Education and Sport Development

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

PROVINCIAL ASSESSMENT

GRADE 10

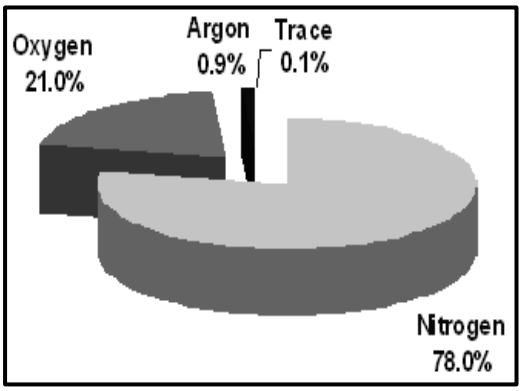
GEOGRAPHY P1

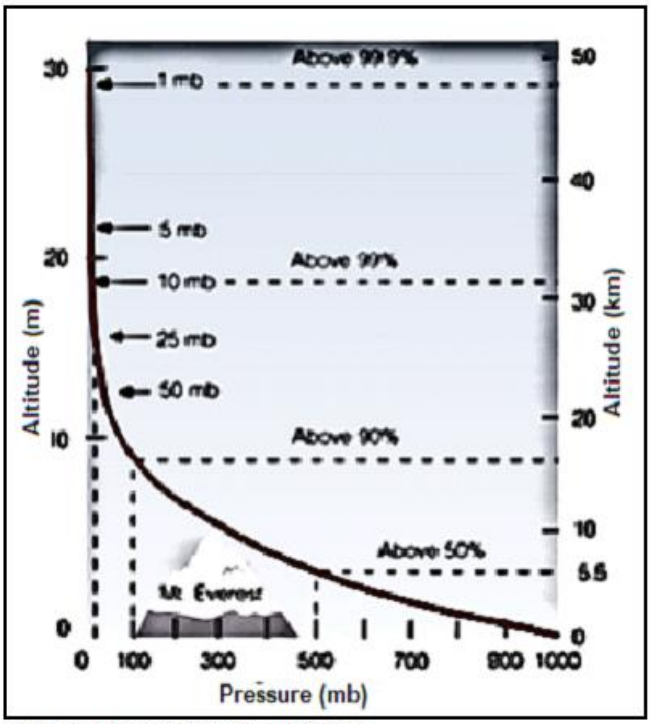
JUNE 2019

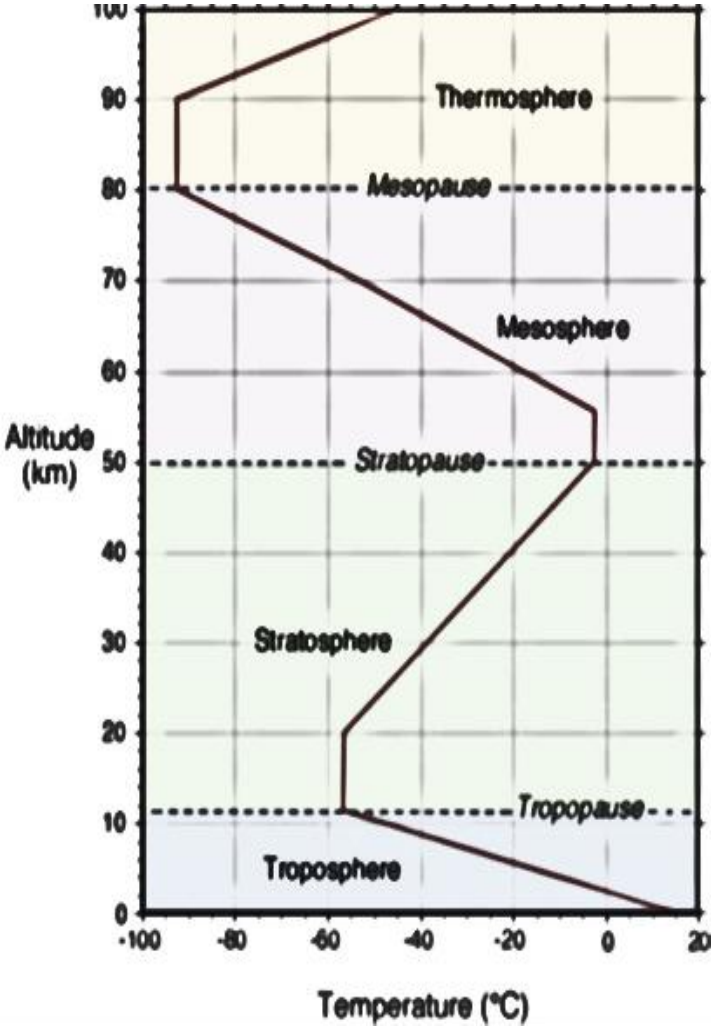
ANNEXURE

This Annexure consist of 08 pages.

Figure 1.2: Structure and the composition of the atmosphere.

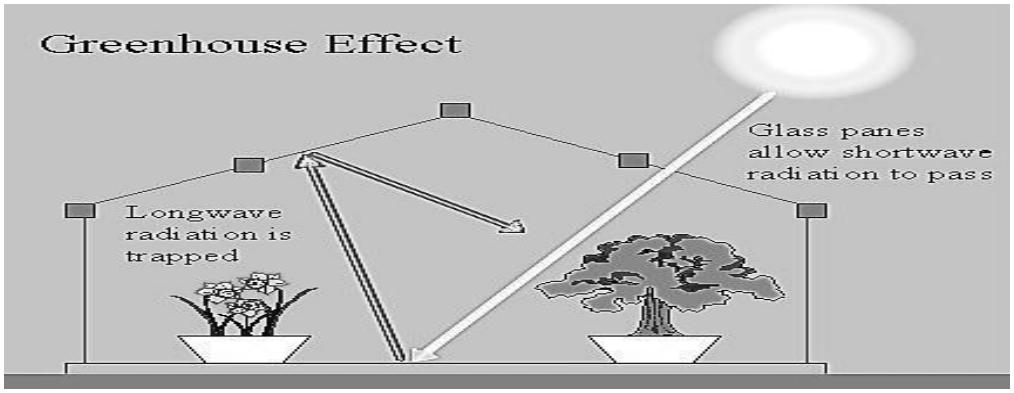






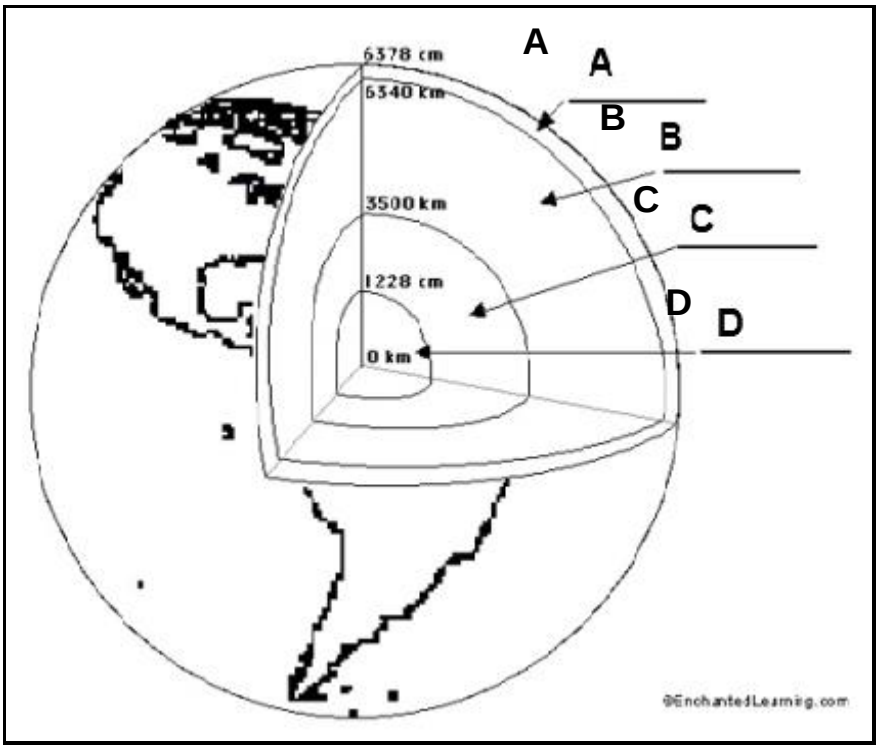
Source: Adapted from Google Image.

Figure 1.3: The Greenhouse



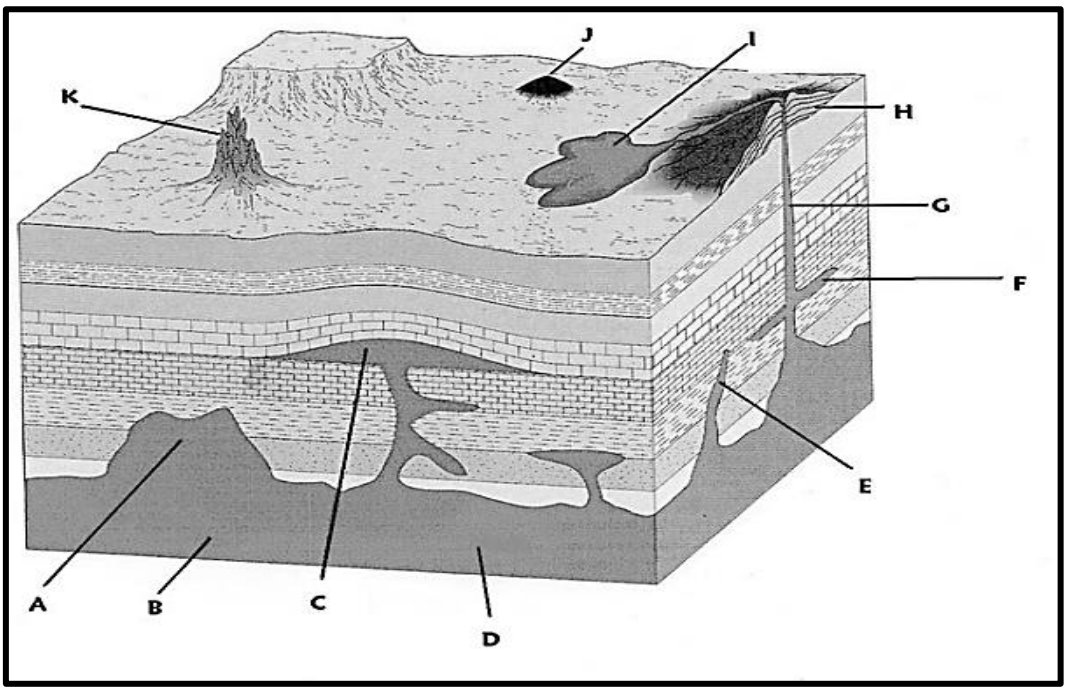
Source: Google images

Figure 1.4 A Structure of the earth



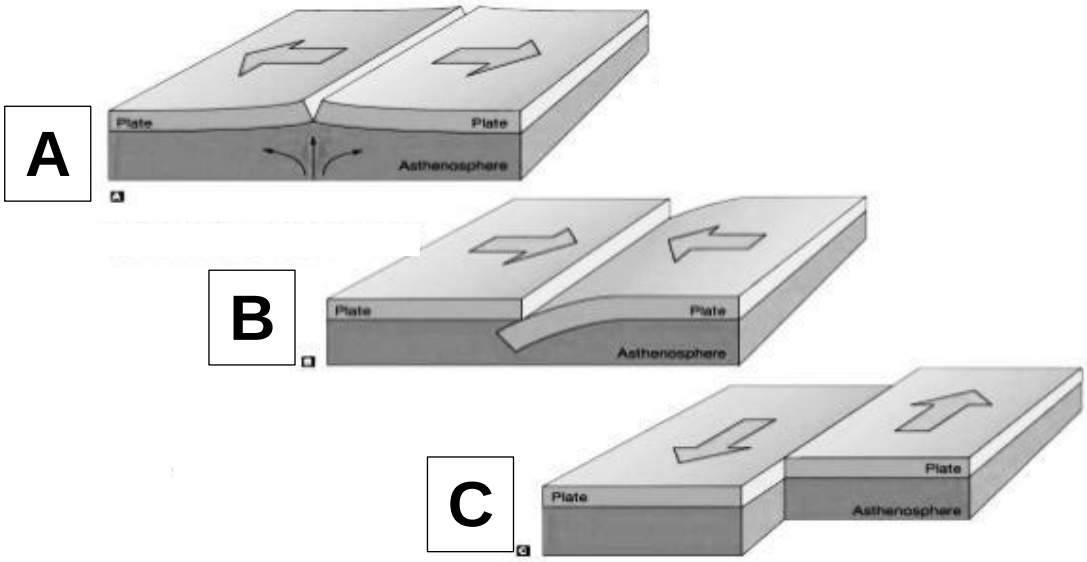
http://www.enchantedlearning.com/subjects/astronomy/activities/label/labelearth.shtml

Figure 1.4 B: Volcanic intrusions



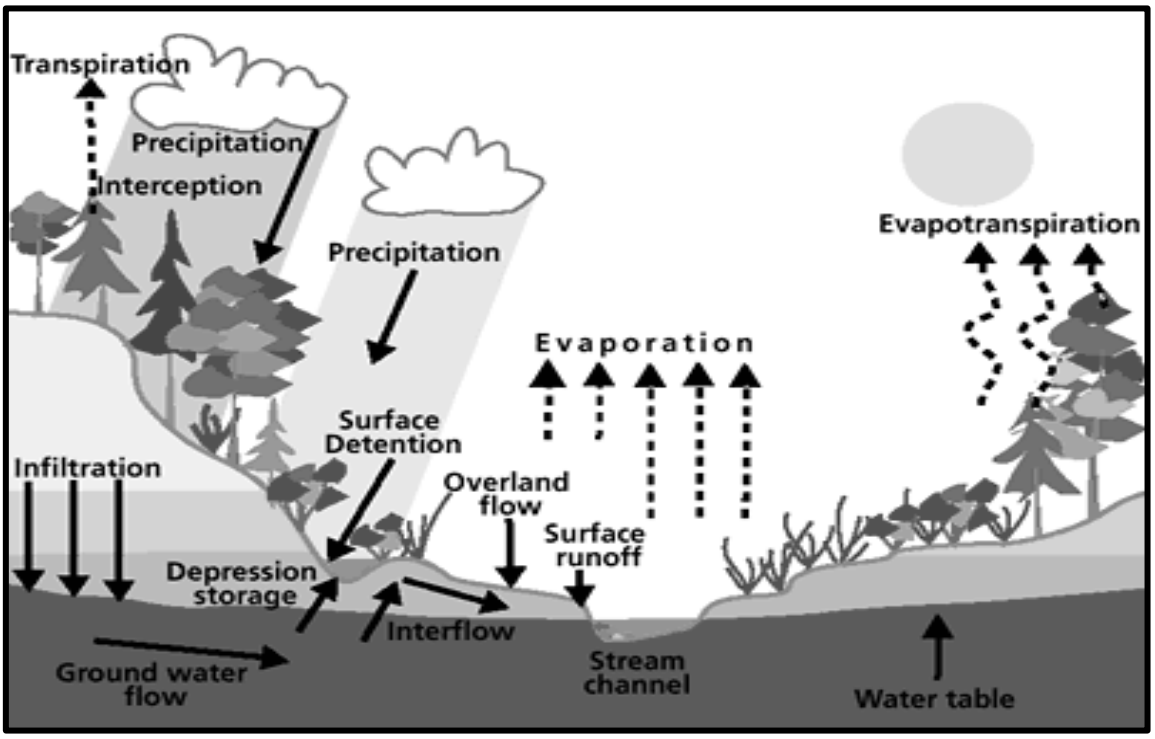
http://www.chm.bris.ac.uk/webprojects2002/spence/page3a.htm

Figure 1.5: Plate boundaries



Source: www.emaze.com

Figure 2.2: Water cycle



Source: www.google.com

Figure 2.3: The extract of Marion Island from a synoptic weather map South African weather map

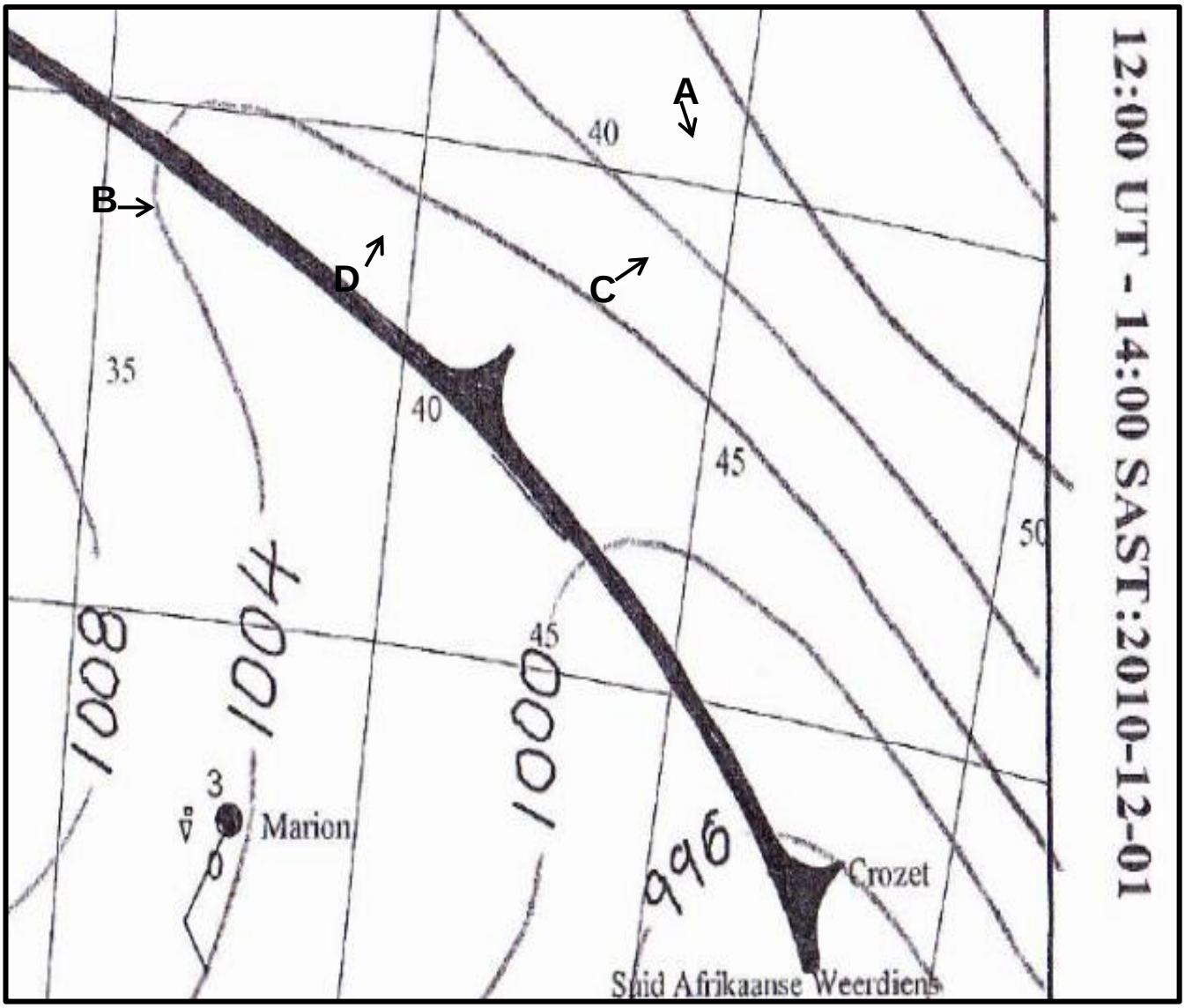
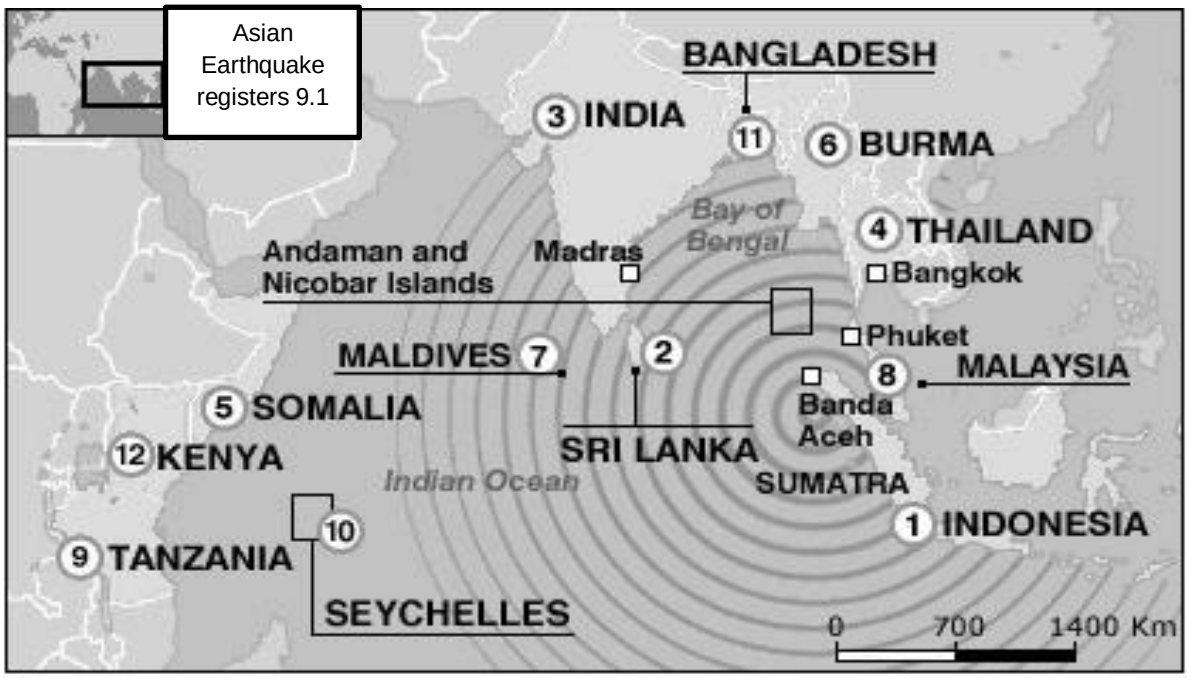


Figure 2.4 Earthquakes in Asia



EARTHQUAKE IN ASIA 26 December 2004

The earthquake and tsunami that ravaged thousands of coastline villages from Thailand to Somalia this past weekend has prompted an urgent need for relief from the international community. With the death toll at 130,000 and rising quickly, the threat of infectious diseases is increasing rapidly as entire islands go without clean water and medicine. Rescue teams from all over the world are on their way to assist the survivors.

We NEED YOUR CONTRIBUTION TO HELP THE SURVIVORS OF THIS TRAGEDY.

http://www.ofm.org/news/1231nwsTERe

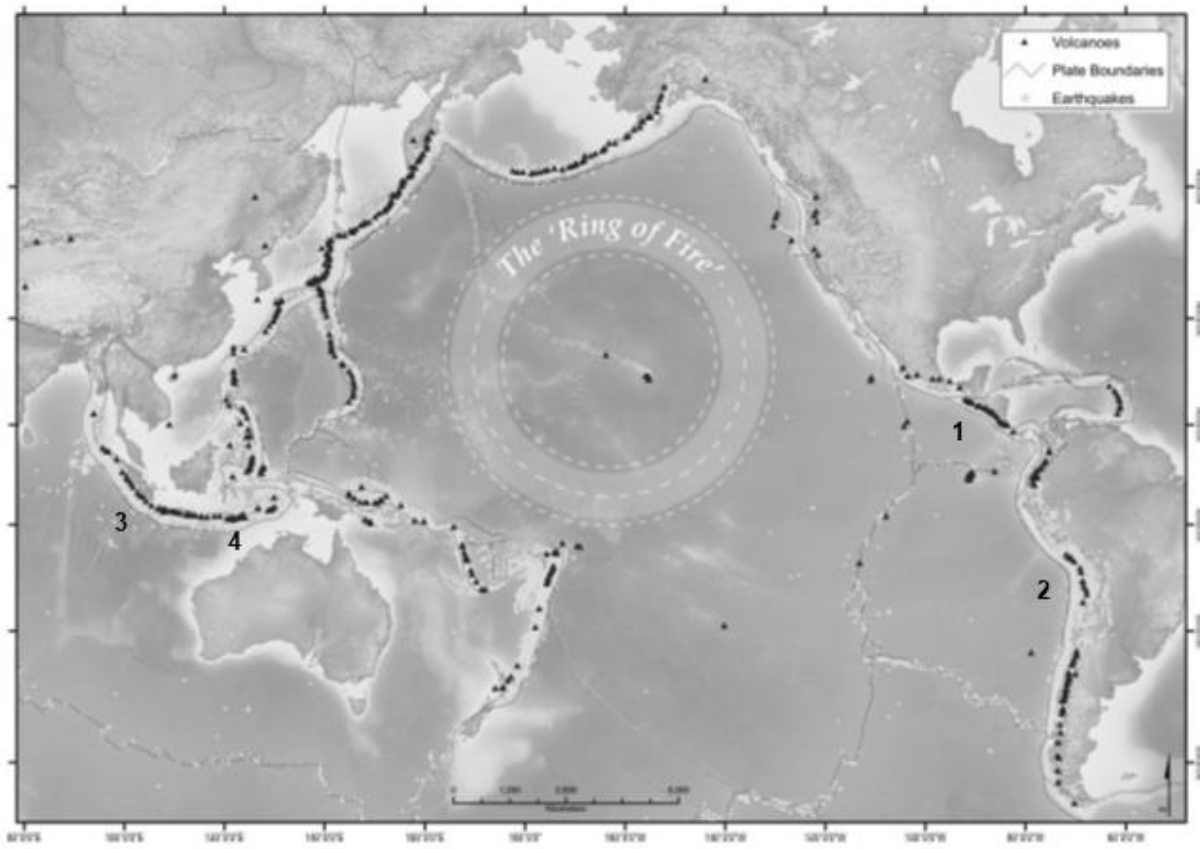
Figure 2.5 A Newspaper extract.

The Earth erupts! THREE volcanoes ablaze in Mexico, Chile and Indonesia while a fourth rumbles away 13 July 2015.

Hundreds of people have been forced to flee from their villages located at the foot of the Colima Volcano in western Mexico's Colima State, following an eruption this weekend which saw the active mountain spew ash and fire. The volcano, also known as the Volcano of Fire, also forced a local airport to close as authorities have sealed off a 7.5-mile area amid fears an even bigger eruption may follow. In Chile, the Villarrica Volcano, around 460 miles south of the capital Santiago, has been erupting overnight. The Villarrica, located near the popular tourist resort of Pucon is among the most active in South America.

In Bali, Indonesia a volcano eruption on the neighbouring island of Java has forced one of Indonesia's busiest airports to close for the second time in just a few days. Mount Raung on Indonesia's main island of Java has been erupting for weeks, and on Thursday a cloud of drifting ash forced the closure of Bali airport during peak holiday season, and four others. It has since been reopened. Air traffic is regularly disrupted by volcanic eruptions in Indonesia, which sits on a belt of seismic activity running around the basin of the Pacific Ocean and is home to the highest number of active volcanoes in the world, around 130. Also, in Indonesia, Mount Sinabung in Sumatra, has been erupting for two months, forcing the evacuation of more than 10,000 people.
[Source: Daily Mail]

Figure 2.5 B Map**: Volcanism**



Key:

1: Colima Volcano, Mexico
2: Villarrica Volcano, Chile
3: Mount Raung, Java, Indonesia
4: Mount Sinabung, Sumatra, Indonesia

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GEOGRAPHY P1

JUNE 2019

QUESTION PAPER

MARKS: 140

TIME: 2 hours

This question paper consists of 07 pages (including cover page)

INSTRUCTIONS TO CANDIDATES

1. Answer all questions
2. Write neatly and legibly.
3. Number the questions exactly as they are numbered on the question paper.
4. All diagrams are included in the annexure.
5. Answer in full sentences, except when you have to state, name, identify or list.
6. Do not write in the margins of the answer book.

QUESTION 1

1.1 Give ONE word/term for each of the following descriptions. Write only the word/term next to the question number (1.1.1-1.1.8) in the answer book.

1.1.1. Lines connecting places with equal air pressure on a synoptic weather map.

1.1.2. Process whereby water vapour becomes a liquid.

1.1.3. Lines connecting places with equal temperature on a weather map.

1.1.4. The pressure that the atmosphere exerts on the Earth.

1.1.5. The instrument used to measure temperature with.

1.1.6. The outermost layer of the Earth.

1.1.7. The process whereby rock breaks up into smaller particles.

1.1.8. The type of rock that forms when magma or lava cools down.

1.1.9. The imprint of a dead plant or animal in rock.

1.1.10. Rock which changes form as a result of pressure and high temperature. (10 x 1) (1)

1.2 Study **FIGURE 1.2** showing three graphs on the structure and the composition of the atmosphere.

1.2.1 In which layer of the atmosphere does the ozone layer occur? (1 x 1) (1)

1.2.2 Explain the relationship between altitude and air pressure. (1 x2) (2)

1.2.3 Explain the role of the ozone layer in the protection of life on Earth. (2 x 2) (4)

1.2.4 Human activities caused great damage to the ozone layer. Motivate / substantiate this statement. (2 x 2) (4)

1.2.5 Explain why parachuting form the thermosphere will be unlikely and very hazardous to your health. Refer to **TWO** weather elements in this layer that would be dangerous. (2 x 2) (4)

1.3 Study **FIGURE 1.3** showing the Greenhouse effect.

1.3.1 a) Identify the source of energy labelled **A**. (1 x 1) (1)

b) Which arrow indicates reflected heat? (1 x 1) (1)

c) Which arrow indicates re-radiated heat? (1 x 1) (1)

1.3.2." A greenhouse is a glass house that people use to grow plants. The air inside stays warm because it traps heat". Examine how the Earth's atmosphere works in a similar way to the way a greenhouse works. (2 x 2) (4)

1.3.3 Explain why the greenhouse effect is necessary for life on Earth? (2 x 2) (4)

1.3.4 Discuss any TWO consequences of global warming for the people of Africa. (2 x 2) (4)

1.4 Study **FIGURE 1.4. A and 1.4.B**: Showing the structure of the earth surface and volcanic intrusions respectively.

1.4.1 Identify the layers **A**, and **D** on figure A. (2 x 1) (2)

1.4.2 Which two layers of the Earth are in solid form? (2 x 1) (2)

1.4.3 a) Which layer of the Earth experience the highest temperature? (1 x 1) (1)

b) Explain why the layer named at 1.4.3.a) is experience the highest temperature. (2 x 2) (4)

1.4.4 Identify the volcanic intrusion **A** and **C** in figure B. (2 x 1) (2)

1.4.5 What rock type does volcanic intrusions consist of? (1 x 1) (1)

1.4.6 Classify the features labelled **F** and **I** as either lava or magma. (1 x 1) (1)

1.4.7 Which volcano, **H** or **K** is extinct? (1 x 2) (2)

1.5 Study **FIGURE 1.5** showing plate boundaries.

1.5.1 Name the types of plate boundaries illustrated by **A**, **B** and **C** respectively. (3 x 1) (3)

1.5.2 Distinguish between mid-oceanic ridges and oceanic trenches by referring to the different ways they form. (2 x 2) (4)

1.5.3 Diagram B is associated with fold mountain ranges. **Explain** how fold mountain ranges form. (2 x 2) (4)

1.5.4 In a paragraph of 6 lines **discuss** the mechanics behind the movement of plates. (2 x 2) (4)

[70]

QUESTION 2

2.1. Choose a term from COLUNM B that matches the description in COLUNM A. Write only the letter (A-L) next to the question number (2.1.1-2.1.10) in the answer book, for example 2.1.11 J.

COLUMN A		COLUNM B	
2.1.1	Dew	A	Falling liquid water
2.1.2	landforms	B	Forms inside cumulonimbus clouds
2.1.3	Hail	C	Freezes the sap inside a plant
2.1.4	Caldera	D	Distinctive features that appear on the land that have been produced by a variety of natural processes.
2.1.5	tectonic	E	Occurs mainly in winter at the bottom of a valley
2.1.6	Rain	F	A collapsed volcano and often contains a lake
2.1.7	Divergent	G	Moving together
2.1.8	Convergent	H	Minute ice crystals that join together
2.1.9	Plate boundaries	I	Related to structural movements of earth's crust
2.1.10	Snow	J	Edges of the plates
		K	Moving apart
		L	Temperature of dew point is above freezing level

(10 x 1) (10)

2.2 Study **FIGURE 2.2**: Moisture in the atmosphere

2.2.1 Identify the process illustrated by the sketch in Figure 2.2. (1 x 1) (1)

2.2.2 Define the term *evaporation.* (1 x 1) (1)

2.2.3 Explain the importance of evaporation in the formation of clouds. (2 x 2) (4)

2.2.4 The precipitation in this sketch is caused when moist air is forced up against a mountain range. Identify this type of rain. (1 x 1) (1)

2.2.5 The type of rain mentioned in 2.4.4 often leads to the formation of a rain shadow. Explain what a rain shadow is. (1 x 2) (2)

2.2.6 Precipitation is the life blood of life on land. It provides the necessary water for all land-living organism to survive. In no more than 6 lines write a paragraph explaining how rain forms. (3 x 2) (6)

2.3 Refer to **FIGURE 2.3** Use the synoptic weather map clip to answer the questions below. This synoptic weather map is only an extract from a South African weather maps which illustrates the weather for Marion Island and answer the following questions:

2.3.1. State the time in South Africa when this weather information was observed? (1 x 1) (1)

2.3.2. Identify the lines labelled **A**, **B**, **C** and **D**. (4 x 1) (4)

2.3.3. Identify the season illustrated in this map? (1 x 1) (1)

2.3.4 Motivate your answer in 2.3.3 with evidence from the map. (1 x 2) (2)

2.3.5 Describe the weather at Marion Island by referring to the following:

a) Temperature

b) Dew point temperature

c) Wind speed

d) Wind direction

e) Weather

f) Air pressure

g) Cloud cover (7 x 1) (1)

2.4 Study **FIGURE 2.4** Showing the map, photograph and article on the Earthquake in Asia.

2.4.1. What is the magnitude of this devastating earth quake? (1 x 2) (2)

2.4.2. Where is the epicentre of this earthquake? (1 x 1) (1)

2.4.3. Explain what the epicentre of an earthquake is. (1 x 2) (2)

2.4.4. Identify the deadly phenomenon originating in oceans associated with earthquakes illustrated in the photograph. (1 x 2) (2)

2.4.5 Why does this phenomenon influence the coastline the most? (2 x 1) (2)

2.4.6 Earthquakes are very destructive and, in this case, led to the loss of the lives of more than 130 000 people. In a paragraph of no more than 6 lines, explain how warning systems and rescue operations can reduce the impact of earth quakes in communities like this. (3 x 2) (6)

2.5 Read the article, **FIGURE 2.5 A** and the map **FIGURE 2.5 B** about volcanoes

2.5.1 Air traffic is regularly disrupted by volcanic eruptions in Indonesia, which sits on a belt of seismic activity running around the basin of the Pacific Ocean and is home to the highest number of active volcanoes in the world, around 130.

a. Provide the name of the belt of seismic activity running around the basin of the Pacific Ocean. (1 x 1) (1)

b. Explain why there is such a high frequency of active volcanoes in this belt. (1 x 2) (2)

2.5.2 The volcanoes are classified as being active. Distinguish between active and dormant volcanoes. (2 x 2) (4)

2.5.3 Many airports in the region were closed due to the volcanic activity. Comment on why the air traffic controllers chose this course of action. (1 x 2) (2)

2.5.4 Explain the negative environmental effect of the volcanic eruption. (2 x 2) (4)

2.5.5 Despite the devastating effects of volcanoes, many people decide to live in areas where volcanic eruptions occur. Why is this the case? (1 x 2) (2)

[70]

GRAND TOTAL = 140