



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

CURRICULUM GRADE 10 -12 DIRECTORATE

NCS (CAPS) SUPPORT

JUST IN TIME LEARNER REVISION DOCUMENT

GEOGRAPHY



GRADE 11

2026

PREAMBLE

This support document serves to assist Geography Grade 10 learners in dealing with curriculum content gaps and learning losses. Activities serve as a guide on how various topics are assessed at different cognitive levels and prepare learners for informal and formal tasks in Geography.

CONTENT		Page
Atmosphere	The earth's energy balance	2
	Unequal heating of the atmosphere	2
	Latitude	2
	Seasonal	2
Transfer of energy and energy balance	The role of wind	3
	The role of ocean currents	3-4
	Key reasons for the importance of energy balance	4
Global Air Circulation		5
	What are high and low pressures?	6
	World's pressure belts	7-8
	The relationship between air temperature, air pressure and wind	9
	Tri-cellular circulation	10-12
AFRICA'S WEATHER AND CLIMATE	RELATED CONCEPTS	13
	Role of oceans in climate control in Africa	14
SYNOPTIC WEATHER MAPS	RELATED CONCEPTS	15-17
Drought and desertification		17
	Causes of drought and desertification	18
	Impact of drought and desertification	18-19
	Management strategies	19
Horizontally layered rocks	Key concepts	20
	Characteristics and associated processes	21

	Hilly landscapes	21
	Basaltic plateaus	21
	Canyon landscapes	21
	Karoo landscapes	22
Topography associated with inclined/tilted strata	Landforms that result from inclined strata	23-28
MASSIVE IGNEOUS ROCKS (GRANITE LANDSCAPES)	Characteristics of massive igneous rocks	29
	Formation process	29
	Weathering of granite	29
	Landforms associated with massive igneous rocks	30-32
Slopes	Slope elements	33-34
Mass movement	Causes of mass movement	35
	Types of mass movement	36
	Evidence of mass movement	36
	Impact of mass movement	36
	Strategies to manage mass movements	36-38
Development geography	Related concepts	39
Global differences in development	The concept of development	40-41
	Indicators of development	42-43
	Examples of development from different contexts	44
	Framework for development	44
	Community based development	45-46
Trade and development	Types of trading relationships	47-49
Globalisation	Key components of globalisation	50
	Negative effects of globalisation on the environment	51
	Export-led development	52-55
	Role of development aid	56-58
Resources and sustainability	Related concepts	59

	Soil and soil erosion	60-61
convective energy sources and associated impact	Illustration	62
	Description	62
	Advantages	63
	Disadvantages	63-66
non - convective energy sources and associated impact	Illustration	67
	Description	67
	Advantages	68
	Disadvantages	68-70
Sustainability		71-72





THE ATMOSPHERE

THE EARTH'S ENERGY BALANCE:

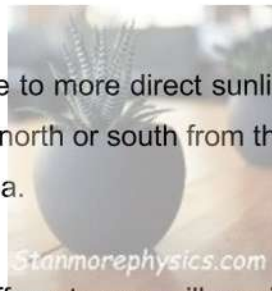
- The energy balance refers to how the incoming energy from the sun is used and returned or radiated to space.
- If the incoming and outgoing energy are in balance, the Earth's temperature remains constant.

UNEQUAL HEATING OF THE ATMOSPHERE:

- The Earth's atmosphere is heated by radiation from the sun. Not all parts of the atmosphere receive the same amount of insolation (incoming solar radiation).
- This is due to Earth's curvature and prevailing angle of insolation. This results in unequal heating. The amount of insolation depends on TWO factors.

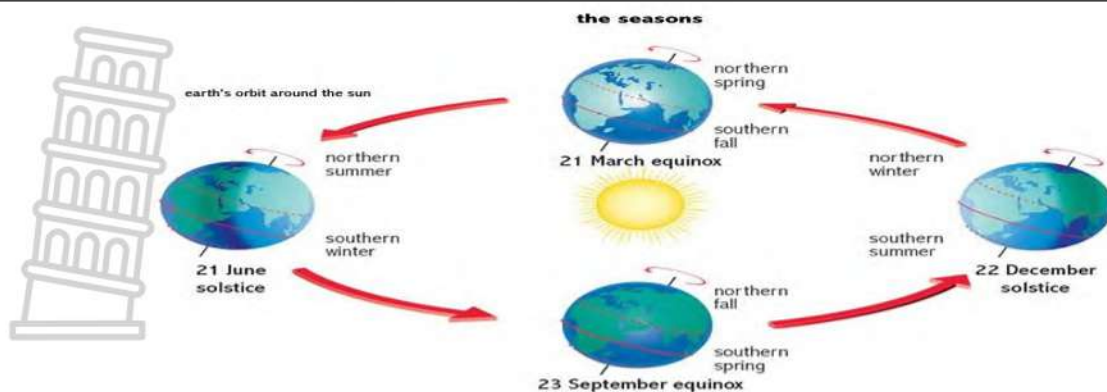
LATITUDE:

- Insolation is greatest at the equator due to more direct sunlight on a smaller and closer area. Insolation decreases as you get further north or south from the equator, because the insolation travels further and heats up a larger area.



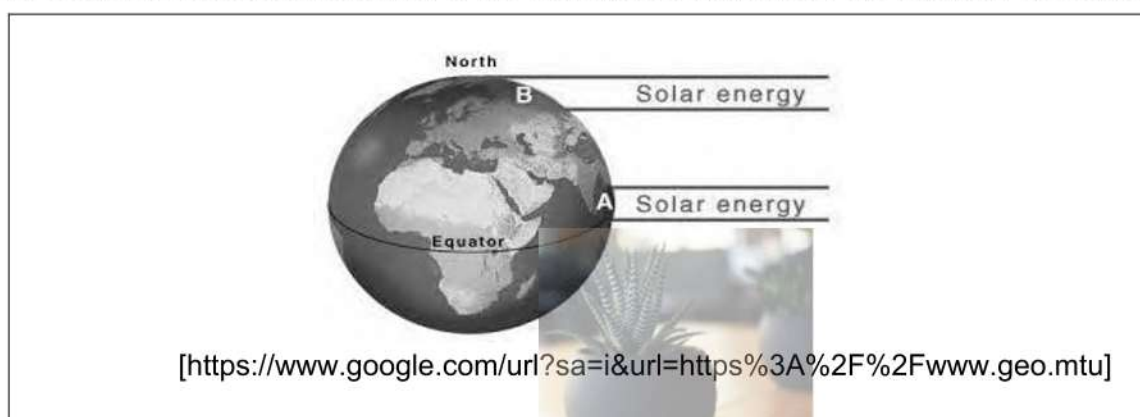
SEASONAL:

- As the earth revolves around the sun, different areas will receive different amounts of insolation. This is due to the tilt of the earth and its position in its orbit.
- The amount of heat a certain place gets is dependent on the number of daylight hours it gets. In summer the days are longer and more heat, in winter the days are shorter and less heat.



Source: weather.gov/fsd/seasons

1.1 Refer to the sketch showing heating of the atmosphere and answer the following questions.



[<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.geo.mtu.edu>]

1.1.1	What is solar energy?	(1x2)	(2)
1.1.2	Name the TWO factors responsible for unequal insolation received.	(2x1)	(2)
1.1.3	In which area will there be direct solar energy, at A or B ?	(1x1)	(1)
1.1.4	Explain why area A will differ in temperature when compared to area B .	(2x2)	(4)
			[9]

TRANSFER OF ENERGY AND ENERGY BALANCE

THE ROLE OF WIND

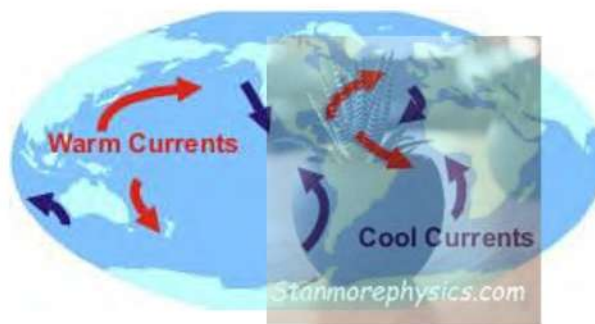
- Wind is moving air. Wind that blows from tropical zones towards a cooler zone will transfer heat energy and warm that cooler zone.
- Wind that blows from polar regions towards warmer regions will cool the region down. Winds restore the energy balance over the Earth's surface.
- Tropical easterlies blow from subtropical areas towards the equator. They bring cooler temperatures.
- Westerlies blow from subtropical areas to temperate areas bringing warm temperatures.

- Polar easterlies blow from polar regions to subpolar regions; they bring cool temperatures.

THE ROLE OF OCEAN CURRENTS

- The oceans and atmosphere interact to the extent that each influences the condition of the other. The action of the atmosphere and ocean systems drives the transfer of heat energy around the planet. Ocean currents transfer energy within itself.
- Warm ocean currents move warm water to cooler areas and cold ocean currents move cooler water to warmer areas. This system is important in maintaining an energy balance.

Ocean currents act as a global conveyor belt, transferring massive amounts of heat energy from the tropics to the poles, regulating Earth's climate and temperature. Driven by wind (surface currents) and density differences (deep-water, or thermohaline, circulation), this redistribution keeps polar regions warmer and equatorial regions cooler.



[<https://www.noaa.gov/jetstream/ocean/circulations>]

ACTIVITY 1.2

1.2.1	Name the ocean current that flows past Durban.	(1 x 1)	(1)
1.2.2	The ocean current mentioned in Question 1.2.1 is warm or cold?	(1 x 1)	(1)
1.2.3	Explain how the ocean current that passes past Durban influences the air above it.	(1 x 2)	(2)
1.2.4	Write a paragraph of approximately EIGHT lines discuss how the action of the atmosphere and ocean systems drive the transfer of heat energy around the planet.	(4x2)	(8)
			[12]

Key reasons for the importance of energy balance include:

- **Climate Regulation:** The balance between energy received (solar) and energy lost (thermal infrared) maintains the average temperature necessary for life.

- **Driving Earth's Systems:** This balance influences global wind patterns, ocean currents, and the distribution of heat, which dictate weather patterns.
- **Habitability:** Without the atmosphere's natural greenhouse effect balancing outgoing heat, Earth would be too cold for survival.
- **Stability of Ice and Sea Level:** Earth's energy balance affects the amount of snow and ice, influencing reflectivity (albedo) and protecting against runaway.



Global Air Circulation

Related Concepts



Atmospheric pressure: Is the weight of the atmosphere on the earth surface

Inter-tropical Convergence Zone (ITCZ): The zone where two tropical easterlies converge

Divergence: Moving apart

Convergence: Coming together

Polar front: The front between the cold air (Polar easterlies) and warmer air (sub-tropical westerlies) masses which meet at 60° north and south

Front: Zone where two air masses of different temperatures meet

Wind: Air that has speed and direction

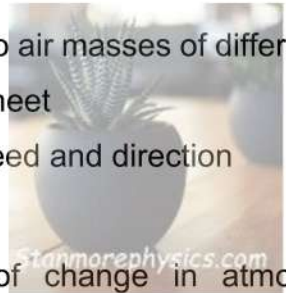
Pressure gradient: The amount of change in atmospheric pressure between high- and low- pressure areas

Pressure gradient force (PGF): A force that causes the air to move from a high-pressure area towards a low-pressure area along the pressure gradient

Coriolis force: The force which deflects winds because of Earth's rotation.

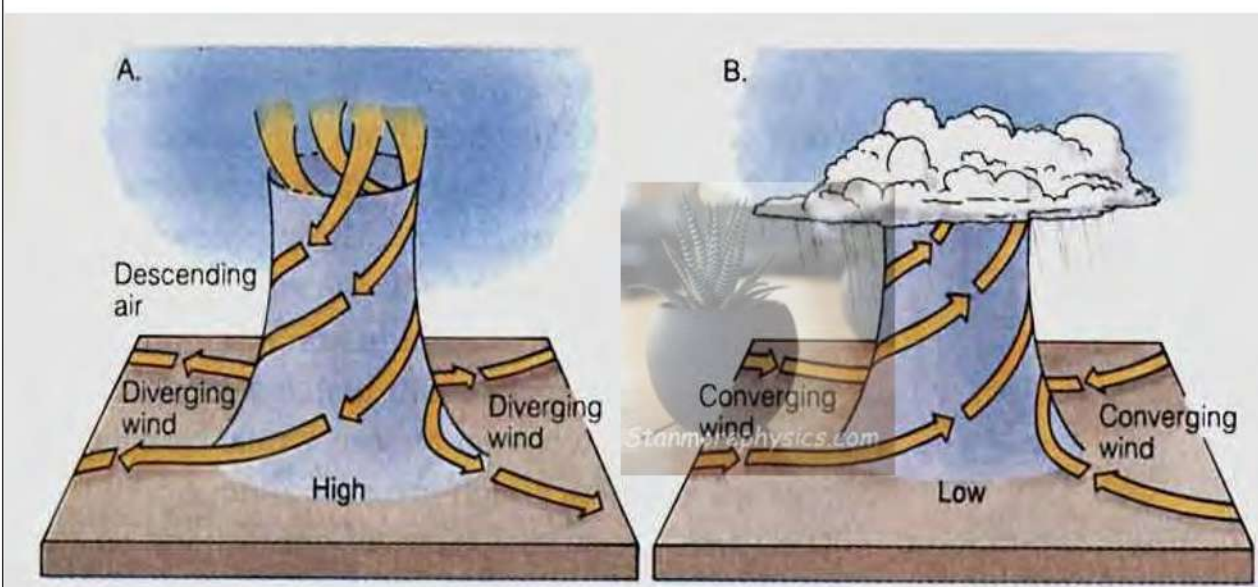
Ferrell's law: It states that because of the Coriolis force, the winds are deflected to their left in the southern hemisphere and to right in the northern hemisphere

Geostrophic flow: Flow of wind that is parallel to the isobars due to equal Coriolis force and pressure gradient force

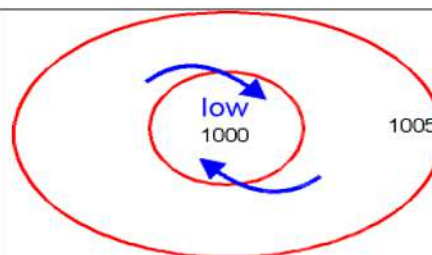
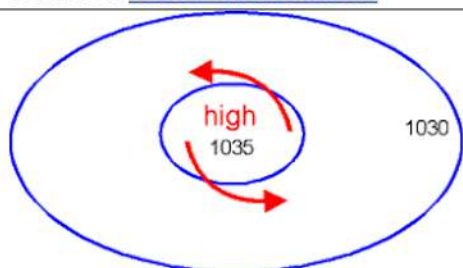


What are high and low pressures?

- **Atmospheric pressure** is the weight of the atmosphere on the surface of the Earth.
- The unequal heating of the atmosphere results in the development of high- and low-pressure cells.
- The temperature of the air plays a major role on atmospheric pressure.
- It is important that you know the characteristics of High- and Low- pressure cells



Source: www2.hawaii.edu



- Air subsides (**descend**)
- **Air Diverge** at the center
- Clear/dry skies
- No release of latent heat
- No cloud formation
- Oval shaped isobars

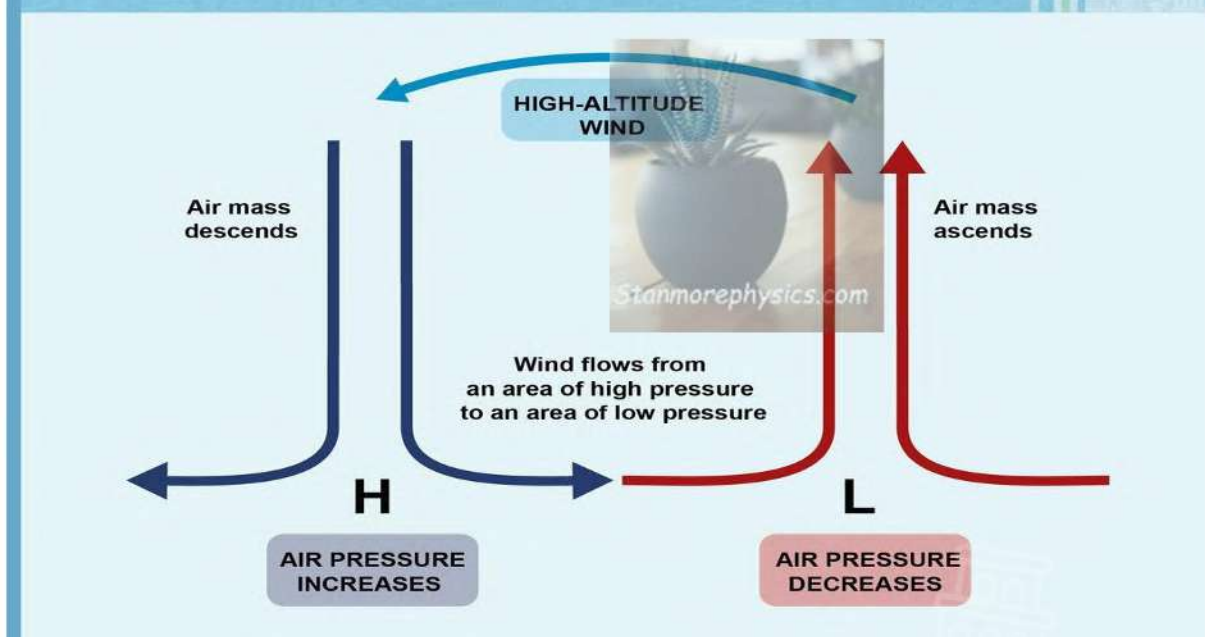
- Air ascends (**rises**)
- **Air converges** at the center
- Condensation takes place
- Latent heat is released during condensation
- Clouds form and precipitation occur

- Air circulates in an **anticlockwise rotation**
- Also known as an anticyclone
- Isobar values increase towards the center of the low pressure
- Also called Anticyclones
- **Forms:**
 - South Atlantic Anticyclone
 - South Indian Anticyclone
 - Kalahari Anticyclone



- Circular shaped isobars
- Air circulates in a **clockwise rotation**
- Also known as a cyclone
- Isobar values decrease towards the center of the low pressure
- Also called a **Cyclone**
- **Forms:**
 - Coastal low
 - Mid-Latitude cyclones
 - Tropical cyclones

HIGH AND LOW PRESSURE

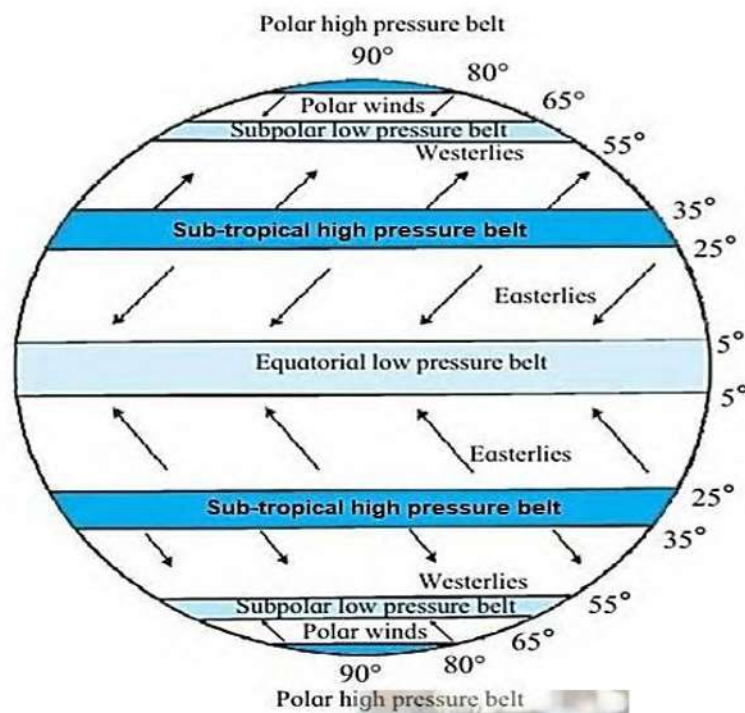


<https://peda.net/>

WORLD'S PRESSURE BELTS

- The development of High- and Low-pressure cells results in the development of the pressure belts at different latitudes because of Pressure gradient and Coriolis force that have an impact on the global circulation of the atmosphere.
- **Pressure belts** are specific zones of high or low pressure along latitudes. They move seasonally with the varying intensity of the sun's direct rays. Atmospheric pressure is shown on maps by isobars, which are lines joining places of equal pressure.

WORLD PRESSURE BELTS



Source: online.htseden.co.za




PRESSURE BELTS:

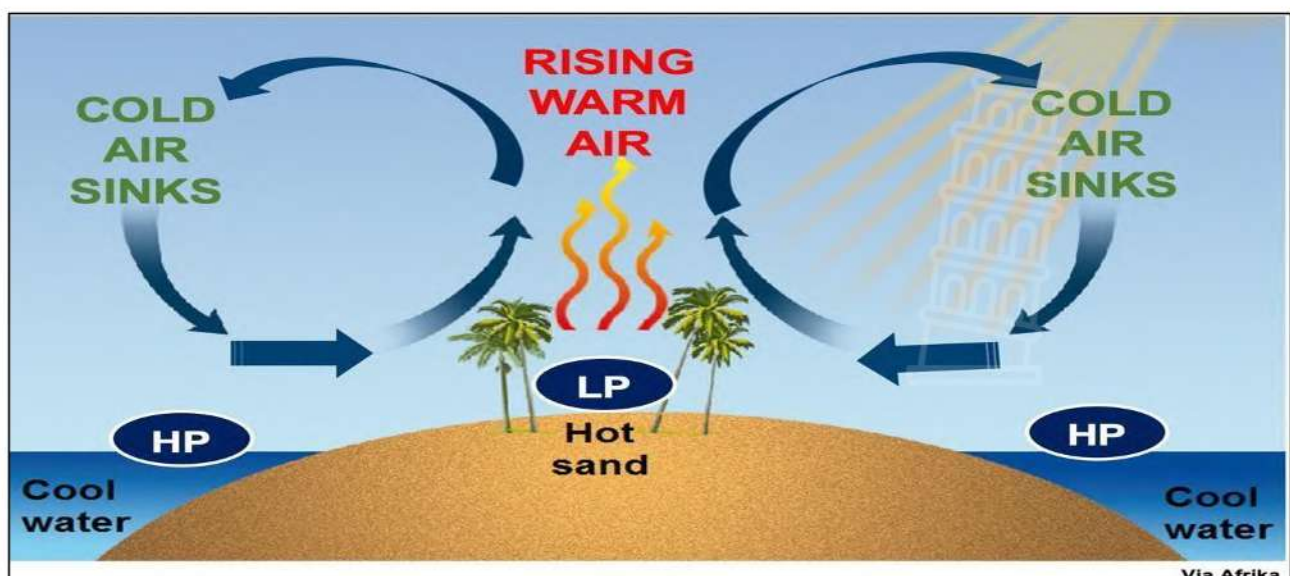
- Polar high: at 90° N and S
- Sub-polar Low: at 60° N and S
- Subtropical High: at 30° N and S
- Equatorial low: at 0°

Equatorial low at 0°

- Also called the inter-tropical convergence zone (ITCZ) where maximum heating takes place.
- Hot air rises creating a low-pressure area at the surface.
- The rising air is moisture laden.
- Associated with convergence thunderstorms and high rainfall.
- Confluence of NE trade winds and SE trade winds at 5° North and South results in the development of **Tropical cyclones**.

 <p>Sub-tropical High at 30° N and S</p>	<ul style="list-style-type: none"> • A region of high pressure associated with subsiding air • The descending air is warm and dry. • Deserts form in these regions. • Associated with clear skies and low rainfall. • A region of high pressure associated with subsiding air. • Associated with clear skies and low rainfall.
<p>Sub-polar Low at 60° N and S</p>	<ul style="list-style-type: none"> • A region of low pressure associated with the convergence of two different air masses. • The air is forced to rise. • This creates a low-pressure area. • Also called the polar front and this is where mid-latitude cyclones originate.
<p>Polar high at 90° N and S</p>	<ul style="list-style-type: none"> • Associated with cold, dense air which subsides over the poles. • Stable, clear and cold conditions prevail

THE RELATIONSHIP BETWEEN AIR TEMPERATURE, AIR PRESSURE AND WIND



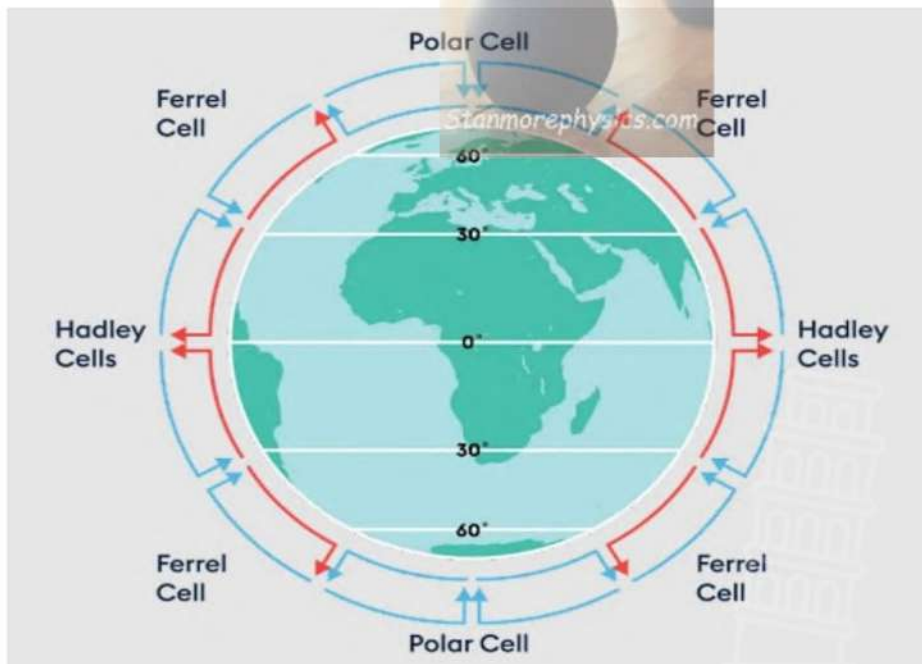
https://encryptedtbn0.gstatic.com/images?q=tbn:ANd9GcQy8X6715_DzD3OUpCeLf4YxQR2LPjKelpSjA&usqp=CAU

- Hot air expands and rises
- Leads to low pressure on Earth's surface
- Cold air is dense and heavy
- Sinks to Earth's surface
- Air (wind) moves from high pressure to low pressure

PRESSURE GRADIENT, CORIOLIS FORCE AND GEOSTROPHIC FLOW

- **PRESSURE GRADIENT FORCE:** is the force that causes air to flow from high pressure to low pressure (**STEEP/GENTLE**)
- **CORIOLIS FORCE:** deflects winds and ocean currents to the right in the northern hemisphere, and to the left in the southern hemisphere
- **GEOSTROPHIC FLOW:** wind blowing parallel to the isobars. wind that would result from an exact balance between the Coriolis force and the pressure gradient force

TRI-CELLULAR CIRCULATION



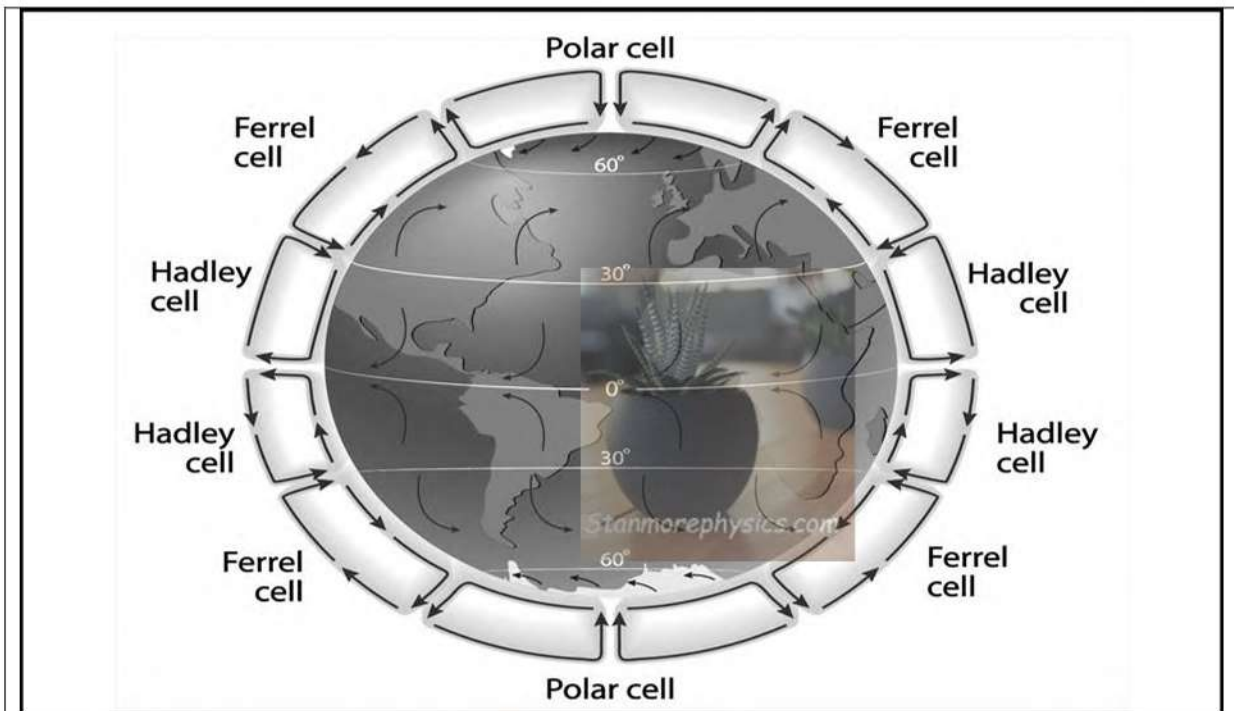
<http://prepp.in/news/e-492>

- **Tri-cellular model** is made up of 3 different air masses; these control atmospheric movements and the redistribution of heat energy.

- There are THREE convectional cells produced per hemisphere:
 - Hadley cell
 - Ferrell cell
 - Polar cell

ACTIVITY 1.3

Refer to FIGURE 1.3 on tri-cellular air circulation. Match the descriptions below with one of the POLAR, HADLEY or FERREL cells. Choose the answer and write only the cell next to the question numbers (1.3.1 to 1.3.7) in the ANSWER BOOK, for example 1.3.8 POLAR. You may choose the same cell more than o

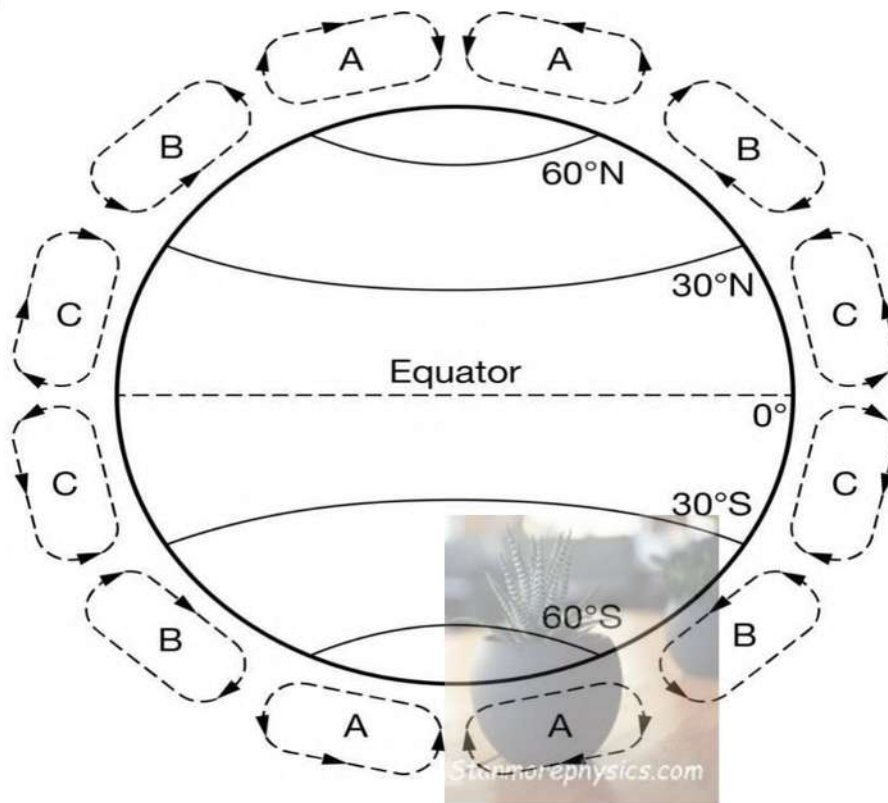


<http://prepp.in/news/e-492>

1.3.1	Circulates air between 60°-90° latitudes		
1.3.2	Air rises near the equator and diverges polewards		
1.3.3	Air circulates in the mid-latitudes		
1.3.4	Associated with tropical air mass circulation		
1.3.5	Cold easterly winds originate from this cell		
1.3.6	This cell generates the westerly wind belts		
1.3.7	Trade winds originate in this cell		
		(7 x 1)	[7]

ACTIVITY 1.4

Refer to the sketch 1.4 showing Global air circulation and answer the questions that follow.



<http://www.metlink.org/topic/global>

1.4.1	What is the <i>Inter-tropical Convergence Zone</i> ?	(1x2)	(2)
1.4.2	Name the global cell at C .	(1x1)	(1)
1.4.3	How does a polar front form?	(2x2)	(4)
1.4.4	In a paragraph of approximately EIGHT lines, explain the movement of tropical easterlies and westerly winds and their impact on weather in regions where they occur.	(4x2)	(8)
			[15]

AFRICA'S WEATHER AND CLIMATE

RELATED CONCEPTS

Subsidence: The sinking or downward movement of air as result of cold temperature

Convergence: The movement of air towards a central point.

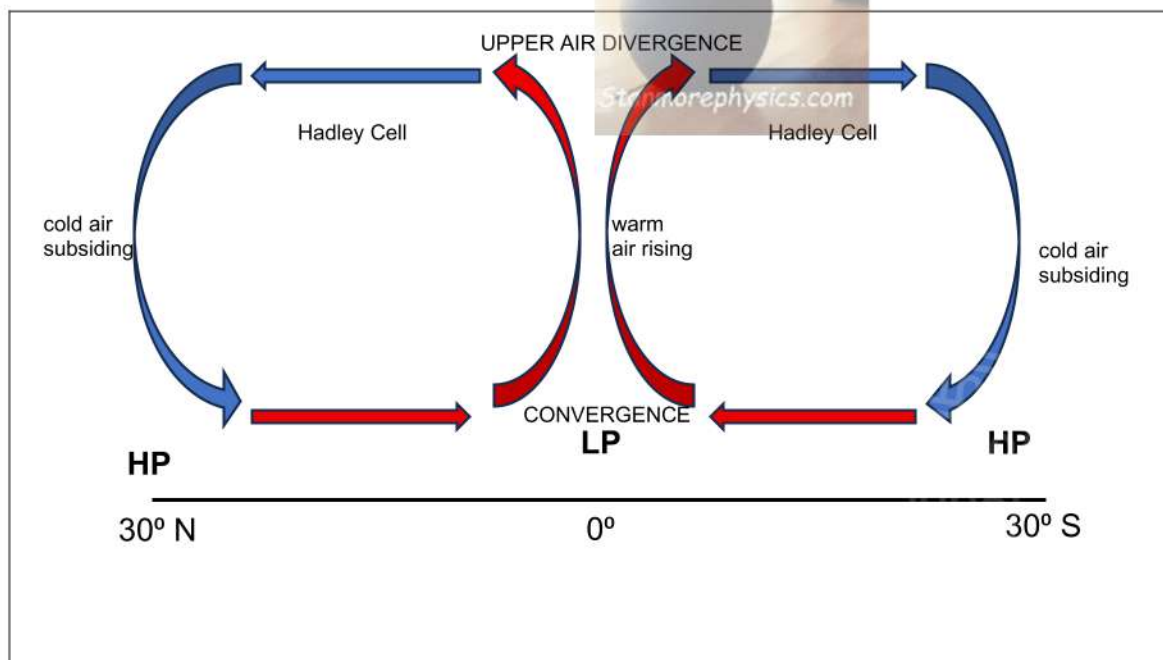
Humidity: The amount of moisture in the air.

Subsidence and convergence-link to rainfall

- Africa extend horizontally from 35° N to 35° S. This means that in both the northern and southern hemisphere, the Hadley cells influence air movement in Africa.

Subsidence of air linked to low rainfall in the subtropics

- High pressure cells are associated with air subsidence. cooler air in the upper atmosphere sinks at 30° N and S. As it sinks it cools down and becomes drier.
- Warm and dry air reduces chances of rainfall along 30° N and S due to high pressure cells that develop along these regions. Sahara and Kalahari Desert regions are found along these areas.



The Hadley cell and ITCZ

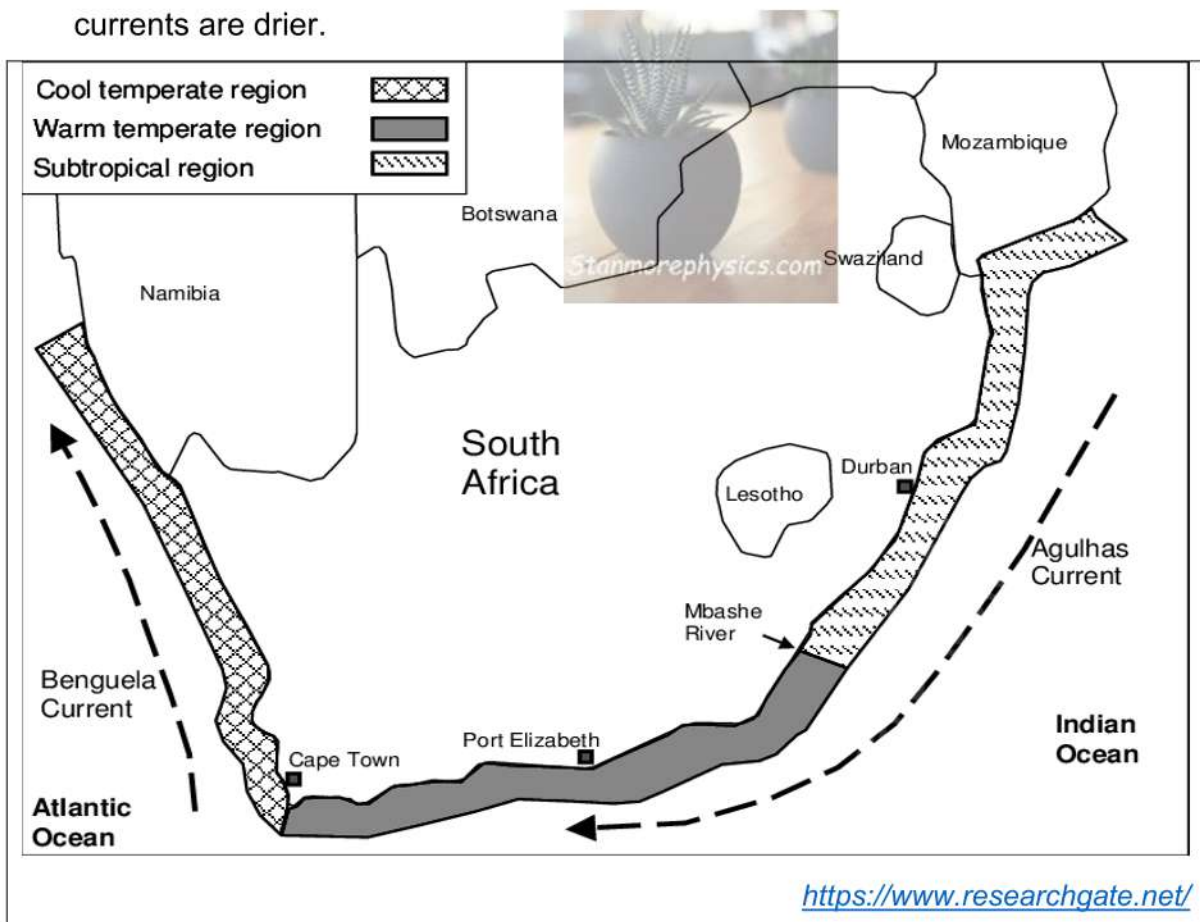
ITCZ linked to high rainfall in the tropics

- Convergence of air in the equator (0°) and high temperatures result in development of intense low-pressure conditions along this region.

- Almost 80% of Africa's rain fall within the tropics because of convergence of moist air at the ITCZ.
- The rainfall migrates north and south of the equator depending on which hemisphere is experiencing summer.

Role of oceans in climate control in Africa

- Ocean currents have a moderating effect on areas along the coast.
- Evaporation from warm ocean current, the winds blowing from the sea to the carry moisture, (Onshore winds) to coastal areas.
- Air above warmer ocean currents are warmer, moister and therefore more likely to bring rain.
- Along cold ocean currents any moisture in the air condenses to form either mist or fog.
- Air above cold ocean currents hold little moisture, therefore areas washed by cold currents are drier.



SYNOPTIC WEATHER MAPS

RELATED CONCEPTS

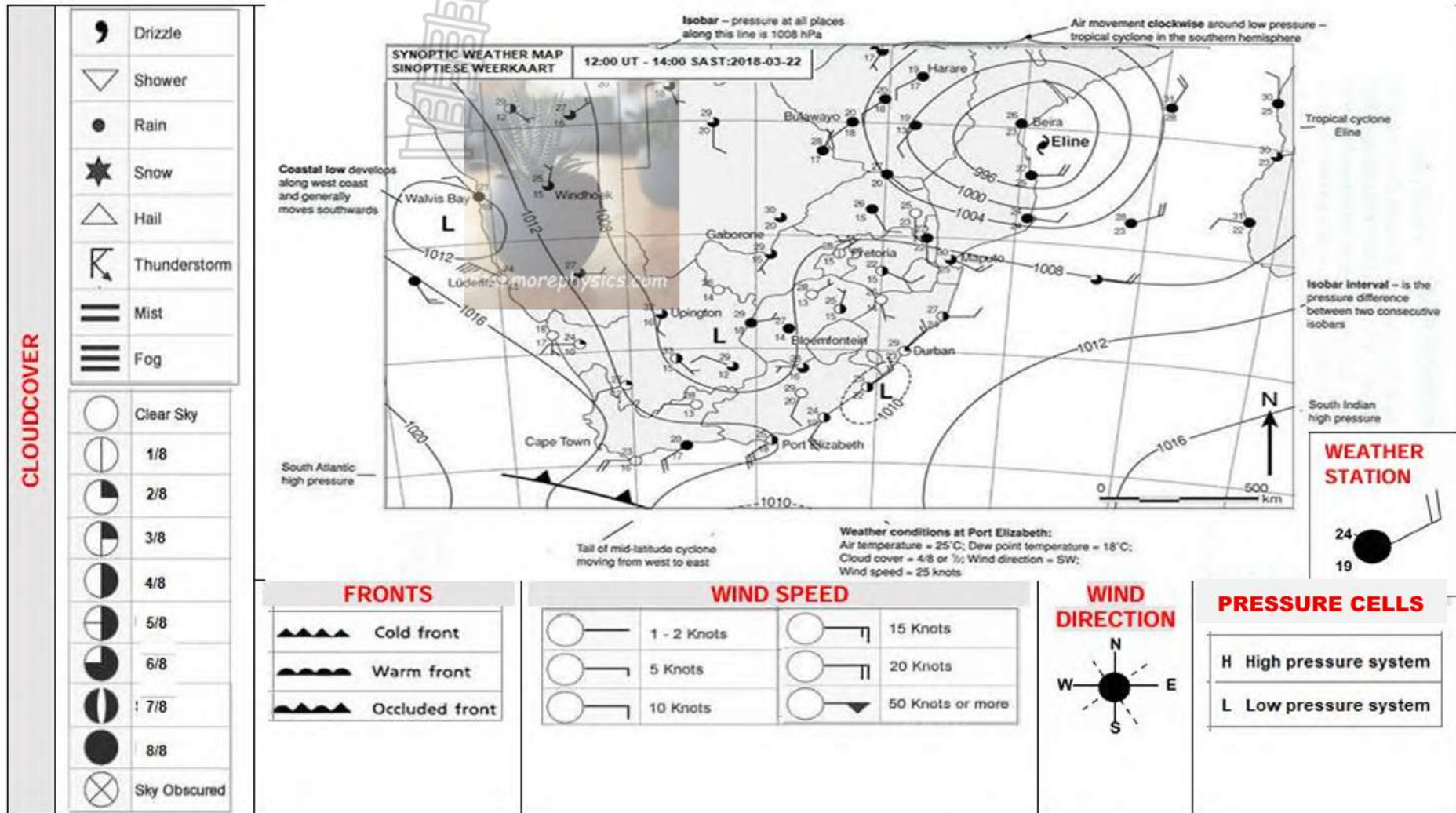
Synoptic weather map is a chart that shows weather conditions over a large area at a specific moment in time.

Dew point temperature: Minimum temperatures at which an air parcel can condense.

Air temperature: the degree of hotness or coldness of an air parcel

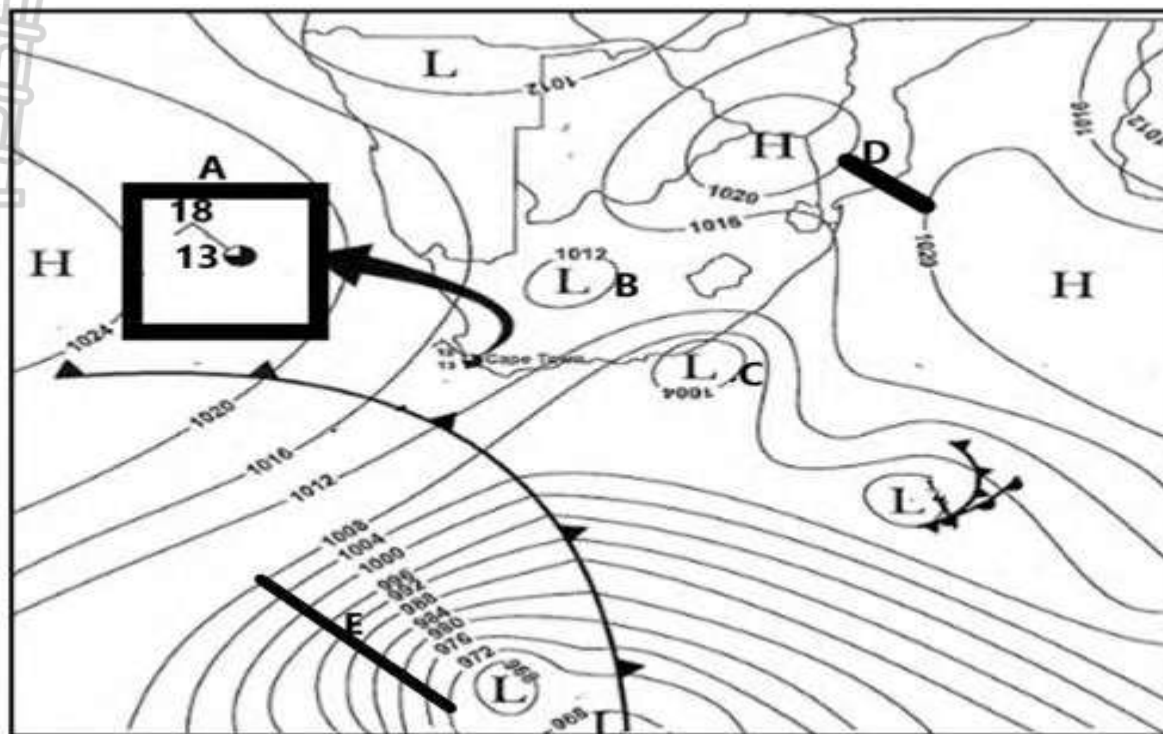
Knots: A knot (kn or kt) represents one nautical mile per hour, which is exactly 1.852 kilometres per hour (km/h).





ACTIVITY 5

Study the synoptic weather map below and answer the following questions.



ecexams

1.5.1	Define the concept <i>synoptic weather map</i> .	(1x2)	(2)
1.5.2	Indicate the pressure reading at B .	(1x1)	(1)
1.5.3	(a) Identify the low-pressure cell C .	(1x1)	(1)
	(b) Explain why pressure cell C is a low-pressure cell.	(1x2)	(2)
1.5.4	Compare the pressure gradient between D and E .	(2x2)	(4)
1.5.5	Explain how the pressure gradient at E will influence wind speed.	(2x2)	(4)

1.4 DROUGHT AND DESSERTIFICATION

Drought – a prolonged period of abnormally low rainfall which leads to shortage of water.

Desertification - the process whereby once fertile areas become increasingly more arid

Regions that are at most risk of drought:

- ❖ Lands bordering the Sahara Desert (Sahel)
- ❖ The horn of Africa
- ❖ The lands bordering the Kalahari deserts of Southern Africa

Causes of drought and desertification

- ❖ Changing patterns of rainfall
- ❖ High temperatures (Global warming / climate change)
- ❖ Increased evaporation
- ❖ EL NINO
- ❖ Cold ocean currents
- ❖ Overgrazing
- ❖ Over-cultivation
- ❖ Deforestation
- ❖ Over-use of natural resources

Impact of drought and desertification

Economic Impact

Reduced crop production and smaller harvest.

Job losses.

Stock farmers slaughter their animals to avoid the higher cost of feed.

Power companies that normally rely on hydroelectric power may have to spend more money on other fuel sources if drought dries up too much of the water supply.

Number of exports of a country is reduced
Less income from tourism



Source:

<https://www.istockphoto.com/photos/drought-crops>

SOCIAL IMPACT

- Health problems related to low water flows and poor water quality
- Threat to public safety from an increased number of forest and range fires
- Fewer recreational activities
- Loss of homelands.
- People die from malnutrition, starvation, and heat stress.
- More people move from rural areas to urban areas.

ENVIROMENTAL IMPACT

- Loss of biodiversity
- Increased soil erosion that leads to desertification
- Dry vegetation and low humidity increase the frequency and intensity of veld fires

IMPACT OF DROUGHT ON VEGETATION

- Drought directly limits plant growth and water availability, leading to reduced vegetation cover
- Habitats become less hospitable, causing drought-sensitive flora to die
- Drought-tolerant species may replace native vegetation, and in advanced desertification
- The loss of vegetation exposes the soil to wind and water erosion

Management strategies

- Improvement of research on climate change
- Drought predictions
- Early warning and monitoring system
- Development of responsive farming plans in the sense that profitable farming is not exclusively food production, but cash crops that can be profitably sold
- Constructing water storage facilities
- Water restrictions should be imposed on urban areas
- Proper soil management
- Correct farming methods

ACTIVITY 6			
1.6.1	Define the following concepts:		
	(a) Drought	(1x2)	(2)
	(b) Desertification	(1x2)	(2)
1.6.2	Discuss any TWO effects of drought and desertification on the vegetation?	(2x2)	(4)
1.6.3	Discuss sustainable strategies to prevent desertification in Africa.	(2x2)	(4)

HORIZONTALLY LAYERED ROCKS

KEY CONCEPTS

Badlands	Landscape with narrow gullies and sharp ridges formed in arid climates.
Bedding planes	Planes separating layers of rocks
Dolerite sill	Horizontal layer of igneous rock that has formed along a bedding plane.
Gullies	Small, narrow, long area of erosion on a slope.
Igneous rock	Rock formed when magma cools and solidifies.
Landscapes	Area with a number of landforms
Lava flow	Lava pours out onto the earth where it cools and solidifies
Plateau	Large high lying area that is relatively flat
Sedimentary rock	Rock formed from deposition and consolidation of sediments.
Sheet wash	Rainfall flowing over the land as sheets.
Strata	Rock with layers
Tectonic uplift	Rising of a land mass due to crustal forces.
Cap rock	Horizontal layer hard, resistant rock at the top of the mountain
Mesas	Flat topped mountain with greater width than height
Buttes	Flat topped hills with greater height than width
Pointed butte	Narrow hill with a sharp peak at the top
Conical hill	Small pointed hills
Scarp retreat / Back wasting	Erosion of a scarp slope causing loss of ground over the whole slope but no loss of height.

CHARACTERISTICS AND ASSOCIATED PROCESSES

TOPOGRAPHY ASSOCIATED WITH HORIZONTALLY LAYERED ROCKS

▪ HILLY LANDSCAPES

- Influenced by the **climate** of the region and the **resistance of the rock**.
- In **hot and humid regions**, the slopes are **steep and rounded**.
- High rainfall results in **mass wasting** and **sheet erosion**, while higher temperatures encourage chemical weathering. **Arid climates** results in hills with **narrow gullies and sharp ridges**.

▪ BASALTIC PLATEAUS

- Also called **lava plateaus**.
- They are built up over millions of years by lava pouring out of long narrow cracks in the ground.
- The lava floods the landscape building up to **form layers of basaltic rocks**.
- These layers are **uniformly resistant to weathering and erosion**.
- The Drakensberg is the remnants of a basaltic plateau, and a popular **tourist and holiday destination** in South Africa.

▪ CANYON LANDSCAPES

- Develop where horizontal layers **erode at different rates (not uniformly resistant)**.
- At first the land is level, but running water soon finds **weak places** in the **hard surface layer**.
- The rivers erode **vertically** into the land and **form deep valleys**.
- The valleys have **stepped sides**.
- The **resistant rock** forms **steep cliffs** and the **less resistant rock** forms the gentler **slopes**.

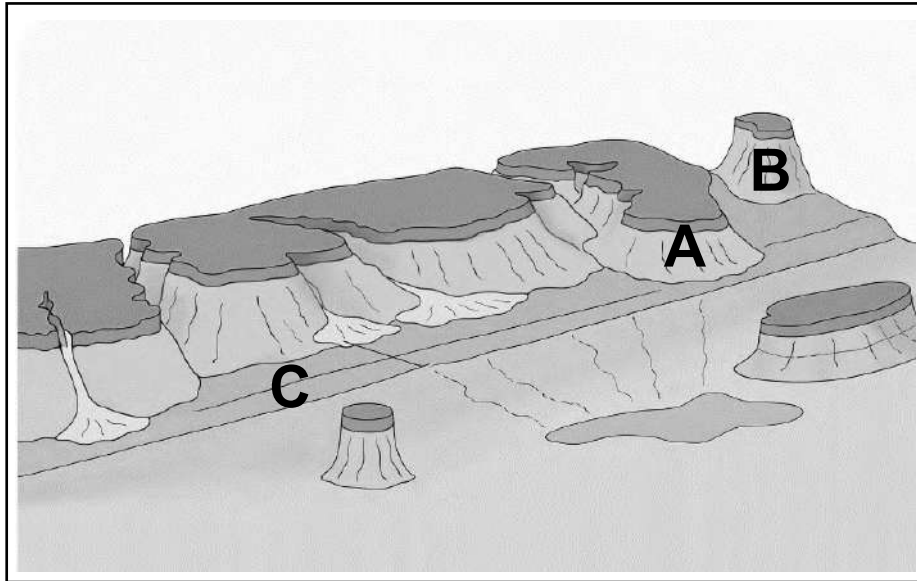
▪ UTILISATION OF CANYONS

- Canyons sometimes make very deep dams, often used for hydroelectric power.
- The surrounding plateau itself may be too dry to be of agricultural value.
- Impressive scenery makes canyons good tourist attractions.

▪ **KAROO LANDSCAPES**

- Karoo landscapes develop from **canyon landscapes**.
- Large areas are covered with horizontal layers.
- The plateau is protected by a **resistant hard rock** such as dolerite.
- Rivers erode **vertically**, forming canyons.

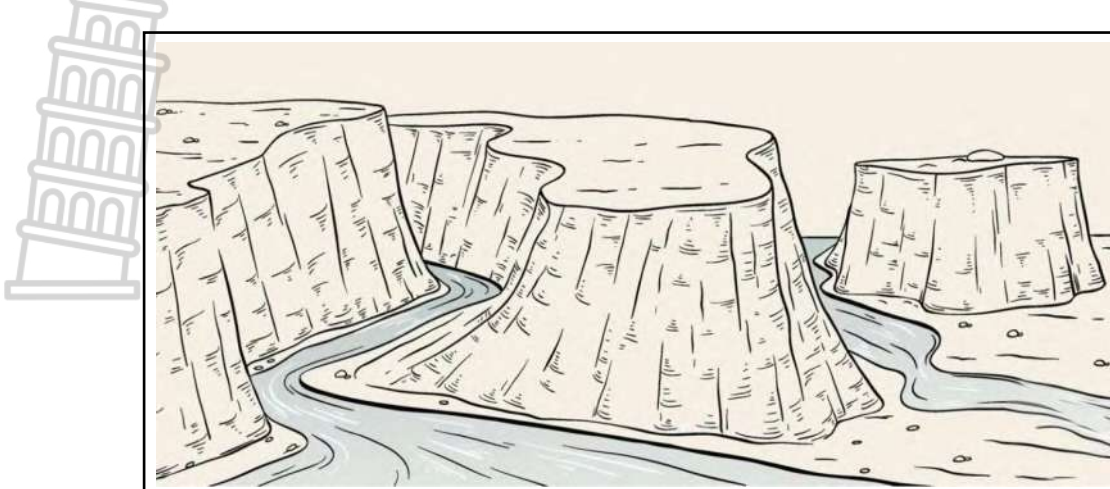
2.1 Refer to the diagram illustrating the Karoo landscapes.



[Source: <https://www.google.com/search?q=topography+associated+with+horizontally>]

2.1.1	Define the concept <i>resistant cap rock</i> .	(1 x 2)	(2)
2.1.2	Identify the following landforms: (a) Mesa (b) Butte (c) Pediment	(3 x 1)	(3)
2.1.3	How is a mesa formed from a plateau?	(2 x 2)	(4)
2.1.4	Explain how a butte is formed from a mesa.	(2 x 2)	(4)
2.1.5	Briefly explain the role of differential erosion in shaping the landscape.	(2 x 2)	(4)

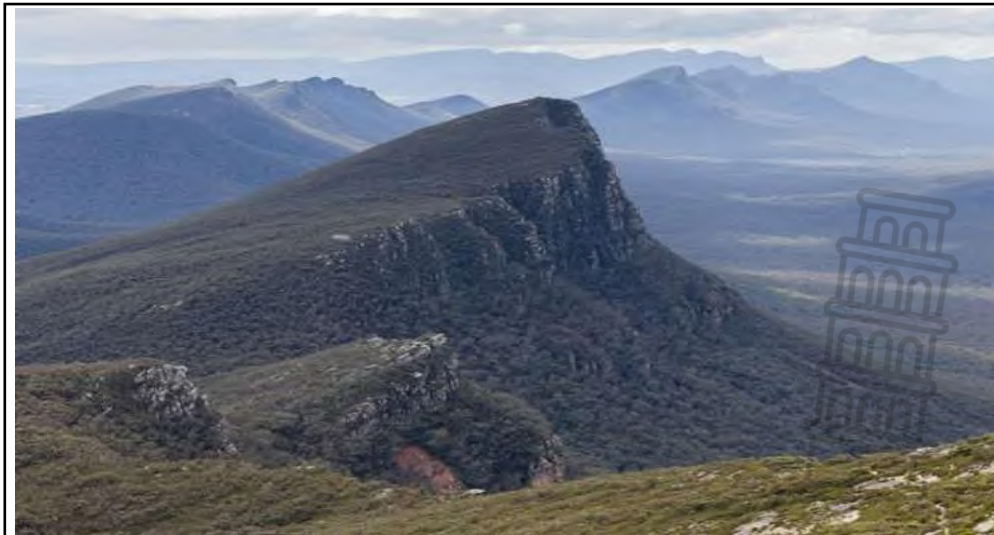
2.2 Refer to the diagram illustrating the Canyon landscapes.



[Source: <https://www.vecteezy.com/vector-art/2672729-sketch-of-plateau-canyon-landscape-scene>]

2.2.1	Define the concept <i>canyon landscape</i> .	(1 x 2)	(2)
2.2.2	Give TWO factors that influence the rate of erosion in a canyon landscape.	(2 x 1)	(2)
2.2.3	Explain the formation of canyons.	(2 x 2)	(4)
2.2.4	Describe the relationship between vertical and horizontal erosion in the development of a canyon.	(2 x 2)	(4)
2.2.5	Suggest ways in which human activities may accelerate erosion in such landscapes.	(2 x 2)	(4)

TOPOGRAPHY ASSOCIATED WITH INCLINED/TILTED ROCK STRATA



[Source: <https://alchetron.com/Cuesta>]

- ❖ Tilting rock strata refers to layers of sedimentary rock that were originally deposited horizontally but have since been moved into angled position by tectonic forces.
- ❖ Tilting move into a sloping position.

Why do strata tilt?

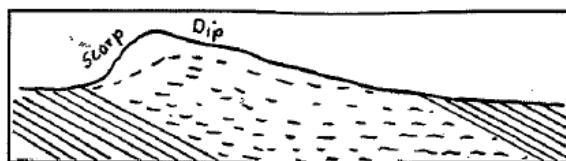
- Weight of deposited sediments
- Volcanic intrusions
- Tectonic movement (folding and faulting)

❖ Landforms that result from inclined strata



[Source: <https://www.scribd.com/document/725574268/Geomorphology-Tilted-Strata>]

When incline strata are exposed to erosion and weathering, they form asymmetrical ridge. The ridges have a dip and a scarp slope



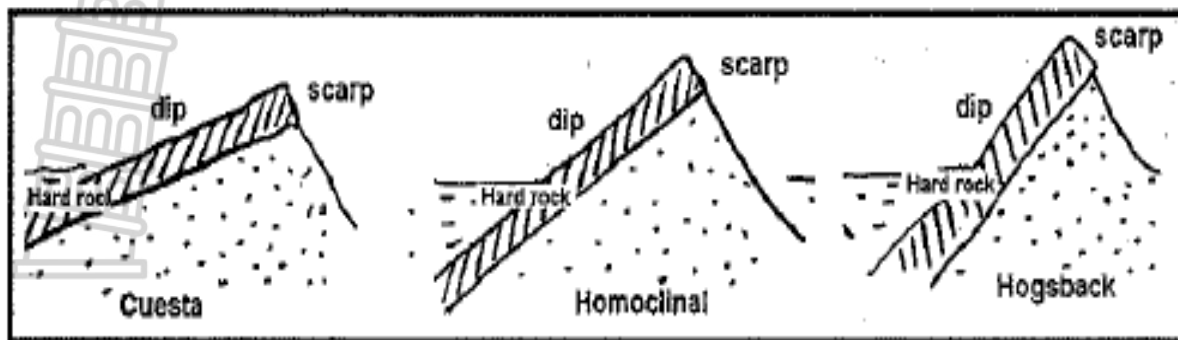
Scarp slope is a steep slope.

- More erosion.
- It forms when a hard rock weathers quickly

Dip slope is a gentle slope.

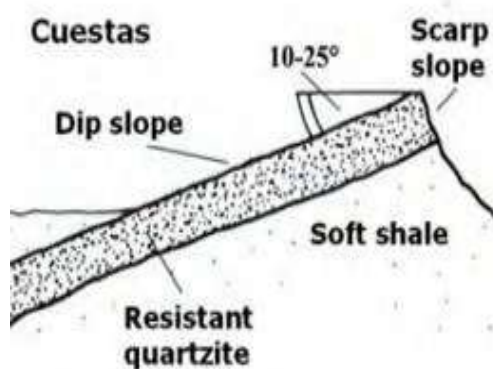
- Less erosion.
- It forms when a hard rock weathers slowly

Types of ridges



The angle of the dip slope determines the type of ridge that forms.

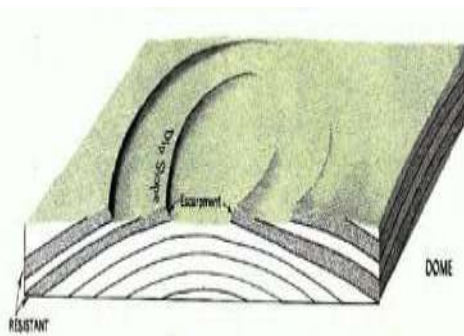
Cuesta



- Rock strata dips at an angle of between 10° and 25°.
- Significant difference between scarp and dip slope.
- Alternating layers of hard and soft rock can slope gently upward, eroding at the upper edge to form one or more cuestas in the ground. At the higher edge of the formation, soft rock erodes more easily than the hard rock layer above, forming a cliff or steep bank.

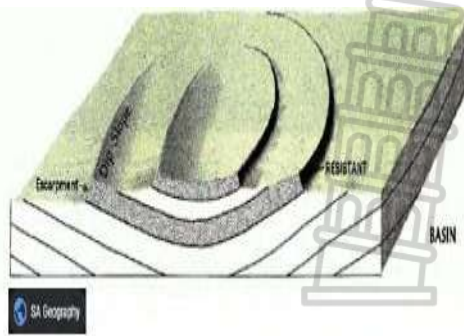
- If the strata have been tilted as a result of volcanic intrusions, it can form cuesta domes or cuesta basins

Cuesta dome



- It forms when rocks strata are folded upwards.
- The scarp slope dips towards centre of the dome.

Cuesta basin

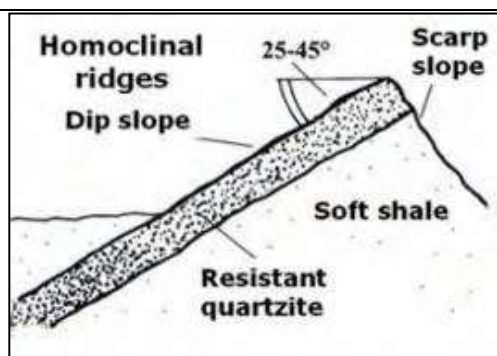


- It forms when rock strata fold downwards.
- The scarp slope dips towards the outside of the basin.

- The dip slope towards the outside of the dome.
- Less resistant rocks form the valleys of the dome.
- It is generally circular or oval in shape.

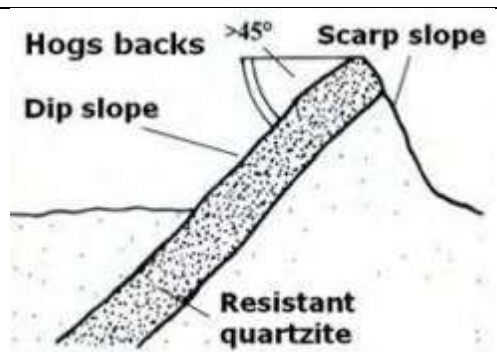
- The dip slope dips towards the inside of the basin.
- The less resistant rocks form the valleys of the basin.
- It is generally circular or oval

Homoclinal ridge



- Rock strata dips at an angle of between 25° and 45°.
- Compared to Cuestas the difference between scarp and dip slope is significantly less.
- Homoclinal ridge is a steeper or even cliff-like front slope (escarpment) that is formed by the outcrop of the cap rock.

Hogsback



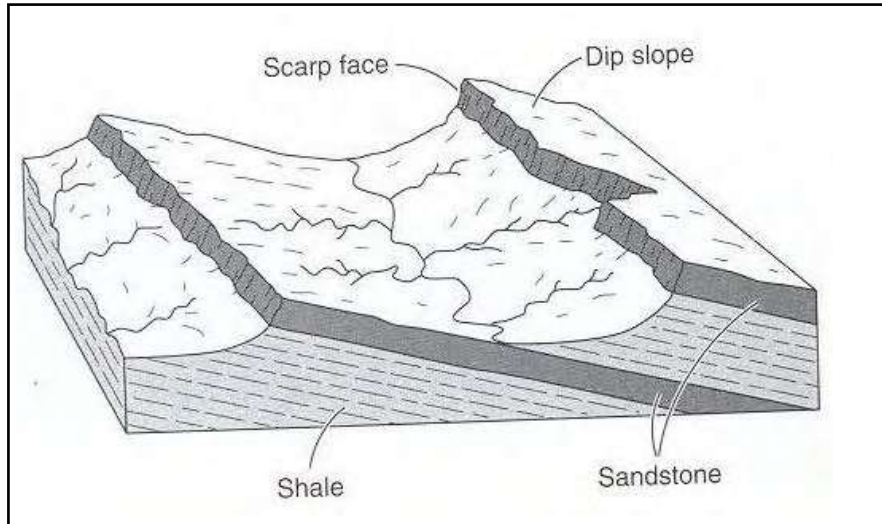
- Rock strata dips at an angle greater than 45°.
- There is very little difference between scarp and dip slope.
- It is usually created by erosion of soil and soft rock layers, exposing the upper portions of a line of hard rock formations.

Utilisation of Inclined/tilted rock strata

- Ridges make it difficult to construct transport networks.
- The scarp slope cannot be used for farming as it is too steep and rocky.
- Forestry is undertaken on a dip slope since it does not require fertile soils.
- Dips slopes are gentle therefore it is used for settlement.
- Cuesta basins have artesian wells that form oil traps
- Cuesta valleys used for farming

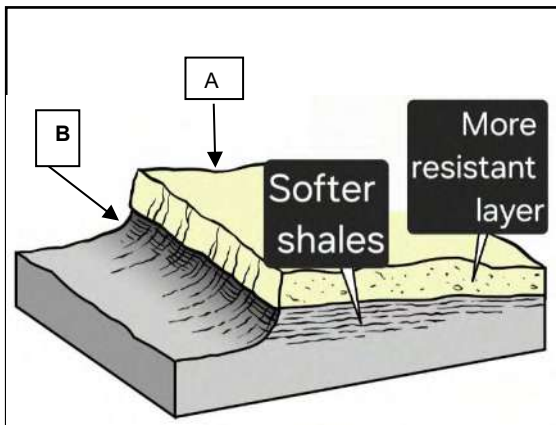
- Can be used for recreation e.g. the cuervas in the Magaliesberg. They have aesthetic appeal, hiking, abseiling etc.
- Dams can be built in the gap (a landform that is a low point or opening between hills or mountains) between homoclinal ridges.
- These gaps can also be used for transport infrastructure.

2.3 Refer to the diagram showing inclined landforms.



[Source: <https://earthathome.org/wp-content/uploads/2020/07/Cuesta-2000px-2.png>]

2.3.1	Based on the diagram, which rock type was eroded to create this landform?	(1 x 1)	(1)
2.3.2	What is the difference between the dip slope and scarp slope?	(2 x 2)	(4)
2.3.3	Name the tectonic processes that may have caused the landforms to be tilted.	(2 x 1)	(2)
2.3.4	Why is it difficult to farm in tilted or inclined landscape?	(2 x 2)	(4)
2.4	Refer to the infographic on the Ilungeni Mountains.		



Ilungeni Mountain is a prominent natural landmark situated in the Maphumulo Mbitane area of KwaZulu Natal, South Africa

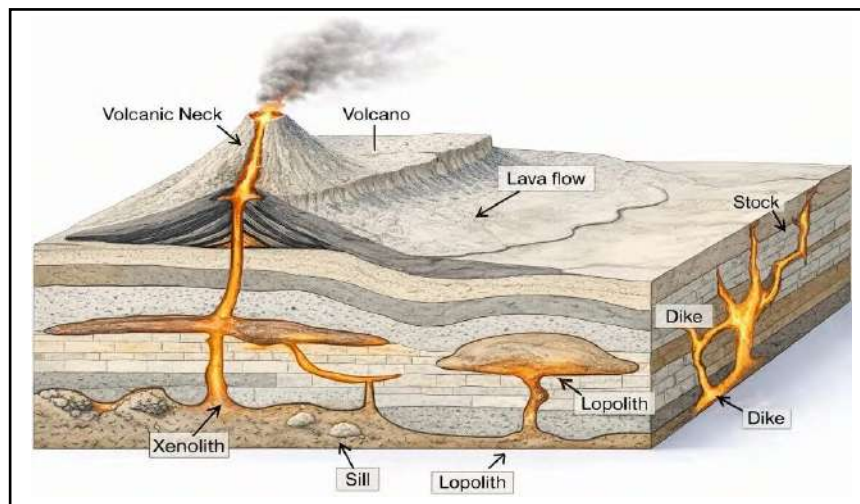
While many famous South African peaks like Table Mountains are known for their flat horizontal layers, iLungeni belongs to the category of landforms where the earth's crust has pushed the rock into an angle or "tilted", position.

[Source: <https://earthathome.org/wpcontent/uploads/2020/07/Cuesta-2000px-2.png>]

2.4.1	Identify the structural landform depicted (shown) in the infographic.	(1 x 1)	(1)
2.4.2	Name the slopes labelled A and B on the landform.	(2 x 1)	(2)
2.4.3	Which slope A or B will have a higher erosion rate? Explain your answer.	(1 + 2)	(3)
2.4.4	In a paragraph of approximately EIGHT lines describe the influence inclined strata has on settlement, transport routes, mining and agriculture.	(4 x 2)	(8)



MASSIVE IGNEOUS ROCKS (GRANITE LANDSCAPES)

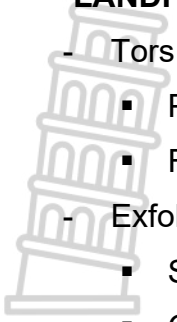


[Source: <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/lacololith>]

- Large, unlayered rock bodies formed when magma cools slowly beneath the Earth's surface.
- Also called intrusive igneous rocks
- Example: Granite
- **CHARACTERISTICS OF MASSIVE IGNEOUS ROCKS**
 - Hard and resistant to erosion
 - No visible layers (massive structure)
 - Form large underground bodies called batholiths
 - Cool slowly → large crystals (coarse texture)
- **FORMATION PROCESS**
 - Magma intrudes into the crust
 - Cools slowly underground
 - Crystallises into granite
 - Over time, erosion removes overlying rocks
 - Granite is exposed at the surface
- **WEATHERING OF GRANITE**
 - **Mechanical (Physical) Weathering**
 - Exfoliation (Onion-skin weathering)
 - Outer layers peel off due to pressure release and temperature changes
 - **Chemical Weathering**
 - Water reacts with minerals in granite
 - Leads to decomposition into softer material



▪ LANDFORMS ASSOCIATED WITH MASSIVE IGNEOUS ROCKS



- Tors
 - Piles of rounded boulders
 - Formed when weathered material is removed
- Exfoliation Domes
 - Smooth, rounded rock surfaces
 - Caused by peeling layers
- Corestones
 - Rounded blocks of granite formed below the surface
- Bornhardts
 - Large, dome-shaped hills of granite
- Jointing in Granite
- Granite develops joints (cracks) which influence weathering.
- Types of joints:
 - Vertical joints
 - Horizontal joints

☞ Water enters joints → speeds up weathering → forms landforms

Spheroidal Weathering

- Corners and edges weather faster than sides
- Produces rounded rocks (corestones)

Importance of Massive Igneous Landscapes

- Tourist attractions (scenic landscapes)
- Source of building materials (granite)
- Influence drainage patterns



2.5 Study the diagram of a massive igneous rock.



[Source: <https://www.geologyin.com/2024/11/exfoliation-weathering-causes-examples.html>]

2.5.1	Identify the landform shown in the diagram	(1 x 1)	(1)
2.5.2	State the type of igneous rock associated with this landform.	(1 x 1)	(1)
2.5.3	Describe TWO characteristics of massive igneous rocks.	(2 x 2)	(4)
2.5.4	Explain the process that leads to the formation of this landform.	(2 x 2)	(4)
2.5.5	Explain why this landform is resistant to erosion.	(2 x 2)	(4)

2.6 Refer to the image of massive igneous rocks below.



[Source: <https://www.internetgeography.net/geotopics/different-rocks-create-contrasting-landforms-and-landscapes/>]

2.6.1	Identify the landform shown.	(1 x 1)	(1)
2.6.2	Name the dominant rock type forming this landform.	(1 x 1)	(1)
2.6.3	Define the term " <i>joint</i> " in rocks.	(1 x 2)	(2)
2.6.4	Describe the role of weathering in the formation of this landform.	(2 x 2)	(4)
2.6.5	Discuss the impact of massive igneous rock landscapes on human activities.	(2 x 2)	(4)

2.7 Read the extract on igneous intrusions below.

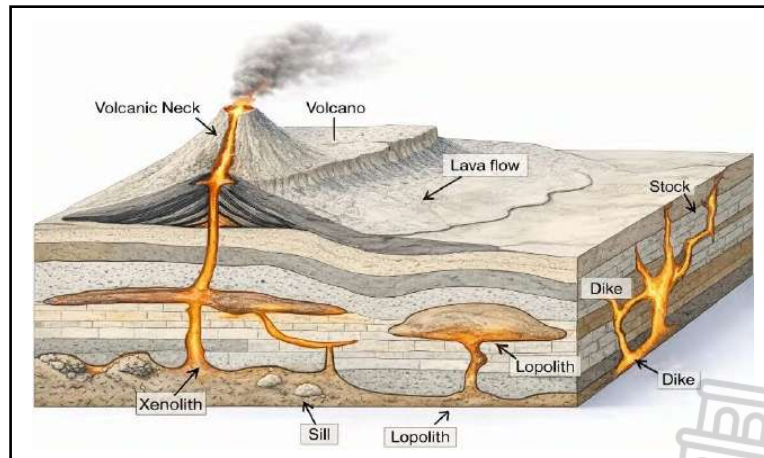
“Formed over 2 billion years ago, the Bushveld Igneous Complex in South Africa is one of the world's most famous examples of massive igneous intrusions. Originally believed to be a single giant lopolith, modern research shows it is a cluster of several lopoliths, some up to 8 km thick.

Because the magma cooled very slowly deep underground, minerals like platinum, chromium, and vanadium became concentrated in distinct layers. Today, these once-hidden rock bodies are exposed at the surface due to millions of years of erosion, creating resistant ridges and mountain ranges like the Magaliesberg.”

[Source:Adapted from <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/laccolith>]

2.7.1	Define the concept <i>massive igneous intrusion</i> .	(1 x 2)	(2)
2.7.2	According to the extract, give ONE example of an intrusive landform found in South Africa.	(1 x 1)	(1)
2.7.3	Differentiate between intrusive and extrusive igneous rocks.	(2 x 2)	(4)
2.7.4	Explain the formation of a batholith	(2 x 2)	(4)
2.7.5	Describe TWO impacts of igneous intrusions on the landscape.	(2 x 2)	(4)

2.8 Study the diagram of underground igneous features below.



[Source: <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/laccolith>]

2.8.1	Identify the following features: (a) Large dome-shaped intrusion that uplifts overlying rock layers. (b) Vertical sheet cutting across rock layers. (c) Horizontal intrusion parallel to rock layers.	(3 x 1)	(3)
2.8.2	Name the largest type of intrusive igneous body.	(1 x 1)	(1)
2.8.3	Briefly describe how a laccolith is formed	(2 x 2)	(4)
2.8.4	Explain TWO differences between a dyke and a sill.	(2 x 2)	(4)
2.8.5	Why are intrusive igneous rocks usually coarse-grained?	(2 x 2)	(4)

SLOPES

The slope is an inclined surface.

Slopes are formed by erosion, deposition and tectonic forces.

Contour lines are used to identify different types of slopes on topographic maps

Gentle slopes-contour lines are far apart.

Steep slopes-contour lines are close

Concave slope- steep uphill

Convex slope-steep down hill

Slope elements

Slopes can be divided into four slope elements, but not all slopes have all the elements.

1. Crest

- Top of the slope
- Convex in shape
- Soil creeps and weathering occur

2. Cliff

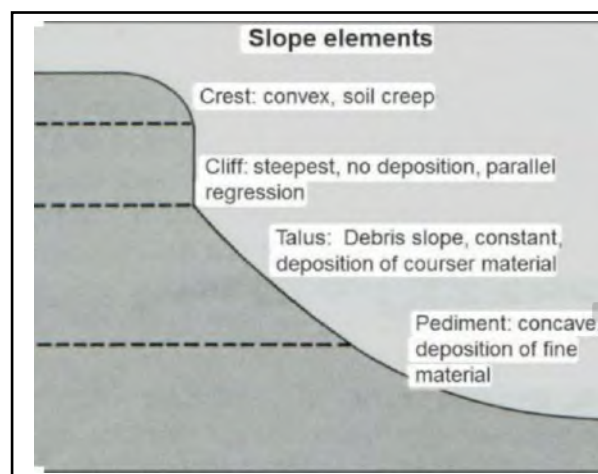
- Steep vertical slope
- Angle is greater than 80°
- Rockfalls

3. Talus

- Uniform slope
- Angle between 20° and 35°
- Debris accumulates here
- Break in gradient between the talus and the pediment is called the knickpoint

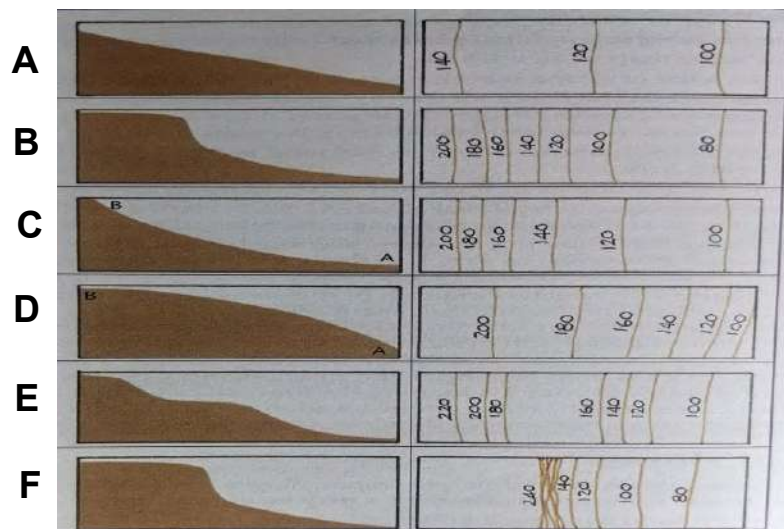
4. Pediment

- Flatter slope at the base and merges with the valley floor.
- Angle between 1° and 7°
- Covered in weathered material
- Suitable for farming



[Source: <https://share.google/wTdQFb1CHLp9h7zJu>]

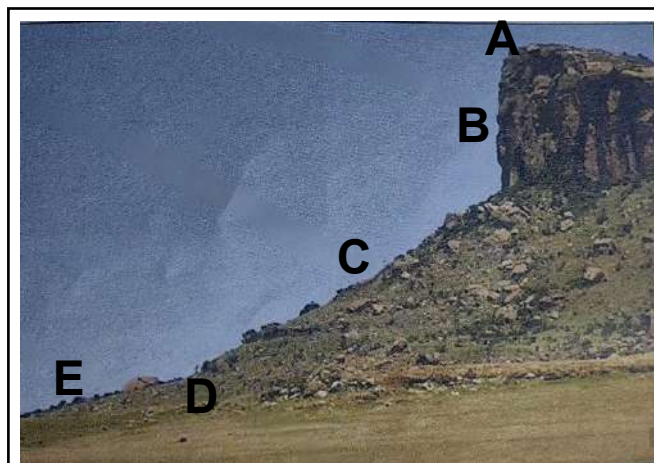
2.10 Study the diagram below and match it with the following slopes.



[Source: Solutions For All, Learner Book, Grade 11]

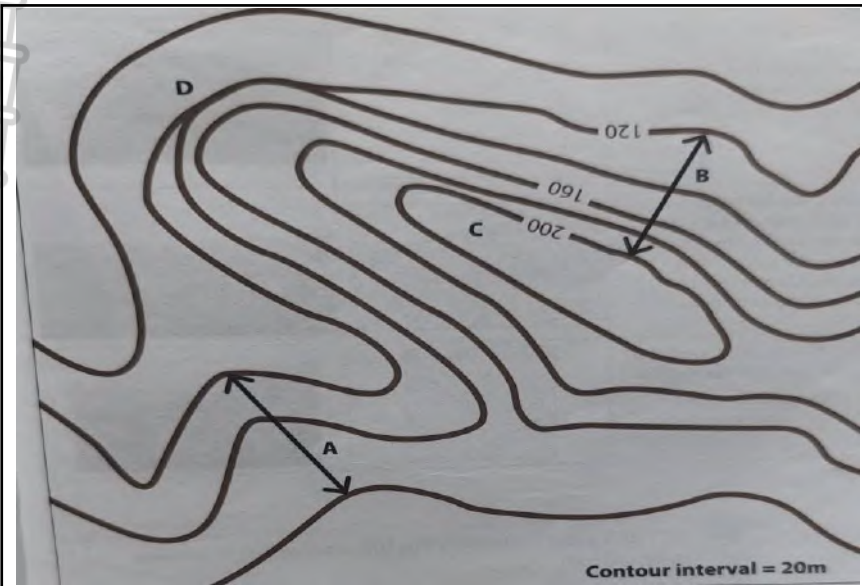
2.9.1	Convex slope		
2.9.2	Concave slope		
2.9.3	Cliff		
2.9.4	Gentle slope		
2.9.5	Steep slope		
2.9.6	Stepped slope		
2.9.7	Suitable for farming		
		(7 x 1)	(7)

2.10 Refer to the photograph on slopes.



[Source: Top Class Learner Book, Grade 11]

2.10.1	Identify the slope elements A – D .	(4 x 1)	(4)
2.10.2	The knickpoint is found at point (D/E)	(1 x 1)	(1)
2.10.3	B has a (convex/concave) shape.	(1 x 1)	(1)
2.10.4	In a paragraph of approximately EIGHT lines explain how slope D adds value to people.	(4 x 2)	(8)

2.11	Study the contour map below.		
			
[Source: Top class geography grade 11 learner's book]			
2.11.1	Name the type of slope found at A .	(1 x 1)	(1)
2.11.2	Give the height of the hill labelled C .	(1 x 1)	(1)
2.11.3	Draw a free hand cross section from B to C .	(2 x 1)	(2)
2.11.4	How do contour lines show that D is a cliff?	(1 x 2)	(2)
2.11.5	Calculate the vertical interval of the cliff.	(1 x 2)	(2)
2.11.6	Discuss the significance of the cliff in the area.	(3 x 2)	(6)
<p>Mass movement Movement of material downslope under the influence of gravity.</p> <p>Causes of mass movement</p> <ul style="list-style-type: none"> • High rainfall • Heavy snowfall • Deforestation • Mining • Dam construction • Road construction • Heavy traffic(trucks) • Urbanization • Dumping waste • Incorrect farming methods • Construction on steep slopes • Less resistant rock lies over resistant rock • Volcanoes • Earthquakes 			

Types of mass movement

Soil creep - Slow movement of soil downslope 1cm/year

Solifluction - Movement of top saturated soil on frozen ground
Between 5cm to 1m per year.

Mudflow - Rapid movement of saturated soil on steep slopes greater than 40°.

Landslide - An entire mass of material moves rapidly downslope.

Rockfalls - Rapid free fall or downslope rolling of rocks.

Evidence of mass movement

- Tilted poles
- Exposed roots of trees
- Pile of rocks and soil behind walls
- Fence or walls lean
- Gashes on roads
- Doors and windows begin to stuck
- Ground begins to bulge
- New cracks on tiles and windows

Impact of mass movement

Environment

- Destroys vegetation
- Disrupts ecosystems
- Destroys habitats
- Changes nature of slopes
- Block rivers
- Trigger floods

Social impact

- People can be killed or injured
- Damage homes/houses
- Settlements can be buried
- People can be isolated or stuck in one area

Economy

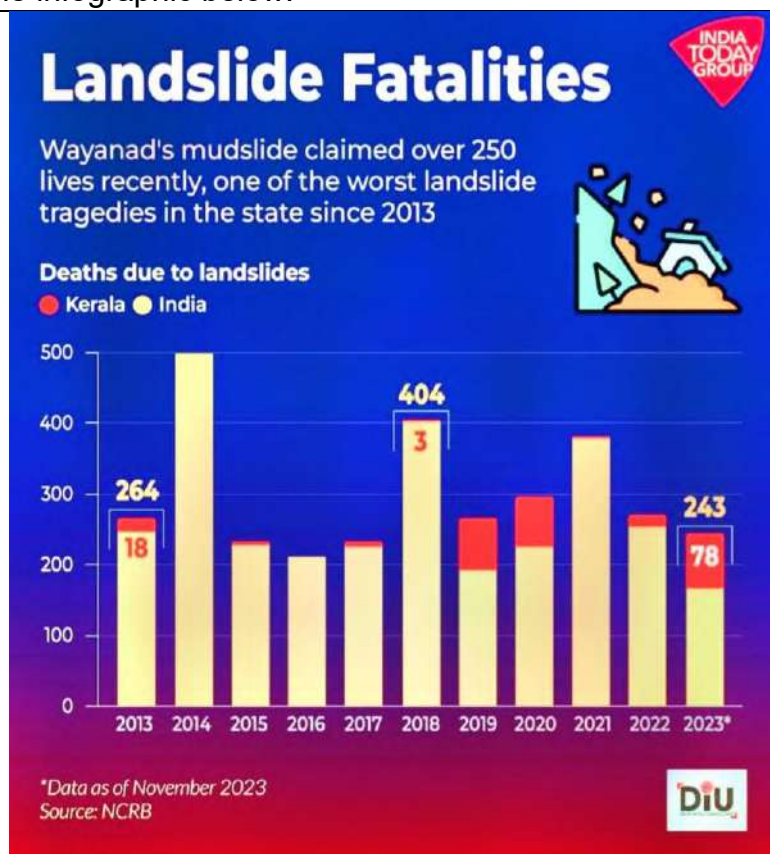
- Cover fertile soil
- Destroy crops
- Block dams
- Destroy roads and railways
- Damage buildings
- More insurance claims
- More expenditure for municipalities and government to fix the damage

Strategies to manage mass movements

- Improve drainage
- Plant vegetation
- Wire nets/wire mesh
- Rock bolts
- Spray a layer of concrete


- Build gabions
- Retaining walls
- Tunnels or canopies on roads in steep slopes
- Limit building on steep slopes
- Deeper foundations
- Identify high risk areas and avoid development on them
- Strict regulation
- Proper land use planning
- Environmental impact assessment before any development

2.12 Study the infographic below.

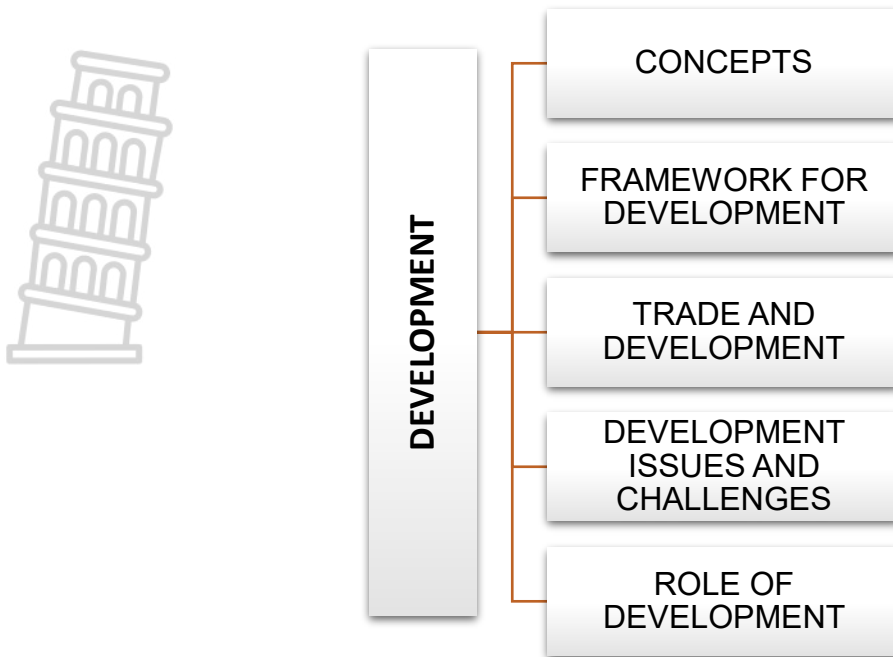


[Source:google image]

2.12.1	Define the concept <i>landslide</i> .	(1 x 2)	(2)
2.12.2	In which year were many deaths for India?	(1 x 1)	(1)
2.12.3	Calculate the range of fatalities for India and Kerala in 2023.	(1 x 2)	(2)
2.12.4	Suggest TWO reasons for the answer in 2.12.3	(2 x 2)	(4)
2.12.5	Discuss how landslides can affect the environment.	(1 x 2)	(2)
2.12.6	Explain how authorities in India can reduce the impact of landslides.	(2 x 2)	(4)

2.13	<p>Refer to the infographic on rockfalls.</p> <div data-bbox="304 264 1206 645" style="border: 1px solid black; padding: 5px;"> <p>ROCK FALL IN OUTENIQUA PASS AUGUST 2011 The Outeniqua Pass was closed on the 25 August 2011 owing to rockfalls. The pass is the main route between George and Oudsthoorn. The Helmetsrivier road, which was the alternative route between George and Oudsthoorn was also closed later on the same day owing to heavy rainfall and flooding of the Doring river. The town of George recorded 80mm of rain and Mossel Bay 60mm on the 24th.</p> <p>[Source: Adapted from Top class grade 11 learner's book]</p> </div> <div data-bbox="304 712 1190 1070" style="border: 1px solid black; text-align: center;">  </div> <p>[Source: Adapted from Top class grade 11 learner's book]</p>			
2.13.1	Define the following concepts			
	(a) mass movement	(1 x 2)	(2)	
	(b) rockfalls	(1 x 2)	(2)	
2.13.2	What evidence is there in the photograph to indicate that the type of mass movement has been a rock fall?	(1 x 2)	(2)	
2.13.3	Why is the Outeniqua Pass important for people and businesses?	(1 x 2)	(2)	
2.13.4	Explain why rockfalls took place along the pass?	(1 x 2)	(2)	
2.13.5	Discuss why the emergency services should have been on the alert on the 24th and 25th August.	(2 x 2)	(4)	

DEVELOPMENT GEOGRAPHY



CONCEPTS:

- **Development:** The use of resources and technology to bring about change, which is mainly associated with improvement of quality of lives and standard of living
- **Developed countries:** Countries with an economic base built on secondary and tertiary sectors rather than primary. Also known as **first world, Rich North, More Economically Developed Countries (MEDC)**
- **Developing Countries:** a non-industrialized, poor countries. Also known as **third world, poor south or Less Economically Developed Countries**
- **Newly Industrialised Countries/ emerging economies:** Developing countries that have transitioned from agricultural economy to more industrial economy
- **Economic growth:** the ability of the country to generate wealth through proper control and use of its resources
- **Development Indicators:** Are used to measure the level of development with regard to a country's economic, social and institutional growth. There are two main types: economic indicators and social indicators.
- **Industrialised:** the country is involved in manufacturing and processing of raw materials in factories. The more industrialised a country is the more developed the country will be.
- **Globalisation:** a process that leads to an integrated global economy and society.
- **Brandt line:** refers the line that separates the wealthy Global North rich and South poor. It is also known as North and South divide.

GLOBAL DIFFERENCES IN DEVELOPMENT

North –south divide: Refers to the difference in level of economic development

Rich North - Poor south

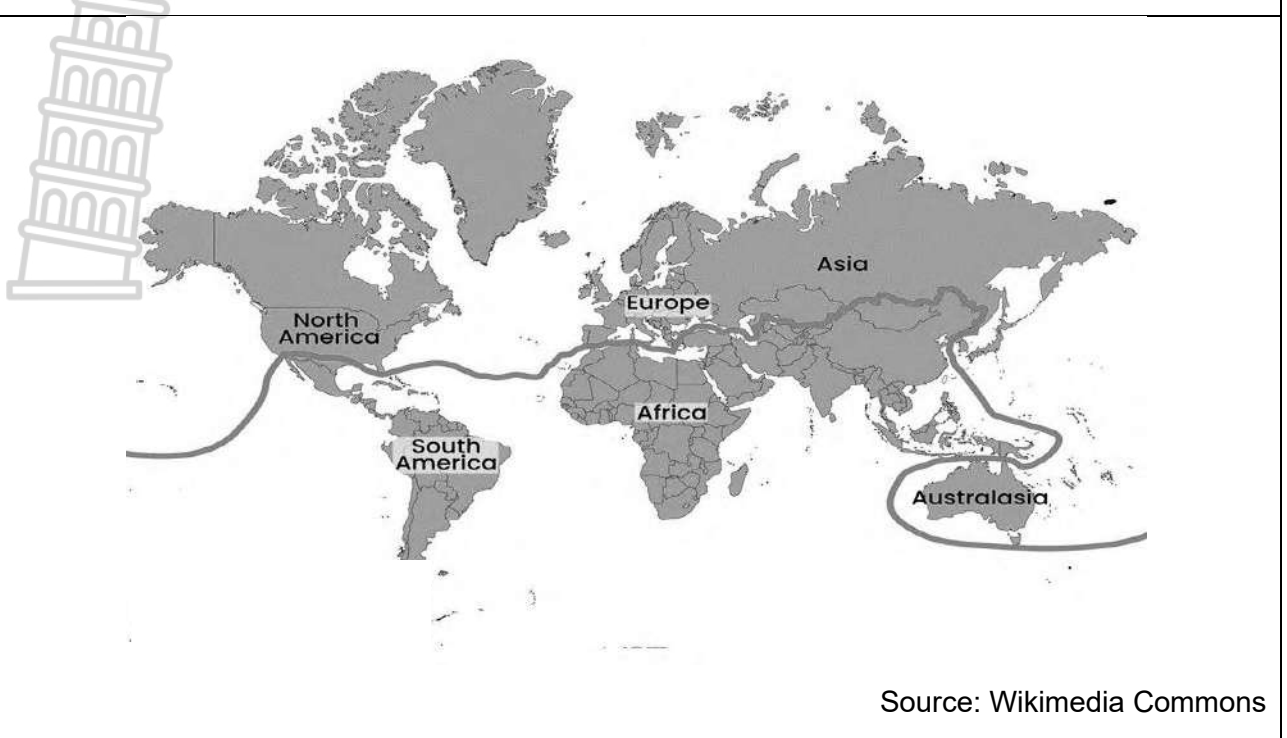
Industrialised - Non industrialised

High income - Low income

THE CONCEPT OF DEVELOPMENT:

Economic Development	Social development	Sustainable development
<ul style="list-style-type: none"> • Development concerned with economic wealth of a specific area, it includes development of human capita (education and training), infrastructure, regional competitiveness (trade) and environmental sustainability. 	<ul style="list-style-type: none"> • Concern with aspect like level of education, standard of living, gender inequality, access to basic services and control of diseases. • Promotion of a sustainable working society that is worthy of human dignity by empowering marginalised groups through eradication of poverty, employment generation and social harmony 	<ul style="list-style-type: none"> • A type of development that meets the needs of the present without compromising the abilities of the future generations to meet their own, it includes the wise use of resource to ensure that the future generation is not deprived of the same resources.

ACTIVITY 3.1: Refer to the following image showing Brandt line.



Source: Wikimedia Commons

3.1.1	What is a Brandt line?	(1 x 2)	(2)
3.1.2	Name ONE continent located south of the Brandt Line.	(1 x 1)	(1)
3.1.3	What is meant by “more economically developed countries”?	(1 x 2)	(2)
3.1.4	Explain ONE reason why most of the world’s population is found south of the Brandt Line.	(1 x 2)	(2)
3.1.5	Briefly discuss why countries like China do not fit neatly into one category of the Brandt Line.	(2 x 2)	(4)
3.1.6	Evaluate the relevance of the Brandt Line in the modern world.	(2 x 2)	(4)
			[15]

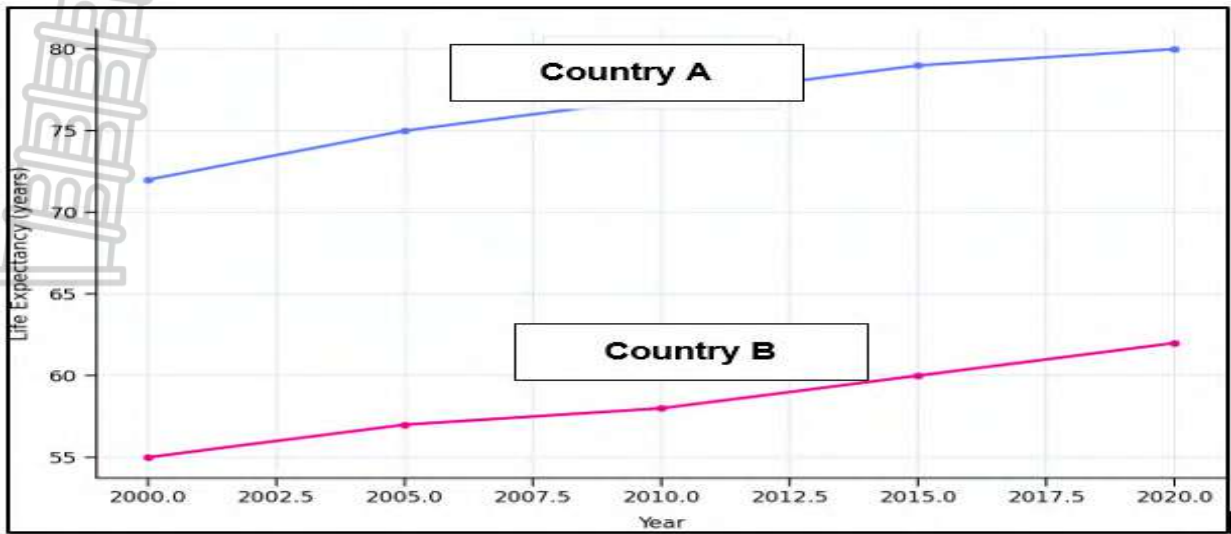


INDICATORS OF DEVELOPMENT:

- Development means different things to different people therefore it is difficult to measure it exactly. Geographers use different indicators to compare the level of development between places.

ECONOMIC INDICATORS	SOCIAL INDICATORS	DEMOGRAPHIC INDICATORS
<ul style="list-style-type: none"> • These indicators show how the level of human development, welfare and quality of life in a country. • The Human Development Index (HDI) measures wealth, education and health. It includes three other indicators: GDP per capita, education and life expectancy. • Life expectancy is an average year a person is expected to live. It also known as lifespan. Literacy is the percentage of population over age of 15 who can read and write. 	<ul style="list-style-type: none"> • Human Development Index (HDI): it measures the standard of living of people and combines life expectancy, level of education and GDP per capita. <i>Zero (0)</i> indicate the worse possible quality of life. While <i>One (1)</i> shows an almost perfect. 	<ul style="list-style-type: none"> • Life expectancy: the average number of years a person is expected to live, it is higher in developed countries and lower in developing countries • Infant mortality: The number of deaths of infants less than 1-year-old per 1 000 live births in a given year.

LIFE EXPECTANCY TRENDS FOR COUNTRY A AND COUNTRY B (2000–2020)



[Source: Adapted from general life expectancy data such as World Bank/WHO/Our World in Data.]

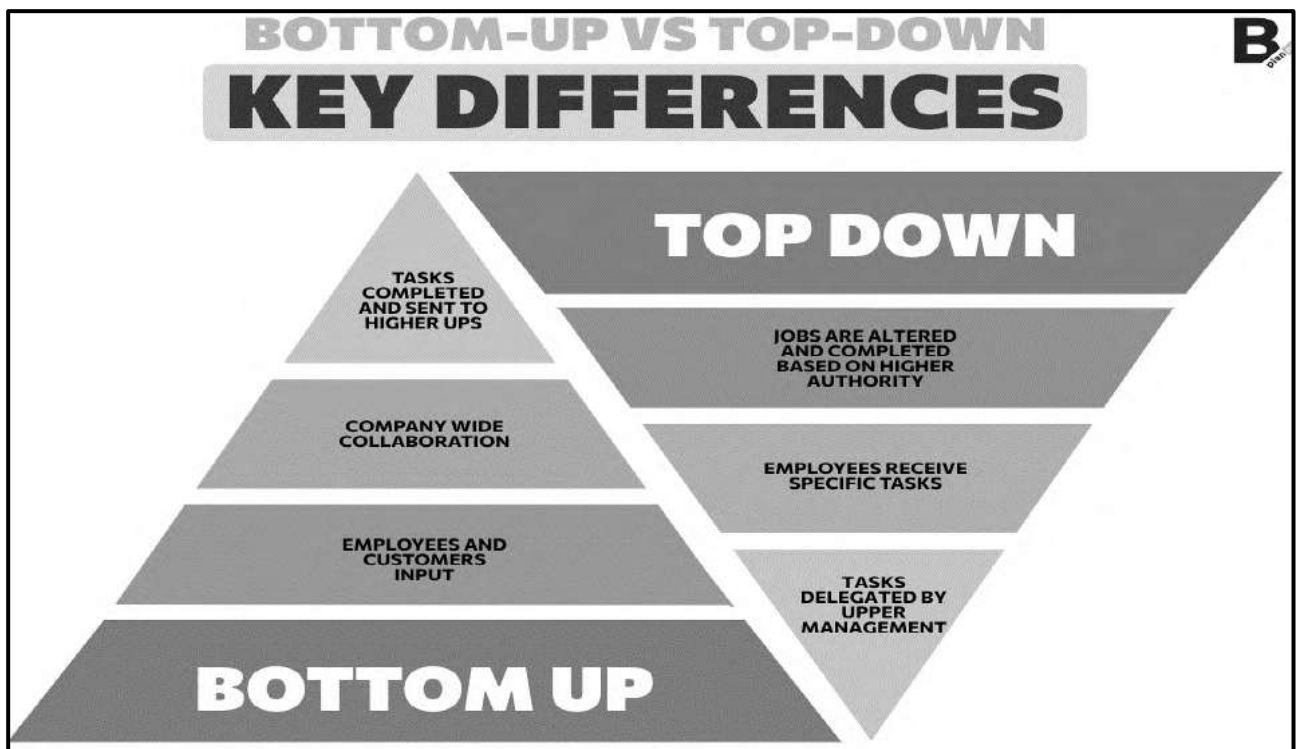
3.2.1	Identify the country with the highest life expectancy in 2020.	(1 x 1)	(1)
3.2.2	Describe the overall trend in life expectancy for Country B.	(1 x 2)	(2)
3.2.3	Calculate the difference in life expectancy between Country A and Country B in 2020.	(1 x 2)	(2)
3.2.4	Explain ONE reason why Country A has a higher life expectancy than Country B.	(1 x 2)	(2)
3.2.5	Discuss TWO links between life expectancy and level of development.	(2 x 2)	(4)
3.2.6	Comment on the reliability of life expectancy as a single indicator of development.	(2 x 2)	(4)
			[15]

EXAMPLES OF DEVELOPMENT FROM DIFFERENT CONTEXTS		
Local scale	Regional scale	Global scale
<ul style="list-style-type: none"> The local area is the area where you live, village, suburb or town. The local people are people living in a small area. Local context is a small-scale development it can be an individual or group of people. 	<ul style="list-style-type: none"> Region is an area with similar characteristics which differ from other areas. Its scale is much bigger than local scale it be can two or more countries with similar position. 	<ul style="list-style-type: none"> The globe is another name for world. It is difficult to improve the quality of life for more than eight billion of people living on Earth. The United Nations (UN) is a global organisation established to maintain peace and security among nations, and promote better standard of living throughout the world

FRAMEWORK FOR DEVELOPMENT	
<u>Factors that affect development:</u>	
Access to resources	Energy supply
<ul style="list-style-type: none"> Access to resources and natural resources is limited. Development requires resources such as water, coal, land and human resources. If resources are absent or run out, development will not be successful. Natural resources run out which make development impossible. 	<ul style="list-style-type: none"> Development needs energy supply such as electricity. The energy is expensive this day therefore development can be badly affected.
Historical background	Trade imbalances
<ul style="list-style-type: none"> Colonisation led to the extraction of resources from certain countries by developed countries. Multi-national companies exploit resources from underdeveloped countries. 	<ul style="list-style-type: none"> A trade imbalance exists if a country buys more than it sells.

COMMUNITY BASED DEVELOPMENT

- Development is about people. People make up the communities and people bring up successful development. Some governments agencies decide what is best for community. The government approach to people is called TOP-DOWN APPROACH.
- This approach sometimes is not successful because it does not meet the need of the community. Community based approach is community driven. Agencies work hand in hand with local people. This is called BOTTOM-UP APPROACH



<http://b-planno.com>

ACTIVITY 3.3: Study the case study below on Lesotho Highland Water Project.

LESOTHO HIGHLANDS WATER PROJECT (LHWP) PHASE II

The Lesotho Highlands Water Project (LHWP) Phase II is a large-scale transboundary regional development project involving Lesotho and South Africa. By September 2025, the project was approximately 48% complete, despite delays caused by rising costs, environmental constraints and compensation challenges.

The project involves the construction of the Polihali Dam, a 38 km water-transfer tunnel, access roads and bridges in the mountainous regions of Lesotho. Once completed, water transfers to South Africa's Gauteng region are expected to increase from 780 million cubic metres per year to approximately 1 270 million cubic metres per year, supporting industries, mining and urban settlements.



Source URLs: Engineering News (2025): <https://www.engineeringnews.co.za/article/flowing-ahead-2025-09-19>

3.3.1	Define the concept <i>community-based development</i> .	(1 x 2)	(2)
3.3.2	Identify the government programme responsible for the Vukuyibambe initiative.	(1 x 1)	(1)
3.3.3	Give TWO socio-economic benefits of the Vukuyibambe EPWP programme for local communities.	(2 x 2)	(4)
3.3.4	Explain ONE way in which this programme reflects the principles of community-based development.	(1 x 2)	(2)
3.3.5	Discuss TWO challenges that may limit the long-term success of the programme in QUESTION 3.3.2.	(2 x 2)	(4)
3.3.6	Evaluate whether the Vukuyibambe EPWP can be regarded as a sustainable or not sustainable community-based development initiative.	(1 x 2)	(2)
			[15]

TRADE AND DEVELOPMENT

WHAT IS INTERNATIONAL TRADE?

Refers to the exchange of goods and services between countries.



What are imports?

Goods that are bought into the country.

What are exports?

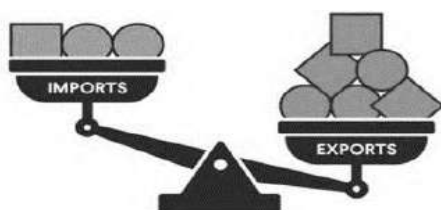
Goods that are sold out of a country.

What is the balance of trade?

Refers to the difference in value between a country's imports and exports.

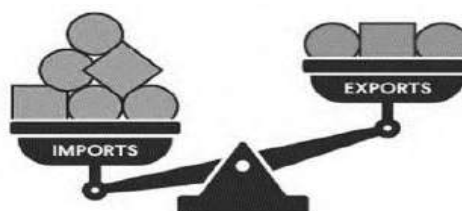
Positive trade of balance

When the value of exports is greater than the value of imports.



Negative trade of balance

When the value of imports is greater than the value of exports.



TYPES OF TRADING REALATIONSHIPS

Free trade

The movement of goods, capital and labour without regulations/controls (barriers).



<https://www.free-trade0!?.com>

Trade barriers

Regulations/policies that restrict international trade, tariffs, quotas and subsidies.



shutterstock.com - 2601602577

Fair trade

Trade between LEDCs and MEDCs in which fair prices are paid to the producers.



<http://www.development3#0.com>

ACTIVITY 3.4: Refer to the image below based on South African trade relationships.



BALANCING CONSUMER GAINS AND LOCAL INDUSTRY COSTS

Major online retailers* Shein and Temu have rapidly expanded their presence in South Africa. Since entering the market in 2020 and 2023 respectively, they have captured over a third of online clothing sales, and in 2024, generated an estimated R7,3 billion.

Their success was driven by South Africa's previous customs relief system, which let imports under R500 be charged only a 20% import duty (tariff) without VAT. This kept prices low and allowed them to sell goods much cheaper than local competitors.

It has now been proposed to the South African government that customs relief be removed so that every imported item will be charged both the 20% import duty (tariff) and the 15% VAT.

* Online retailer: business that sells goods to consumers over the internet

[Adapted from <https://dailyinvestor.com/retail>]

3.4.1	Define the concept <i>international trade</i> .	(1 x 2)	(2)
3.4.2	In which country are Temu and Shein products imported from?	(1 x 1)	(1)
3.4.3	According to the extract, what economic advantage do online retailers have over local South African companies?	(1 x 2)	(2)
3.4.4	Explain how local consumers benefit when buying from these international online retailers.	(1 x 2)	(2)
3.4.5	In a paragraph of approximately EIGHT lines, explain why South Africa has considered changing trade agreement terms.	(4 x 2)	(8)
			[15]

ACTIVITY 3.5: Read the following case below on trade barriers.

TRADE BARRIERS IN SOUTH AFRICA’S POULTRY INDUSTRY (2025)



South Africa’s poultry industry has requested an increase in tariffs on imported chicken in order to protect local producers. Imported chicken, mainly from countries such as Brazil and the European Union, is often cheaper due to large-scale production and subsidies.

Local producers argue that these imports are harming the domestic industry and threatening jobs. They believe that increasing tariffs will make imported chicken more expensive and allow local businesses to compete more effectively.

Adapted from a news article: “Chicken could become more expensive if industry’s tariff request gets go-ahead” (2025)

3.5.1	Define the concept <i>trade barrier</i> .	(1 x 2)	(2)
3.5.2	Name TWO countries that export chicken to South Africa.	(2 x 1)	(2)
3.5.3	Why do South African poultry farmers want higher tariffs on the imported chicken?	(1 x 2)	(2)
3.5.4	Explain how increasing tariffs would affect: (a) Local poultry producers (b) Consumers	(2 x 2)	(4)
3.5.5	Briefly explain how the THREE trade barriers: tariffs, quotas, and subsidies help to protect local businesses.	(3 x 2)	(6)
			[15]

ACTIVITY 3.6: Study the case study based on trade relations.

US and China agree to reduce tariffs for 90 days

Following trade talks in Geneva, the US and China have reached an agreement to lower tariffs for 90 days. The US has agreed to cut tariffs imposed on China in April from 145% to 30% (a 10% baseline and 20% IEEPA). Earlier tariffs will remain in place, including 20% levied on China for fentanyl production, bringing the effective average rate to approximately 49%. China has agreed to lower duties on US imports to 10%, in addition to rolling back other retaliatory measures, including the restrictions on sales of rare-earth minerals, with an effective overall rate of approximately 31%.





12 May — United States and China

<https://www.ussc.edu.au/economic-security->

3.6.1	Define the concept <i>trade tariff</i> .	(1 x 2)	(2)
3.6.2	According to the case study, what is the decrease in percentage on US imports by China.	(1 x 1)	(1)
3.6.3	How does the decrease in tariffs by USA will benefit China's economy.	(2 x 2)	(4)
3.6.4	In a paragraph of EIGHT lines, explain why the increase in tariffs by USA can be considered as unfair trade.	(4 x 2)	(8)
			[15]

GLOBALISATION

WHAT IS GLOBALISATION?	
<ul style="list-style-type: none"> Refers to the process of increasing interconnectedness and interdependence of countries and economies. This includes the flow of goods, ideas and values across national boundaries. 	
Key components of globalisation	
<ul style="list-style-type: none"> Political, economic, communication, cultural 	
Positive effects of globalisation	Negative effects of globalisation
<ul style="list-style-type: none"> The movement and sharing of information, knowledge and expertise. Improvements in local productivity promote prosperity. Improvement of national standards for variables such as education and health. 	<ul style="list-style-type: none"> The loss of employment in manufacturing in developed countries. Local economies may be more vulnerable to fast changes in the international economy.

<ul style="list-style-type: none"> Increases the variety of goods available to the world market. Provides a bigger range of markets for internationally sourced products. 	<ul style="list-style-type: none"> Increased centralisation of power in the hands of large transactional corporations. The local of industry in less developed countries, for many reasons, often leads to environmental degradation.
NEGATIVE EFFECTS OF GLOBALISATION ON THE ENVIRONMENT	
<p>Deforestation</p> <ul style="list-style-type: none"> Cutting down of trees 	 <p>https://www.google.chrome/imgres?.com</p>
<p>Air pollution</p> <ul style="list-style-type: none"> Presence of substances in the air that are harmful to humans, other living beings or environment. 	 <p>https://www.google.com/imgres?q</p>
<p>Water pollution</p> <ul style="list-style-type: none"> Contamination of water bodies such as lakes, rivers, oceans etc. 	 <p>https://www.google.com/imgres?q</p>
<p>Global warming</p> <ul style="list-style-type: none"> Increase in average temperatures. 	 <p>https://www.google.com/imgres?q</p>

EXPORT-LED DEVELOPMENT

- Refers to an economic strategy focused on promoting economic growth by increasing a country's exports of goods and services.



- It involves prioritizing export-oriented industries and often includes government support to boost competitiveness and access to international markets.
- The core idea is that expanding exports can drive overall economic growth, create jobs and generate foreign exchange.

ACTIVITY 3.7: Study the cartoon below on globalisation.



<https://visi.co.za/cool-spaces-maxhosa-africa-store-in-cape-town/>

3.7.1	Define the concept <i>globalisation</i>	(1 x 2)	(2)
3.7.2	According to the cartoon, who benefits the most from Globalisation?	(1 x 1)	(1)
3.7.3	Substantiate your answer to QUESTION 3.7.2 with evidence from the cartoon.	(1 x 2)	(2)
3.7.4	Evaluate TWO negative impacts that African countries experience due to globalisation.	(2 x 2)	(4)
3.7.5	“South African brands such as Maxhosa and GalxBoy, cannot compete with international brands”. Suggest any THREE sustainable measures that South African government should put in place in order to assist locally produced goods to compete internationally.	(3 x 2)	(6)
			[15]

ACTIVITY 3.8: Study the photograph below on the impact of globalisation.



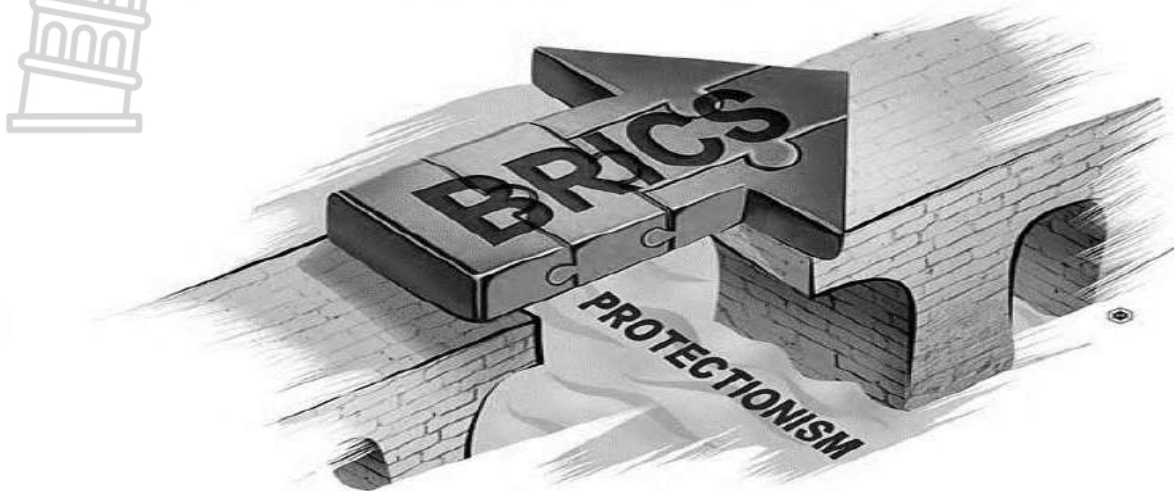
[source: <https://www.global-warming.com>]

3.8.1	Define the concept <i>deforestation</i> .	(1 x 2)	(2)
3.8.2	Explain how globalisation can lead to deforestation.	(1 x 2)	(2)
3.8.3	Discuss any TWO negative effects of globalization on the environment.	(2 x 2)	(4)
3.8.4	In a paragraph of approximately EIGHT lines, discuss strategies that can be implemented to reduce the negative effects of globalisation on the environment.	(4 x 2)	(8)
			[16]



ACTIVITY 3.9: Study the infographic below on free trade.

BRICS A STRONGER BLOC FOR DEFENDING FREE TRADE



BRICS is an acronym for the developing nations of Brazil, Russia, India, and China – countries believed to be the future dominant suppliers of manufactured goods, services, and raw materials by 2050. China and India will become the world’s dominant suppliers of manufactured goods and services, respectively, while Brazil and Russia will become similarly dominant as suppliers of raw materials. As of 2010, South Africa joined the group, which is now referred to as BRICS.

A meeting of the BRICS trade bloc made it clear that China, with a relatively abundant supply capacity of medical resources, like vaccines, could effectively help these countries come out of the pandemic as soon as possible. In the entire history of the BRICS agreement, there has never been a more challenging time before for all five nations to divert resources towards collective action.

3.9.1	Name the trade block referred to in the extract	(1 x 1)	(1)
3.9.2	Name any TWO member countries of BRICS that are in the northern hemisphere	(2 x 1)	(2)
3.9.3	What is trade protectionism	(1 x 2)	(2)
3.9.4	How do the BRICS countries apply protectionism to look after the interests of the trade bloc?	(1 x 2)	(2)
3.9.5	Explain how being a member of the BRICS trade bloc could assist South Africa in recovering from the negative economic effects caused by the Covid-19 pandemic.	(2 x 2)	(4)
			[15]

ROLE OF DEVELOPMENT AID

WHAT IS DEVELOPMENT AID?

Refers to aid given by governments and other agencies to support the economic, environmental, social and political development of other countries.

THREE TYPES OF DEVELOPMENT AID

BILATERAL AID

This includes grants, loans and technical assistance.

MULTILATERAL AID

Assistance given by large organisations such as the United Nations, World Bank.

CONDITIONAL AID

Has performance conditions attached to it.

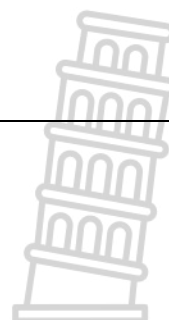
IMPACT OF DEVELOPMENT AID

POSITIVE IMPACT

- Contributes to the training of personnel and builds technical expertise.
- Provides humanitarian relief.
- Encourages industrial development and creates jobs and improves infrastructure.
- Supports better economic and social policies.
- Provides resources for investment and finance projects.
- Supports countries to develop their natural resources and power supplies.
- Provides development of clean water and sanitation.

NEGATIVE IMPACT

- Poor countries may struggle to repay loans.
- Aid does not reach the people who need it the most.
- Corruption – politicians use aid money for their own.
- Sometimes aid is tied to the purchase of goods from the donor country.



ACTIVITY 3.10: Choose the correct word(s) from those given in brackets. Write **ONLY** the correct word(s) next to the question numbers. (3.10.1 to 3.10.2), e.g., 3.10.1 trade.

3.10.1	(Humanitarian / Development) aid refers to aid spent in a manner that is expected to promote development, whether achieved through economic growth or other means.	
3.10.2	(Multilateral / Bilateral) aid is given directly from one country to another country.	
3.10.3	(Humanitarian/Development) aid refers to the short-term aid which is given to people in distress.	
3.10.4	(Non-governmental/intergovernmental) organisations are private, voluntary organisations formed by individuals or a group of people who donate money services and goods.	
3.10.5	(Multilateral/Bilateral) aid is a form of aid given by large organisations such as the United Nations, World Bank and international Monetary Fund.	
3.10.6	(Project/programme) aid is the aid given to a specific sector, e.g., funding for the health sector of a country.	
3.10.7	Aid given to countries, usually with conditions of repayment, is referred to as (conditional aid/unconditional aid) .	
3.10.8	(Technical/Medical) aid is the form of aid involving educated or trained personnel who are moved to a developing country to address social problems.	
		(8 x 1) [8]

ACTIVITY 3.11: Study the cartoon below on humanitarian aids.



3.11.1	Define the concept <i>humanitarian aid</i> .	(1 x 2)	(2)
3.11.2	Does the man offering humanitarian aid representing More Economical Developed Countries (MEDCs) or Less Economically Developed Countries (LEDCs)?	(1 x 1)	(1)
3.11.3	Substantiate your answer in QUESTION 3.11.3	(1 x 2)	(2)
3.11.4	Explain ONE disadvantage of humanitarian aid.	(1 x 2)	(2)
3.11.5	In a paragraph of approximately EIGHT lines, explain why humanitarian aid has more benefits for Less Economically Developed Countries.	(4 x 2)	(8)
			[15]

RESOURCES AND SUSTAINABILITY

CONCEPTS:

- **Conventional energy Sources:** these are traditional resources include fossil fuels (coal, oil and natural gas), and nuclear power.
- **Fossil fuel:** fuels that have taken millions of years to form, e.g. oil and coal.
- **Geothermal energy:** the energy produced by using the heat of underground rocks and water.
- **Green economy:** refers to the sustainable exploitation of clean forms of energy that do not cause environmental degradation.
- **Greenhouse gases:** refers to gases that add to the increase in temperature of the atmosphere.
- **Hydroelectric power:** refers to electricity produced by using the force of running water.
- **Nuclear energy:** refers to the energy produced by nuclear reaction.
- **Renewable energy:** refers to an energy that comes from natural sources that are constantly replenished
- **Soil erosion:** refers to a gradual or rapid removal of topsoil by agents of water, wind or melting glaciers
- **Solar energy:** refers to the energy produced by the heat of the sun's rays. Thermal energy is creating using a resource that creates heat, (coal) called a fossil fuel.
- **Sustainability:** refers to the ability to maintain or support processes over time without depleting natural resources, ensuring long-term ecological, economic and social health
- **Thermal power:** type of energy convectional energy derived from coal
- **Uranium:** a non- renewable material used to produce nuclear power.
- **Watt:** one unit of electrical power.
- **Wind energy:** the energy produced by using the wind to drive turbines and produce electricity

SOIL AND SOIL EROSION

1. Soil:

A layer formed when rocks breakdown into progressively smaller particles.

Soil erosion:

A gradual or rapid removal of topsoil by agents of water, wind or melting glaciers

2. Causes of soil erosion

Deforestation: leaves the soil exposed and more vulnerable to erosion.

Heavy rains: increase surface run-off, which washes away topsoil.

Overgrazing: reduces vegetation cover, loosening soil and making it to erode.

Poor farming practise:

(monoculture, over-cultivation, downslope ploughing) weakens soil structure and increases risk of erosion.

3. Effects of soil erosion

Reduced agricultural yield: poor soil quality leads to lower food production.

Rise in food prices: due to lower food production

Food insecurities: as a result of lower production which may trigger starvation, malnutrition and hunger.

Increase cost of production: farmers has to use scientific method of farming.

Negative trade balance: more importation of food and less export.

Sedimentation of rivers and dams: eroded soil is deposited in water bodies, reducing water storage capacity and affecting aquatic life.

4. Management strategies to prevent soil erosion

Afforestation: planting trees and restoring vegetation cover protects soil from wind and water erosion.

Contour ploughing: reduces excessive surface run-off.

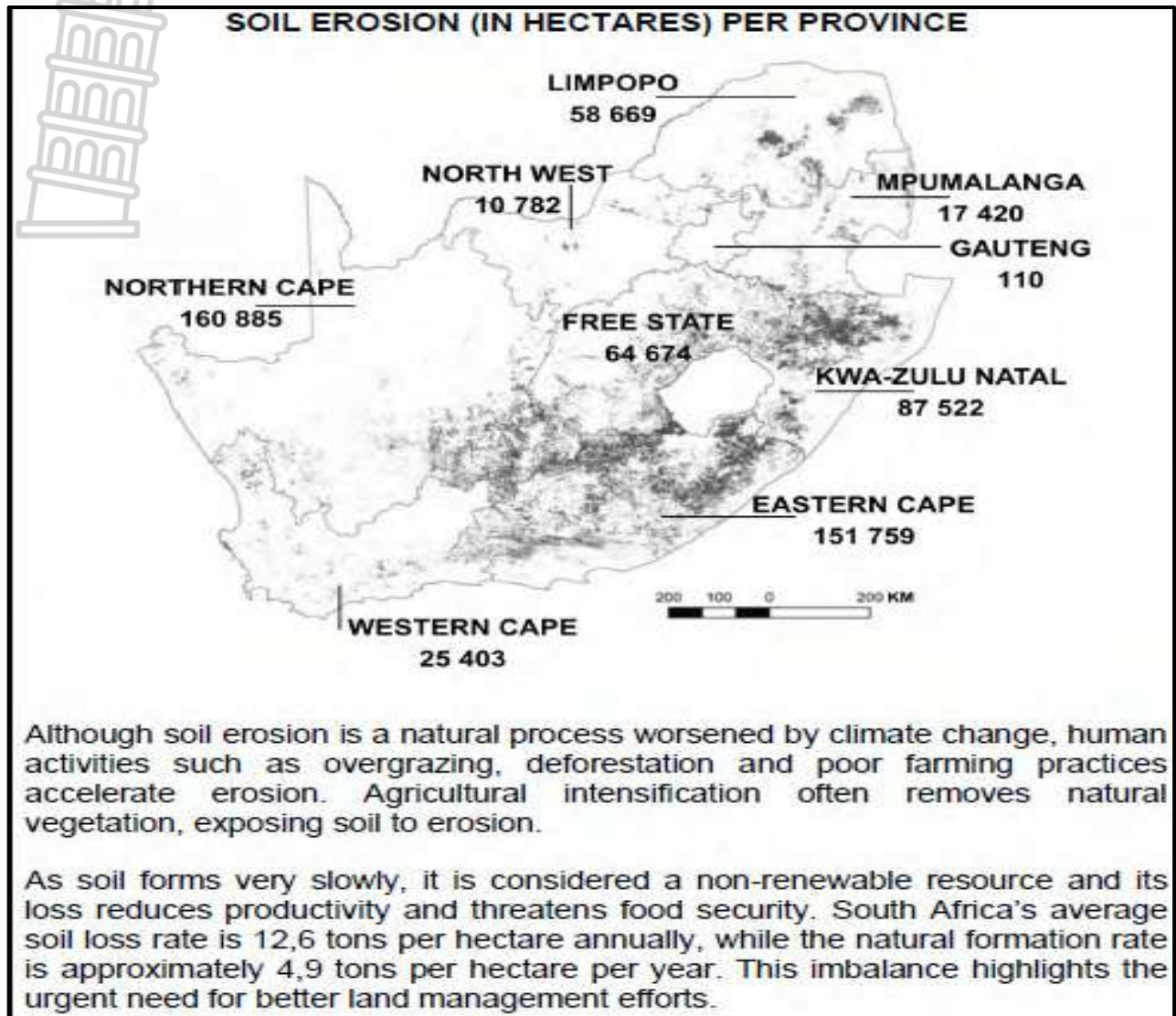
Terracing the slope: creating step-like fields on steep slopes decreases the speed of water flow and prevent erosion.

Crop rotation: alternating crops each season maintains soil fertility and structure.

Rotational grazing: allow enough time for vegetation to recover.

Building gabions and retaining walls: slows water flow.

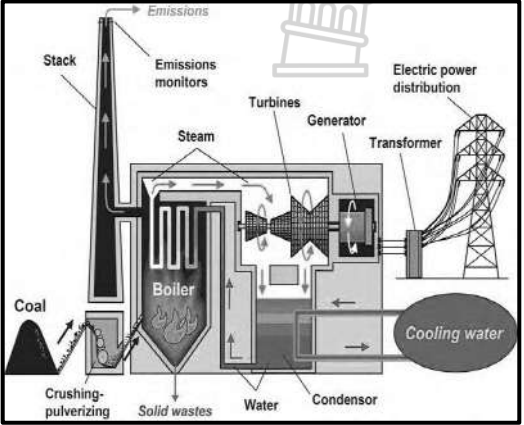
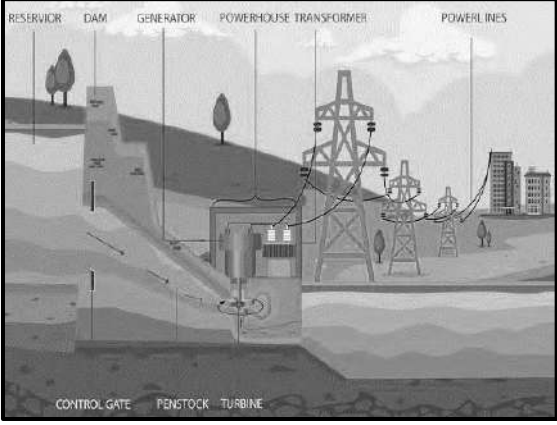
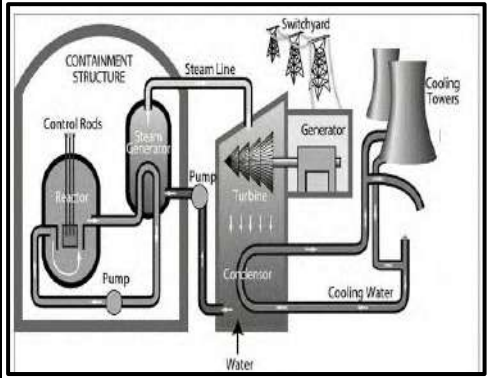
ACTIVITY 4.1: Refer to the map and extract below on soil erosion in South Africa.



[Adapted from <https://www.grainsa.co.za/soil-erosion-in-south-africa>]

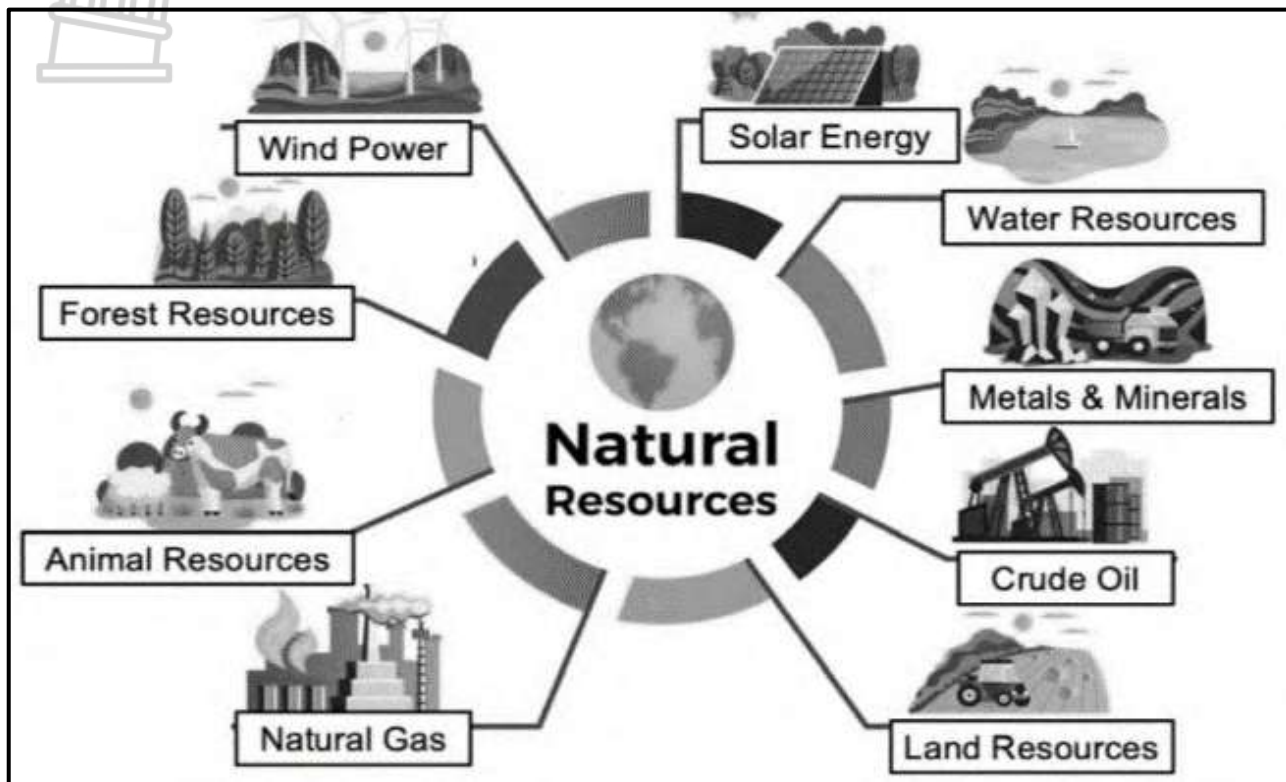
4.1.1	Define the concept <i>soil erosion</i> .	(1 x 2)	(2)
4.1.2	According to the extract, name ONE human activity that accelerate soil erosion.	(1 x 1)	(1)
4.1.3	Suggest TWO negative economic impact of reduced soil quality for farmers in South Africa.	(2 x 2)	(4)
4.1.4	In a paragraph of about EIGHT lines, suggest sustainable strategies that farmers could use to reduce soil erosion.	(4 x 2)	(8)
			[15]

CONVECTIONAL ENERGY SOURCES AND ASSOCIATED IMPACT

	THERMAL POWER	HYDRO- ELECTRIC POWER	NUCLEAR POWER
ILLUSTRATIONS	 <p>The diagram illustrates the thermal power generation process. It starts with coal being crushed and pulverized, then fed into a boiler where it is burned. This produces steam, which drives turbines connected to a generator. The generator produces electricity, which is then transformed and distributed. A cooling system uses water to condense the steam back into water, which is then pumped back to the boiler. Emissions are shown coming from a stack, and solid wastes are also indicated.</p>	 <p>The diagram shows a cross-section of a hydro-electric power plant. Water is held back by a dam (reservoir) and then flows through a penstock to a turbine. The turbine is connected to a generator, which produces electricity. The electricity is then transmitted through power lines. A control gate is also shown at the dam.</p>	 <p>The diagram depicts a nuclear power plant's internal system. A nuclear reactor is housed within a containment structure, with control rods used to regulate the reaction. The reactor heats a primary loop of water, which then transfers heat to a secondary loop via a steam generator. This secondary loop produces steam that drives a turbine connected to a generator. The steam is then condensed back into water by a condenser, which is cooled by a third loop of water that flows through cooling towers. A pump circulates the water throughout the system.</p>
[source https://www.shutterstock.com]			
DESCRIPTIONS	<p>Thermal power is derived from coal which is a non-renewable resource. 92% of SA's electricity is produced from coal. Coal is regarded as black gold. Most electricity is generated by ESKOM in fired power stations</p>	<p>Hydro-electricity is a renewable source of energy. Produced by running and falling water. Falling water is held back by a dam and is piped downhill to drive turbines. The movement of turbines produces energy.</p>	<p>Nuclear energy is electrical power produced from energy released by a nuclear reactor. Nuclear energy is derived from uranium which is a non – renewable mineral. Thus, nuclear energy is a non – renewable energy source.</p>

ADVANTAGES	<p><u>Reliable energy source</u> can produce electricity continuously.</p> <p><u>It is relatively cheap to build</u>, compared to other energy sources.</p> <p><u>It can be located near cities</u>, reducing transmission costs.</p> <p><u>Uses readily available fuels</u> such as coal, oil, and natural gas.</p>	<p><u>Uses renewable energy</u> (flowing water).</p> <p>Produces <u>clean energy</u>, no air pollution and greenhouse gases during operation.</p> <p><u>Lower operating and maintenance cost</u> after construction.</p> <p>Dams can also be used for <u>water supply</u>.</p>	<p><u>Lower greenhouse emission</u>.</p> <p>Produces <u>higher energy</u> in a small amount of fuel.</p> <p>Provide a <u>reliable constant supply</u> of energy.</p> <p><u>Low operating cost</u> once the plant is built.</p> <p><u>Not dependent on weather</u>.</p> <p>Reduces reliance on <u>fossil fuel</u>.</p>
DISADVANTAGES	<p><u>Causes air pollution</u>, emits carbon dioxide, sulphur dioxide etc.</p> <p><u>Uses non-renewable resources</u> (fossil fuels will run out).</p> <p>Require <u>large amount of water</u> for cooling.</p> <p>Produces <u>ash and waste</u> that can harm the environment.</p> <p><u>Can cause health problems</u> due to pollution.</p>	<p><u>Very expensive to build</u>.</p> <p>Negatively affects river <u>ecosystem</u>.</p> <p>Can lead to <u>displacement of people</u>.</p> <p>Depends on <u>rainfall level</u> (less effective during drought seasons)</p> <p><u>Risk of dam failure</u>, which can cause serious damage downstream.</p>	<p><u>Very expensive</u> to build nuclear power station.</p> <p>Produces <u>radioactive waste</u> that is dangerous and difficult to store.</p> <p>Risk of <u>nuclear accidents</u></p> <p><u>Uses non-renewable fuel</u> (uranium)</p> <p>Decommissioning plant is <u>costly and complex</u>.</p>

ACTIVITY 4.2: Refer to diagram below to answer the questions. Choose from the words in the diagram that matches the description of the natural resource in QUESTION 4.2.1 to 4.2.7. Write only the natural resource next to the question numbers (4.2.1 to 4.2.7) on the ANSWER BOOK e.g. 4.2.8 Air



[Adapted from: Glen.Samaai@westerncape.gov.za]

4.2.1	Uses radiation from the sun.		
4.2.2	Living organisms used for human benefit.		
4.2.3	Responsible for most oxygen on planet earth.		
4.2.4	Used to make petrol.		
4.2.5	Platinum is an example of this resource.		
4.2.6	Hydro electricity is produced from this resource.		
4.2.7	A fossil fuel composed primarily of methane.	(7 x 1)	(7)
			[7]

ACTIVITY 4.3: Refer to the following extract on load shedding.

ESKOM electricity load shedding



<http://energynews.africa>

Electricity load shedding will halve GDP growth this year and cost the country 275 000 in potential jobs, say analysts.

In June, president Cyril Ramaphosa announced that the requirements for the private sector to obtain a licence for own power generation had been relaxed, with the official change to be made in a government gazette within the next two months.

Ramaphosa has raised the threshold to 100 MW. According to Ramaphosa, firms will also be allowed to sell any excess power generated back into the grid. However, it could take more than a year to see the effects of the change, says economists at the Bureau for Economic Research (BER).

“In terms of the impact on the economy, it is important to realise that own generation (renewable) projects can take up to 18 months to complete. This does imply that periodic load shedding is likely to remain a feature of the South African landscape in the foreseeable future.”

The South African Photocatalytic Association estimates that the lifting of the licensing cap could add up to 5 500 MW of additional power over the next two years.

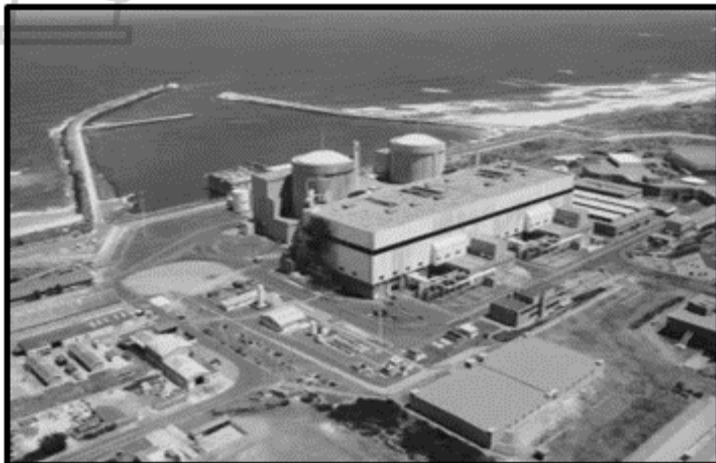
“The key message here is that in line with our thinking since the end of 2019, there is scope to be more optimistic about the prospects for the South African economy beyond 2022,” the BER said.

[Adapted from <http://www.ber.ac.za>]

4.3.1	Name the power utility that provides South Africa with electricity.	(1 x 1)	(1)
4.3.2	According to the extract, what are the effects of load shedding on the economy of South Africa?	(2 x 1)	(2)
4.3.3	State TWO causes of load shedding in South Africa.	(2 x 1)	(2)
4.3.4	Explain how President Cyril Ramaphosa’s decision positively impacted on the amount of electricity available to South Africa.	(1 x 2)	(2)
4.3.5	Why does South Africa favour a non-conventional source of energy, such as coal, to be its main source of energy?	(2 x 2)	(4)
4.3.6	Explain the negative impact that coal mining has on the environment.	(2 x 2)	(4)
			[15]

ACTIVITY 4.4: Refer to the extract below on Koeberg Nuclear Power Station as an energy source.

KOEBERG NUCLEAR POWER STATION



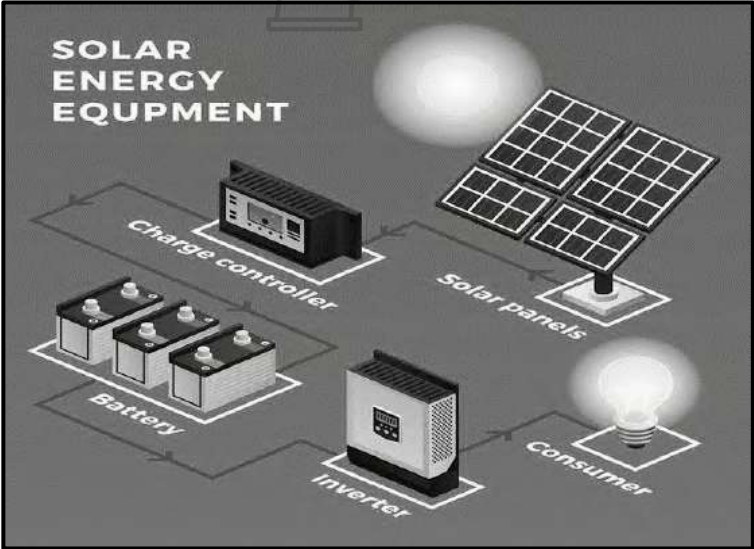
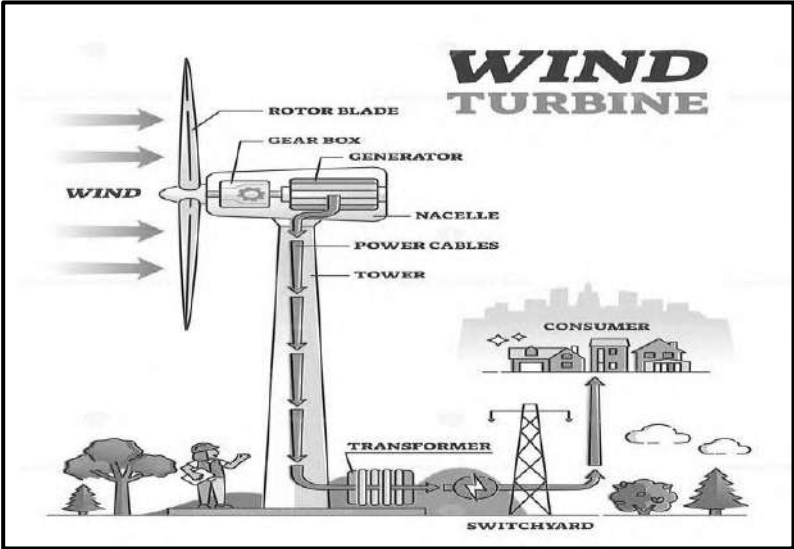
Koeberg Nuclear Power Station is a nuclear power station in South Africa and the only one on the African continent. It is located 30 km north of Cape Town. It is owned and operated by the country's state owned electricity public utility, Eskom. Koeberg supplies power to the national grid so that over-capacity can be

Fuel stock used within the reactor is enriched uranium dioxide pellets containing gadolinium contained in fuel rods. Koeberg is rated at 1 860 MW, its average annual production is 13 668 Gwh and it has two large turbine generators.

[Adapted from: en.m.wikipedia.org]

4.4.1	Is nuclear energy an example of (conventional or non-conventional) energy source?	(1 x 1)	(1)
4.4.2	Substantiate your answer in QUESTION 4.4.1.	(1 x 2)	(2)
4.4.3	Name TWO raw materials used in the production of nuclear power.	(2 x 1)	(2)
4.4.4	Quote statistical evidence from the infographic which shows that Koeberg Nuclear Power Station produces a lot of energy.	(2 x 1)	(2)
4.4.5	In a paragraph of approximately EIGHT lines, explain advantages for economy of a Country that uses nuclear energy.	(4 x 2)	(8)
			[15]

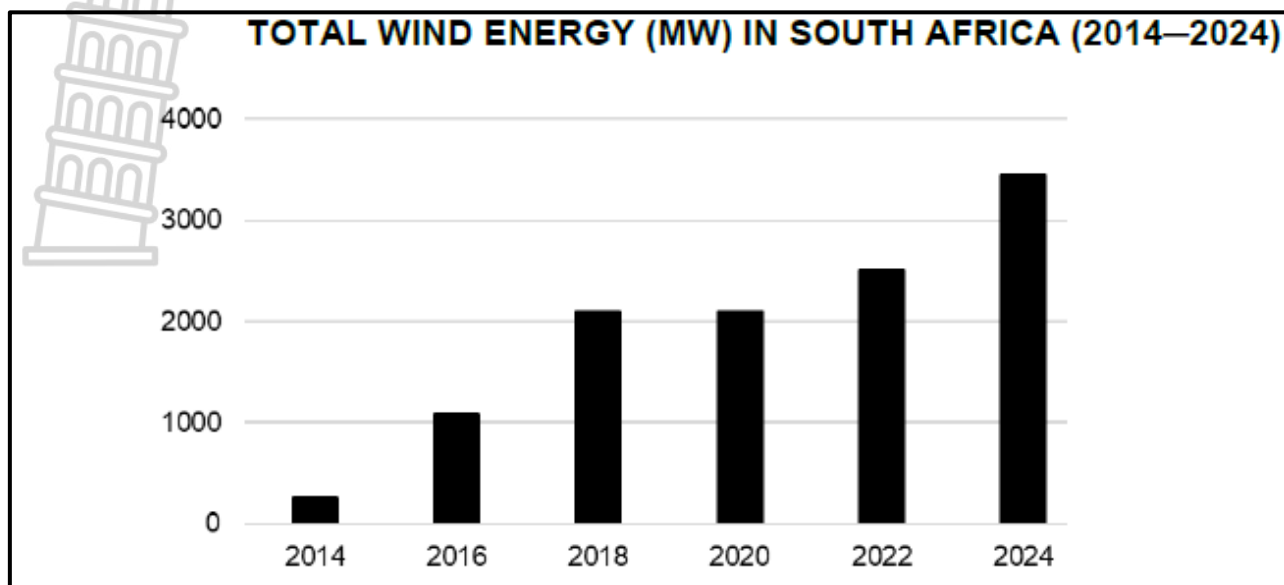
NON - CONVECTIONAL ENERGY SOURCES AND ASSOCIATED IMPACT

	SOLAR POWER	WIND POWER
ILLUSTRATIONS	 <p>The diagram illustrates the solar power system. It shows solar panels connected to a charge controller, which is linked to a battery. The battery is connected to an inverter, which then powers a consumer (represented by a light bulb). The sun is shown shining on the solar panels.</p>	 <p>The diagram shows a wind turbine with labels for its parts: Rotor Blade, Gear Box, Generator, Nacelle, Power Cables, and Tower. Wind is shown blowing against the blades. The power generated flows down the tower to a transformer and switchyard, which then supply power to a consumer (represented by houses).</p>
DESCRIPTIONS	<p>Solar energy is derived from the sun. it a form of renewable energy. A solar panel contains solar cells, that turn light into electricity.</p>	<p>Wind energy refers to energy contained in the force of winds. wind energy can be converted into mechanical energy for performing work such as pumping water, grinding grain, and cutting timber.</p>

[source:]

ADVANTAGES	<p>It is a <u>renewable energy source</u>.</p> <p><u>Environmentally friendly</u>, reduces air pollution.</p> <p><u>Low operating</u> and <u>maintenance cost</u> after installation.</p> <p>Reduces <u>over-reliance</u> to thermal power.</p>	<p>it is a <u>renewable energy source</u>.</p> <p>Clean and <u>environmentally friendly</u>.</p> <p><u>Low operation</u> and <u>maintenance costs</u> after installation.</p> <p>Land beneath turbines can still be used for <u>farming</u> or <u>grazing</u>.</p> <p>Can create <u>jobs</u> in construction and maintenance.</p>
DISADVANTAGES	<p><u>High initial installation cost</u>, solar panels and equipment's.</p> <p><u>It depends on sunlight</u>, less effective on cloudy days or at night.</p> <p><u>Energy storage is expensive</u> (batteries needed for night use)</p> <p>Efficiency can be <u>affected by weather conditions</u>.</p> <p>Manufacturing panels can <u>cause pollution</u>.</p>	<p><u>High initial cost of building</u>.</p> <p><u>Dependent on wind</u>, not reliable if wind speeds are low or inconsistent.</p> <p>Can be <u>noisy</u>.</p> <p><u>Can harm</u> birds and bats.</p> <p><u>Energy storage</u> is needed when wind is not blowing.</p>

ACTIVITY 4.6: Refer to the infographic on wind energy in South Africa.



[Adapted from biznews.com/energy/south-africas-wind-power-surge]

COOKHOUSE WIND FARM

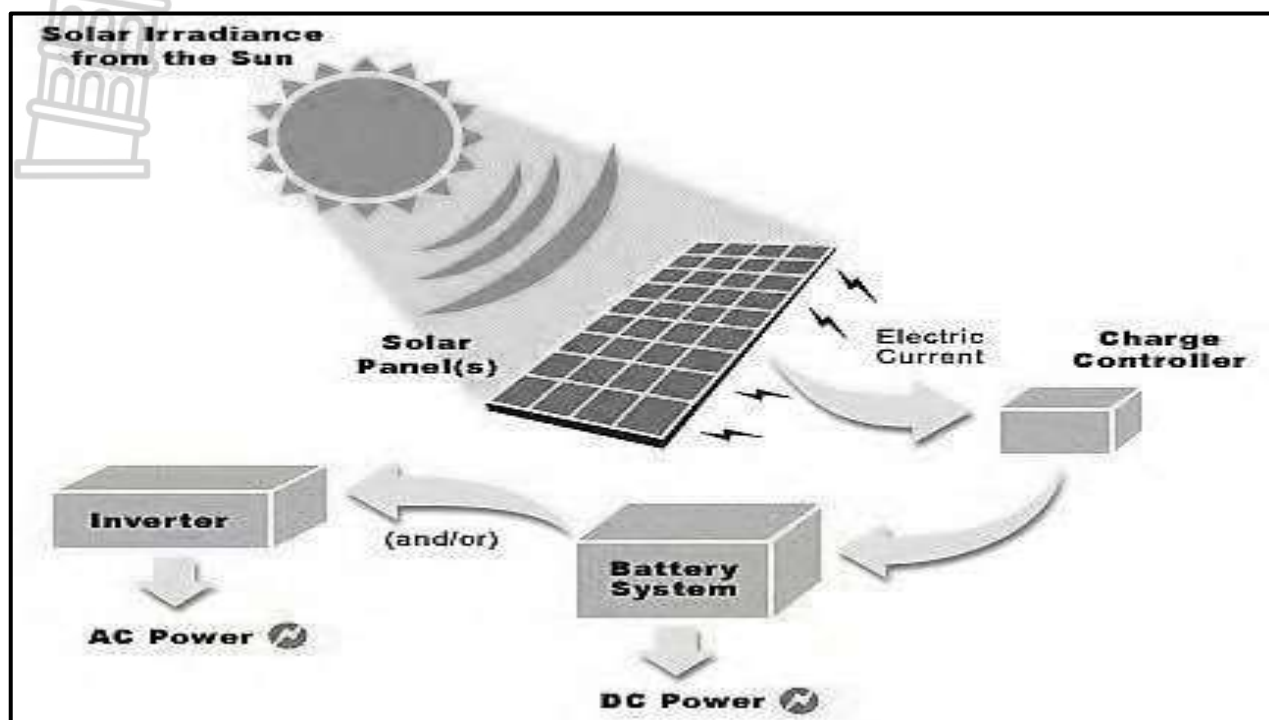
Investment in and development of wind power in South Africa have increased due to South Africa's rising electricity demand. The Cookhouse Wind Farm in the Eastern Cape is an ideal site for wind energy because of its low population density, plateau landscape and strong average wind speeds, factors that allow wind turbines to be installed with minimal disruption to farming and nearby settlements. Occupying only a small portion of leased land, the farm generates approximately 341,000 MWh of energy annually. Beyond energy production, the Cookhouse Wind Farm makes a meaningful contribution to the community and local economy.

[Adapted from <https://cookhousewind.co.za>]

4.5.1	Define the concept <i>renewable energy</i> .	(1 x 2)	(2)
4.5.2	What trend does the graph indicate about wind energy in South Africa from 2014 to 2024?	(1 x 1)	(1)
4.5.3	From the extract, state TWO physical (natural) factors that promoted the development of the wind farm in Cookhouse.	(2 x 1)	(2)
4.5.4	Suggest TWO environmental advantages of using wind energy?	(2 x 2)	(4)
4.5.5	Discuss the social benefits of the local community located near the Cookhouse Wind Farm.	(3 x 2)	(6)
			[15]

ACTIVITY 4.6: Refer to the illustration below to answer questions.

Solar energy



[source:<http://www.researchgate.net>]

4.6.1	Define the concept <i>solar energy</i> .	(1 x 2)	(2)
4.6.2	Name the main source of solar energy in the illustration.	(1 x 1)	(1)
4.6.3	State TWO factors that can affect the amount of solar radiation received by the earth surface.	(2 x 1)	(2)
4.6.4	Discuss how solar energy contributes to sustainable development.	(1 x 2)	(2)
4.6.5	In a paragraph of approximately EIGHT lines, discuss the advantages and disadvantages of solar energy.	(4 x 2)	(8)
			[15]

SUSTAINABILITY

Definitions:

Sustainability refers to the ability to maintain or support processes over time without depleting natural resources, ensuring long-term ecological, economic and social health.

Green economy, refers to the exploitation of clean form of energy that do not cause environmental degradation

Why is sustainability important

Ensure **natural resources** availability for future use.

Reduces environmental **degradation**.

Support **economic growth** by using resources efficiently.

Reduces the impact of **climate change**.

Prevent long term **environmental disasters**.

Examples of sustainability

Green energy (non- conventional): wind power and solar power are free, natural, and infinite resources that do not cause harm the environment.

Sustainable lifestyle - involves reducing environmental impact through conscious, daily choices that conserve natural resources and minimize waste. Sustainable lifestyles are responsibilities of government, businesses and individual.

Sustainable living is achieved by making choices that aim to reduce our individual and collective environmental impact.

Roles of energy management in a Greener economy

Reduce **carbon emission**.

Promote clean and renewable energy.

Improve energy efficiency.

Support long-term environmental sustainability.

Benefits of a greener economy

Reduces environmental degradation.

Creates green jobs.

Improve health quality of life.

Ensures long-term resources availability.

Challenges with greener economy

High cost of renewable energy infrastructure.

Lack of awareness

Slow policy implementation.

ACTIVITY 4.7: Refer to the extract on energy management in South Africa.

SOUTH AFRICA’S CLIMATE CHANGE ACT: A GREENER FUTURE

Adopted on 18 July 2024, South Africa’s Climate Change Act marks a major turning point in the country’s move towards a greener economy. The Act sets an ambitious target: achieving net-zero greenhouse gas (GHG) emissions by 2050. It introduces a multi-tiered governance model that clearly defines responsibilities across different levels of government. Additionally, the Act sets sector-specific GHG reduction targets, encouraging businesses to adopt cleaner practices. This shift is expected to attract both local and international investment – particularly in renewable energy sectors such as solar and wind – while also strengthening energy security and reducing dependence on coal. At the individual level, the Act promotes energy-conscious living.

[Adapted from www.south-africas-climate-change-act-paradigm-shift-energy]

4.7.1	Define the concept <i>greener economy</i> .	(1 x 2)	(2)
4.7.2	According to the extract, what is the main target of South Africa’s Climate Change Act?	(1 x 1)	(1)
4.7.3	From the extract, identify who will be key to reaching this target (answer to QUESTION 4.7.2).	(2 x 1)	(2)
4.7.4	Name TWO forms of renewable energy mentioned in the extract.	(2 x 1)	(2)
4.7.5	In a paragraph of approximately EIGHT lines the economic challenges that South Africa face in fully transitioning (changing) to a greener economy.	(4 x 2)	(8)
			[15]



