KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

CURRICULUM GRADE 10 -12 DIRECTORATE

NCS (CAPS) SUPPORT

JUST IN TIME TEACHER DOCUMENT

GEOGRAPHY

GRADE 10

2025

THE ATMOSPHERE

1.1

1.1.1 Troposphere (1)

1.1.2 Stratosphere (1)

1.1.3 Mesosphere (1)

1.1.4 Thermosphere (1)

1.1.5 Tropopause (1)

1.1.6 Stratopause (1)

1.1.7 Mesopause (1) (7x1) (7)

1.2

1.2.1 A. Troposphere (1) (3x1) (3)

B. Stratosphere (1)

D. Thermosphere (1)

1.2.2 Nitrogen (1) (1x1) (1)

1.2.3 Stratosphere (1) and Thermosphere (1) (1+1) (1)

1.2.4 Layer B contains the ultra violet rays from the sun (2) (1x2) (2)

1.2.5 Contains oxygen (O_2) used for cellular respiration (2)

Contains carbon dioxide (CO_2) used by plants for photosynthesis/ photosynthesis. (2) (2x2) (4)

1.2.6 Coldest temperatures are found in this layer, can be -80^0C (2)

The air in the mesosphere is far too thin to breathe. (2) (2 x 2) (4)

[ANY ONE]

1.3

1.3.1 Refers to gradual thinning of the ozone layer. (2) (1 x 2) (2)

1.3.2 Stratosphere (1) (1 x 1) (1)

1.3.4 Protects the earth from harmful Ultra-violet rays of the sun. (2) (1 x 2) (2)

1.3.4 Exposure to such rays can cause skin cancers (melanomas) (2)

Causes early aging (2)

Weakens the immune (2)

Causes eye cataracts (2)

Increased incidence of malaria (2) (2 x 2) (4)

[ANY TWO]

1.3.5 Switch to ozone-friendly products (2)

Replace CFCs used in the manufacture of fridges, air-conditioners with ozone-healthy alternatives like HFC's (2)

Plant more trees (2)

Use public transport instead of private cars (2)

Regulations against the burning of fossil fuels. (2)

Use of solar and wind energy instead of thermal energy (2) (3 x 2) (6)

[ANY THREE]

1.4

1.4.1 Equatorial (1), polar (1)

1.4.2 Polar (1)

1.4.3 East (1)

1.4.4 Ocean currents (1)

1.4.5 Latitude (1)

1.4.6 Distance from the sea (1)

1.4.7 Small (8 x 1) (8)

1.5

1.5.1 Reflection (1) (1 x 1) (1)

1.5.2 dust (1)

Smoke (1) (2 x 1) (2)

1.5.3 Insolation – incoming heat from the sun (2) (2 x 2) (4)

Terrestrial radiation – heat released from the earth into the atmosphere (2)

1.5.4 100% (1) 1 x 1) (1)

1.5.5 **Terrestrial radiation**: The earth radiates heat in the form of long waves and gases such carbon dioxide and water vapour absorb this heat. (2)

Conduction: heat is transferred from one molecule to another through contact. (2)

Convection: heat is transferred vertically by movement of molecules, the hot air in the lower layers expands and rises transferring heat to higher altitudes. (2)

Release of latent heat: heat that is used in the process of evaporation is stored in the water vapour and released as latent heat during condensation. (2)

(4 x 2) (8)

1.6

1.6.1 Increase in average temperatures of the earth. (2) (2 x 1) (2)

1.6.2 Increase (1) No (1) (1 + 1) (2)

1.6.3 Carbon dioxide (1) (1 x 1) (1)

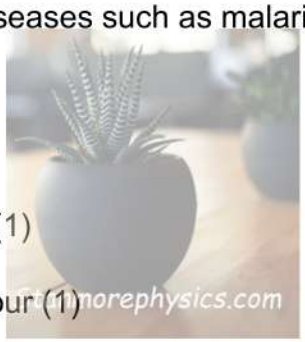
1.6.4 Deforestation increases carbon dioxide level in the atmosphere (2)

Ozone depletion results to harmful UV rays reaching the earth's surface. (2)
Burning of fossil fuels increase the amount of greenhouse gases in the atmosphere (2)
Use of too many private cars increase greenhouse (2)
Greater demand for cattle results in the release of more methane (2)
Rapid population growth (2)
Human activities that generate more heat. (2) (2 x 2) (4)

[ANY TWO]

1.6.4 Increase in global temperatures (2)
Melting of polar ice caps (2)
Rising sea levels which results to flooding (2)
Climate change (2)
Spread of desertification (2)
Increase in diseases such as malaria. (2) (2 x 2) (4)

[ANY FOUR]



1.7

1.7.1 Z- Dew point (1)

1.7.2 Z- Water vapour (1)

1.7.3 Z- condensation (1)

1.7.4 Y- Relative humidity (1)

1.7.5 Z- actual humidity (1)

1.7.6 Y- Rain (1)

1.7.7 Y- Evaporation (1) (7 x 1) (7)

1.8

1.8.1 Relief rainfall occurs when warm moist rises on the windward side of the mountain. (2) (1 x 2) (2)

1.8.2 Cumulonimbus clouds (1) (1 x 1) (1)

1.8.3 Rain (1) (1 x 1) (1)

1.8.4 KwaZulu Natal (1)

1.8.5 Warm moist air blows towards a mountain and it is forced to rise. (2)

Rising air is cools and condenses to form cumulonimbus clouds. (2)

Rainfall forms on the windward side of the mountain. (2) (2 x 2) (4)

[ANY TWO]

1.8.6 **Positive**

Rainfall will fill up dams and rivers. (2)

Water will be available for domestic use. (2)

There will be enough water for crops and livestock. (2)

Water ensures soil fertility (2)

Negative

Heavy rainfall can cause flooding (2)

Floods can wash away crops and loss of livestock (2)

Destruction of infrastructure will increase expenditure. (2)

Destroy ecosystems (2)

Disruption of food chains (2)

Increased rate of soil erosion (2)

Silting of dams and rivers. (2)

Loss of human lives (2) (4 x 2) (8)

[THE LEARNER HAS TO GIVE TWO ANSWERS FOR EACH]

1.9.1 4 hpa (1) (1 x 1) (1)

1.9.2 C- Cold Benguela Current (1) (1 x 1) (1)

D- Warm Mozambique Current (1) (1 x 1) (1)

1.9.3 A – Cold front (1)

B – Warm front (1) (2 x 1) (2)

1.9.4 Winter (2) (1 x 2) (2)

1.9.5 Presence of the high pressure over land (1)

Low temperatures in the interior (1)

Clear skies in the interior (1)

Cold front is close to the interior (1) (2 x 1) (2)

[ANY TWO]

1.9.6 (a) 28°C (1)

(b) 18°C (1)

(c) 10 knots (1)

(d) South West (SW) (1)

(e) Overcast (1) (5 x 1) (5)

1.10.1 Isobars (1) (1 x 1) (1)

1.10.2 C (1) (1 x 1) (1)

1.10.3 The isobars are closely spaced to each other. (2) (1 x 2) (2)

1.10.4 Decreases (1) (1 x 1) (1)

1.10.5 1020 hPa (2) (1 x 2) (2)

1.10.6 4hPa (2) (1 x 2)(2)

1.10.7 Cape Town will have lower temperature due to the influence of the Cold Benguela current.(2)

Durban will have higher temperatures due to the influence of the Warm Mozambique Current. (2) (2 x 2) (4)

GEOMOPHOLOGY

2.1

2.1.1 (i) Crust (1) (3x1) (3)
(ii) Mantle (1)
(iii) Core (1)

2.1.2 SIMA is composed mainly of silicon and magnesium and it is heavier. (2) (2x2) (4)
SIAL is compose mainly silicon and aluminum and it is lighter (2)

2.1.3 **Inner core**
The inner core is solid in nature. (2) (4x2) (8)
The inner core is approximately 1350 km in thickness (2)
It influence the magnetic field of the earth. (2)
Outer core
The outer core is liquid in nature (2)
It is approximately 2200 km in thickness (2)
[THE LEARNER HAS TO GIVE TWO POINTS FOR EACH]

2.2

2.2.1 J (1)
2.2.2 I (1)
2.2.3 A (1)
2.2.4 B (1)
2.2.5 G (1)
2.2.6 H (1)
2.2.7 E (1)
2.2.8 C (1)
2.2.9 F (1)
2.2.10. D (1) (10 x 1) (10)

2.3

2.3.1 X (1)

2.3.2 Y (1)

2.3.3 X (1)

2.3.4 X (1)

2.3.5 X (1)

2.3.6 Y (1)

2.3.7 X (1) (7 x 1) (7)

2.3.

2.3.1 The point on the earth's surface directly above the focus of an earthquake (2) (1 x 2) (2)

2.3.2 India (1) (1 x 1) (1)

2.3.3 The earthquake was categorised in the yellow sight level. (1 x 2) (2)

2.3.4 Near Sonia Vihar in north-east Delhi (1) (1 x 1) (1)

2.3.5 Asia (1 x 1) (1)

2.3.6 Tremors can increase the damage that was created by the initial earthquake (2) (1 x 2) (2)

2.3.7 An earthquake cannot be predicted (2)

Difficult to predict because it happens when energy is released between two continental plates under the earth (2) (2 x 2) (4)

2.4

2.4.1 Y – Intrusive (1)

2.4.2 Y – Composite (1)

2.4.3 X – Dormant (1)

2.4.4 X- Magma (1)

2.4.5 X- Shield (1)

2.4.6 Y – Batholith (1)

2.4.7 X – generation of geothermal energy (1)

2.4.8 Y – Cinder cone (1) (8 x 1) (1)

2.5

2.5.1 Dormant volcano is a volcano that is not currently erupting but is still capable of erupting. (2)

2.5.2 The fumes are toxic because they contain high levels carbon dioxide and Sulphur dioxide (2)

2.5.3 Magma is a molten rock that is underground. (2)

Lava is for molten rock that breaks through the earth's surface. (2)

(2 x2) (4)

2.5.4 Rock weathers to form fertile soil which leads to agricultural growth (2)
Promotes tourist attraction which is an economic boost/Tourism supports new job opportunities (2)
Volcanic rocks can be mined, and this creates job opportunities (2)

(3 x 2) (6)

2.5.5 loss of natural vegetation and habitats (2)
disrupt food chains. (2)
Can cause climate change by emitting greenhouse gases. (2)
Can cause water pollution (2)
Air pollution (2)
Hot lava can kill wildlife (2)
Can trigger mudflows, thunderstorms and floods. (2)

(4 x 2) (8)

2.6

2.6.1 Mantle (1)

2.6.2 Outer core (1)

2.6.3 Crust (1)

2.6.4 Mantle (1)

2.6.5 4 /inner core (1)

2.6.6 1/ crust (1)

2.6.7 Moho (1) (7 x 1) (7)

2.7

2.7.1 European (1) and Indo-Australian (1) (2 x 1) (2)

2.7.2 A – Convergence (1)

B – Divergence (1) (2 x 1) (2)

2.7.3 A – Constructive (1)

B – Destructive (1) (2 x 1) (2)

2.7.4 A – forms a new landform which is a fold mountain (2)

B – Leads to a destruction to the environment (2) (2 x 2) (4)

2.7.5 A (1) (1 x 1) (1)

2.7.6 Folding occurs when rock layers are soft and elastic and bend under pressure (2)

Faulting takes place when rock layers are not elastic and break under pressure (2) (2 x 2) (4)

3.1 POPULATION DISTRIBUTION AND POPULATION DENSITY

3.1.1 Population distribution refers to how people are spread across a region (2) **(CONCEPT)** (1 x 2) (2)

3.1.2 D (1) (1 x 1) (1)

3.1.3 India (1) (1 x 1) (1)

3.1.4 Lack of contraceptives [Accept examples] (1)
Illiteracy (1)
Polygamy (1)
Girls marrying at a young age (1)
Poverty (1)
[ANYONE] (1 x 1) (1)

3.1.5 192 118 888 ÷ 148 560 km² (1)
=1293 per km² (1) (2 x 1) (2)

3.1.6 **Water availability**: people gather in numbers to a reliable source of water(2) **OR**
Scarce water : a few people are found in areas with little or no water (2)

Favourable climate: many people prefer to stay in suitable climate that is not too hot, too cold, too wet or too dry (2) **OR**
Unfavourable climate: a few people locate in unwelcoming climate i.e. too hot, too cold etc. (2)

Flat land: many people prefer to gather in gentle slopes for their human activities (2) **OR**
Steep land: a few people locate in steep slopes due to a difficulty to practice human activities (2)

Available natural resources: a number of people prefer to locate in areas with resources such as coal, fish etc. (2) **OR**

Least natural resources: a few number of people locate in areas with scarce useful resources (2) (3 x 2) (6)

[ANY THREE]

3.2	**POPULATION STRUCTURE**		
3.2.1	Developing (1)	(1 x 1)	(1)
3.2.2	The base of the pyramid is broad/ wide (2) The top of the pyramid is narrow (2) The pyramid is triangular in shape (2) **[ANYONE]**	(1 x 2)	(2)
3.2.3	15 million (1)	(1 x 1)	(1)
3.2.4	Elderly (1)	(1 x 1)	(1)
3.2.5	Poverty leads to high deaths (2) Poor health care systems lead to deaths (2) Poor nutrition exposes old people to malnutrition and death (2)	(1 x 2)	(2)
3.2.6	**Education**: birth rate increases when women are uneducated about birth control measures (2) **Fertility rate**: A high fertility rate amongst women leads to high number of born babies (2)	(2 x 2)	(4)
3.2.7	Use of contraceptives (accept examples) (2) Sterilisation means (2) Promoting vasectomy (2) Opting for abortion (2) Encouraging one child policy (2) Encouraging family planning (2) **[ANY TWO]**	(2 x 2)	(4)

3.3	**POPULATION MOVEMENTS**		
3.3.1	The movement of people from rural areas to urban areas (2) **(CONCEPT)**	(1 x 2)	(2)
3.3.2	C (1)	(1 x 1)	(1)
3.3.3	2010 (1)	(1 x 1)	(1)
3.3.4	People migrated to cities due to a world cup that was hosted in South Africa (2)	(1 x 2)	(2)
3.3.5	High competition for basic services (accept examples) (1) Influx of informal settlements (1) High crime rates (1) Unhygienic conditions (1) **(ANYONE)**	(1 x 1)	(1)
3.3.6	Provision of basic services (accept examples) (2) Supporting small scale farmers (accept examples) (2) Provision of jobs (2) Improving salaries and wages (2) Attracting secondary sector such as industries (2) Improving transport facilities and roads (2) **[ANY FOUR]**	(4 x 2)	(8)

WATER RESOURCES

4.1

4.1.1 The total area drained by the main river and its tributaries (2)
[Concept] (1 x 2) (2)

4.1.2 KwaZulu-Natal (1) (1 x 1) (1)

4.1.3 E. Coli (2) (1 x 2) (2)

4.1.4 Industrial discharges from factories (1)
Raw sewage (1) (2 x1) (2)

4.1.5 Reduced water quality as water is contaminated by chemicals (2)
Reduced river habitats lead to migration of animals and will be at risk to predators (2)
Salts and chemicals result in eutrophication which reduces oxygen (2) (accept algae bloom)
Ecosystems and food chains are disrupted due to some animals that have died (2)
Plants wilt and die as a result of unfavourable conditions for growth (2)
Animals living in water die due to unpleasant environment (2) (4 x 2) (8)
[ANY FOUR- ONE MARK FOR A FACTOR AND ONE MARK FOR A QUALIFIER]

INSTRUCTION FOR PART-MARKING- MAXIMUM FOUR MARKS

Learners must be given one mark if only stated a factor

4.2 WATER MANAGEMENT

4.2.1 Sustainable use of water in a proper way so that it is available for the future generations (2) **(CONCEPT)** (1 x 2) (2)

4.2.2 Physical factor: inadequate rainfall (1)
Human factor: rapid growing population (1) (2 x 1) (2)

4.2.3 No access to potable water (1)
Improper sanitation (1) (2 x 1) (2)

4.2.4 Policy makers (1)
Researchers (1)
Government (1)
Municipalities (1)
Water managers (1)
[ANYONE] (1 x 1) (1)

4.2.5 **Agriculture:**
Farming consumes a lot of water through irrigation (2)
Improper farming practices such as the use of pesticides decreases water quality (2)
Population growth:
The higher the population the higher the demand of water (2) (2 x 2) (4)
[ANY TWO- MUST INCLUDE BOTH ASPECTS]

4.2.6 Educating people about water conservation (2)
Encouraging rainwater harvesting (2)
Imposing fines to people who pollute water resources (2)
Awareness campaigns on sustainable use of water (accept examples) (2) (2 x 2) (4)
[ANY TWO]

4.3 **FLOODS**

4.3.1	Sudden overflow of water which covers land that is usually dry **(CONCEPT)** (2)	(1 x 2)	(2)
4.3.2	Damaging winds (1) Excessive lightening (1) Hail (1) **[ANYONE]**	(2 x 1)	(2)
4.3.3	Mudslides (1) Fallen trees (1)	(2 x 1)	(2)
4.3.4	Soil fertility (1)	(1 x 1)	(1)
4.3.5	Relocating people who have built along rivers (2) Educating people, especially close to river banks and in low-lying areas about the impact of flooding (2) Law enforcement/ legislative practices on people locating in flood risk areas (2) Issuing flood warning systems and evacuation measures (2) Maintaining water drainage facilities (2) Encouraging buffering (accept examples) (2) Sandbagging methods (2) Restoring natural wetlands (2) Building embarkments (2) Sustainable methods of farming (2) **[ANY FOUR]**	(4 x 2)	(8)