saldanha, Knysna and Plettenberg Bay in recent years, large-scale desalination operations may not be the sollution the country is seeking to solve its severe water challenges.

New temporary seawater desalination plants are being constructed at Monwabisi, Strandfontein and the V&A Waterfront, forming part of the first phase of the Western Cape's programme to deliver a 16-million-litre yield of water over the next two years.

[Source: *www.engineeringneews.co.za/article*]

FIGURE 4.4(b) WATER AVAILABILITY

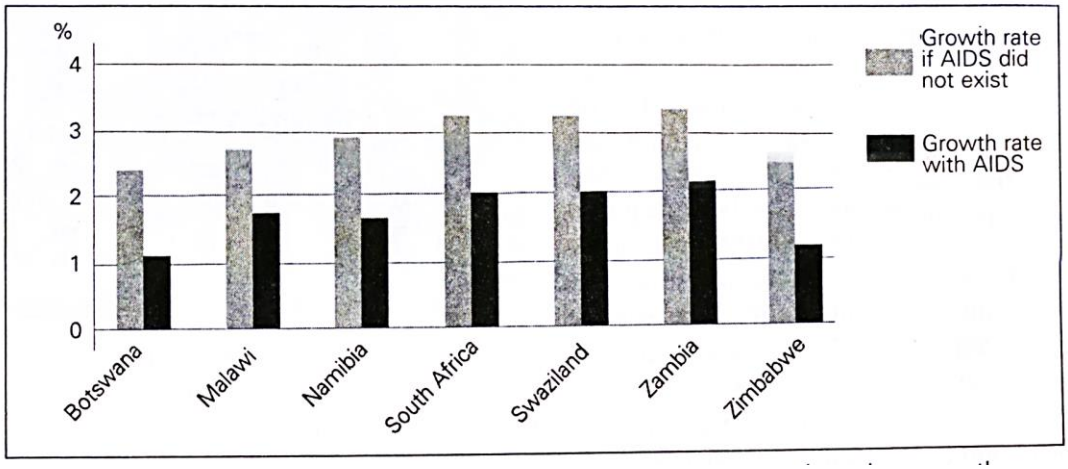
PREDICTED WATER AVAILABILITY FOR 2025 (MILLION m^3)

RIVERS	LOCAL AVAILABILITY	TRANSFER INTO	LOCAL REQUIREMENTS
Limpopo	295	23	379
Tugela/Thukela	776	0	420
Upper Vaal	1 486	1 630	?
Orange	4 755	2	1 122
Fish	452	653	1 053

[Source: *Department of Water Affairs and Forestry*]

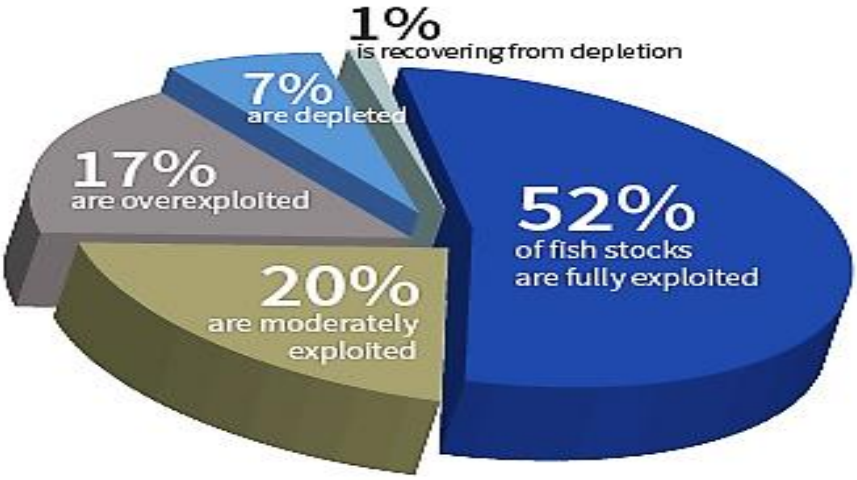
FIGURE 4.5 HIV AND AIDS

In 1996, life expectancy in Southern Africa was 66 years. In 2006, it was estimated at 43 years. The Development Bank of Southern Africa estimates that this figure will drop to about 40 years in 2010 and even 37 by 2020. Estimates of how AIDS affects population growth are shown in Figure 16.



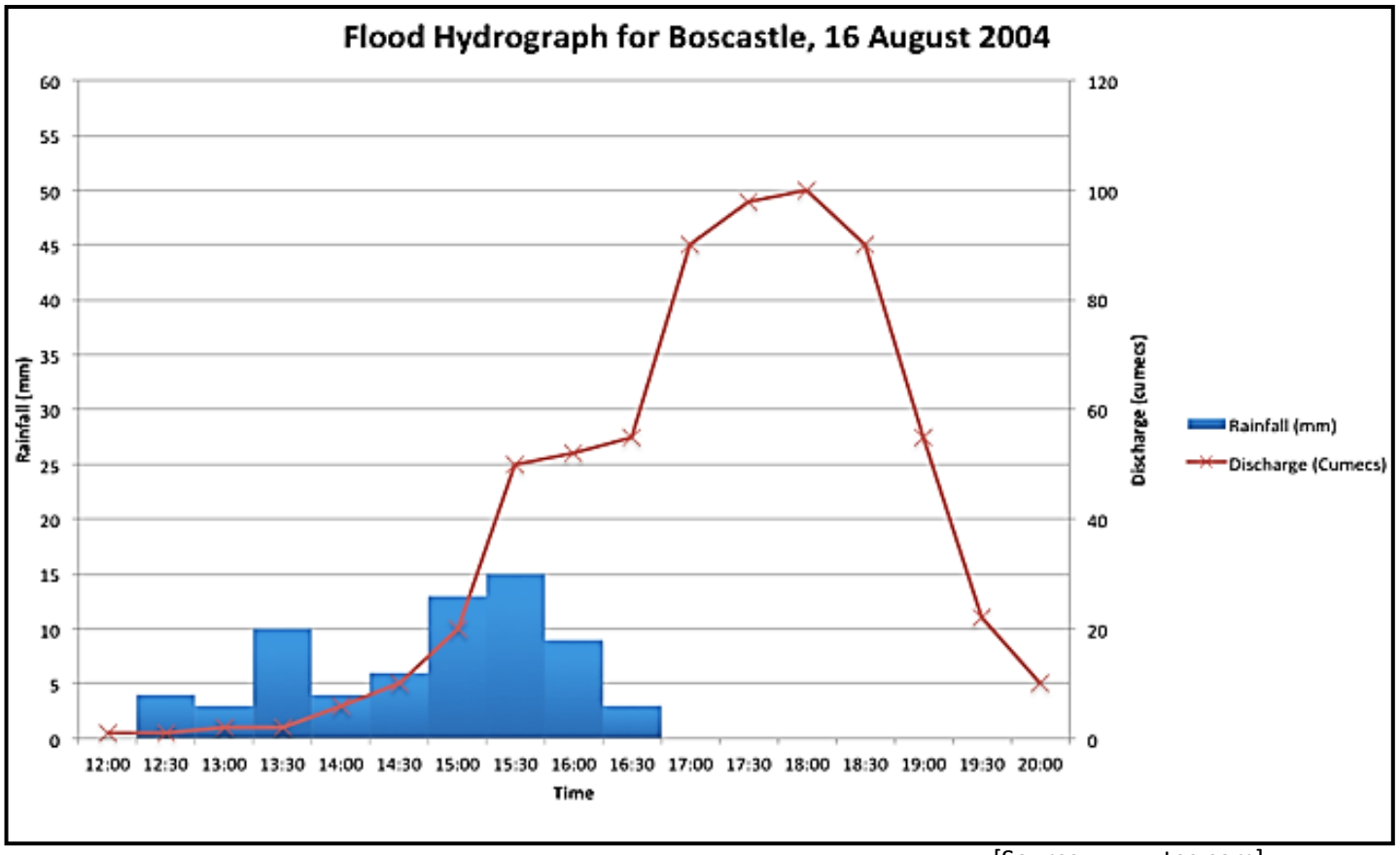
[Source: *Understanding Geography Grade 10*]

FIGURE 4.6(a) OVERFISHING



[Source: geobytesgcse.blogspot.com]

FIGURE 4.6(b) FLOOD HYDROGRAPH



[Source: www.tes.com]

Copyright reserved