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SENIOR PHASE – SOCIAL SCIENCES

GRADE 8

TERM 2 GEOGRAPHY WORKBOOK

TEACHER'S GUIDE

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- such as Beaufort West, Cape Town, Durban, George, Johannesburg, Mbombela, Mmabatho, Mthatha, Port Nolloth, Upington

WEEK 5: South Africa's climate

- Physical map of South Africa (review from Grade 5)
- How each of the **FIVE** factors influence temperature and rainfall in selected areas –
- such as Beaufort West, Cape Town, Durban, George, Johannesburg, Mbombela, Mmabatho, Mthatha, Port Nolloth, Upington

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WEEK 1: FACTORS THAT INFLUENCE TEMPERATURE AND RAINFALL

1.1 State whether the following sentences are TRUE or FALSE.

(5x1)

5

L1

1.1.1 Precipitation is anything falling from the atmosphere.

F

1.1.2 A wind vane is used to determine the direction of the wind.

T

1.1.3 The Rocky Mountain Range blocks cold polar air from reaching the centre of the USA.

F

1.1.4 Lines of latitude are also known as perpendiculars.

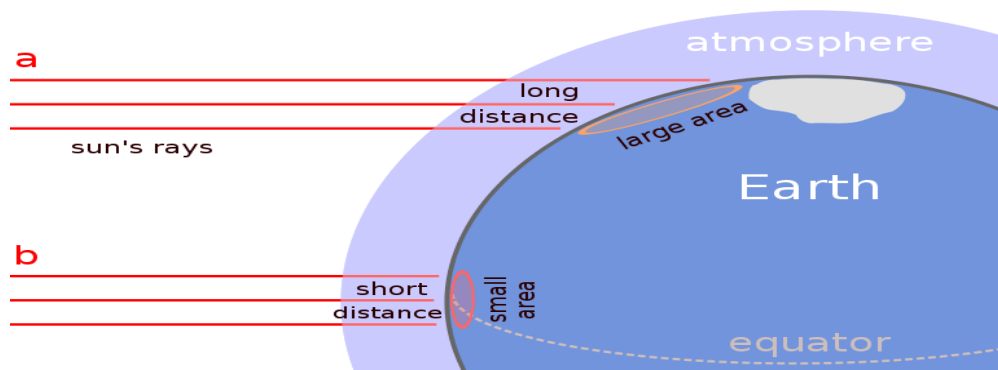
F

1.1.5 South facing slopes are cooler than north facing slopes in the southern hemisphere.

T

[5]

1.2 Study the diagram below showing the influence from the equator on temperature and rainfall and answer the questions that follow:



1.2.1 Give **TWO** reasons why hot temperatures are found near the equator. (2x2) **4**

The Sun shines more directly on the equator than anywhere else. ✓✓
There is a small area heated by the sun ✓✓

L2

1.2.2 Why are the polar areas cooler than the Tropical areas? (1x2) **2**

Less heat is received ✓✓
The heat is spread over a wider area. ✓✓

L2

1.2.3 How is rainfall formed in the Equatorial areas? (4x1) **4**

The Equatorial areas are warmer ✓
heated and moisture-laden air rises ✓
and cools forming clouds ✓
and rainfall ✓

L3

1.2.3 Mention **FOUR** (4) factors influencing the temperature and precipitation of an area. (4x1) **4**

latitude ✓, altitude ✓, ocean currents ✓, mountain ranges ✓ and prevailing winds ✓. ANY FOUR

L1

1.2.4 How does distance from the sea affect temperature? (2x2) **4**
Coastal areas are cooler and wetter than inland areas. ✓✓ **L2**
The centre of continents is subject to a large range of temperatures. ✓✓
Inland places have colder winters than places closer to the sea. ✓✓
Land heats up more rapidly than water. ✓✓
Water cools down more slowly than land. ✓✓
ANY RELEVANT TWO

1.2.5 Explain why places close to the sea have cooler summers and warmer winters. (2x2) **4**
The warm air over the sea helps to keep winter temperatures higher along the coast. ✓✓ **L2**
In summer, the sea is cooler than the land, this helps to lower summer temperatures along the coast. ✓✓

[22]

WEEK 2: FACTORS THAT INFLUENCE TEMPERATURE AND RAINFALL

2.1 2.1.1 Choose the correct word. An increase in (**altitude**✓, **latitude**) the temperature will (**increase/decrease**✓) 2x1 **2**
L1

2.1.2 **Explain** why places at the plateau will experience lower temperature than places at the coastal areas. 2x2 **4**
Temperature drops with increase in altitude /height. Most Of South Africa is situated on the plateau. ✓✓ **L2**
Regions situated on the plateau are generally cooler. ✓✓

2.1.3 **Explain** why Johannesburg or Lesotho will experiences cold temperatures during winter? 2x2 **4**
Johannesburg and Lesotho experience cold temperature because during the winter the earth cool down rapidly, therefore the inland will always be colder in winter. ✓✓ **L2**

2.1.4 What is the difference between maritime climate and continental Climate? 2x2 **4**
Maritime refer to coastal areas with a small difference between the max/summer temperature and the min/ winter temperature. ✓✓ **L2**
Continental climate refer to Inland areas with a big difference between the summer and winter temperature. ✓✓

2.1.5 South Africa's coastal regions are therefore relatively warm in winter. Do you agree? **Motivate** your answer. 1+2 **3**
L2

Yes, ✓ South Africa's coastal regions are relatively warm in winter. Water takes long to heat up and take longer to cool down, therefore water bodies remain warm and influence the temperature at the coastal areas. Temperature at lower altitudes is warm. ✓✓

2.1.6 **Indicate** whether Cape Town will experience a Continental or Maritime Climate. **Motivate** your answer.

1+2 3
L2

Maritime ✓ There is small difference between the Summer and winter temperature. ✓✓

2.1.7 **Explain** why place at the eastern coast in South Africa receives a high rainfall?

1x2 2
L2

The warm Mozambique current causes warm air to rise above the escarpment during summer, therefore the high rainfall at the east coast. ✓✓

Study Fig 2.1 and Fig 2.2 and answer question below:

Figure 2.1 Mt Everest

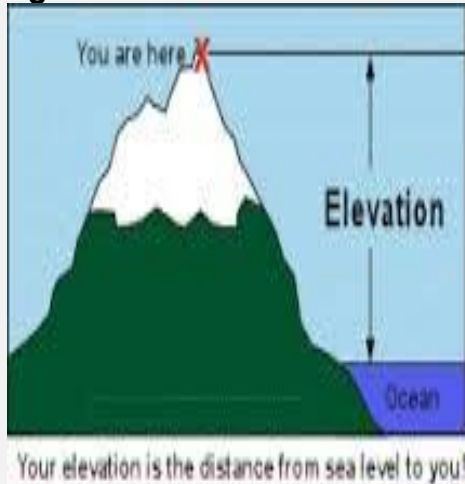


Figure 2.2 Mt Everest



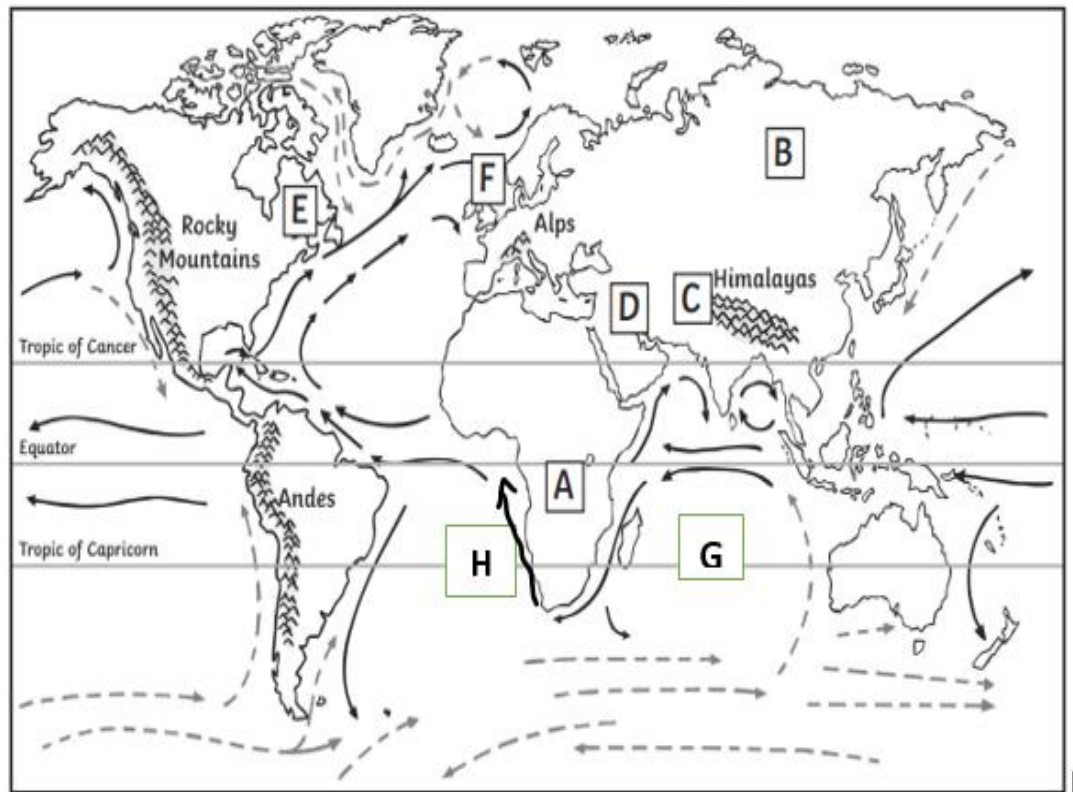
2.1.8 In a paragraph explain why Mount Everest will always be covered with snow.

4x2 8
L3

- Temperature decreases with altitude. ✓✓
- Mount Everest is the highest mountain in Africa and the highest free-standing mountain in the world... ✓✓
- Snow can occur all year round, Mt Everest has night-time temperatures that can range between 10 and -20 degrees / freezing point. ✓✓
- In the upper atmosphere as the air cools down sublimation takes place where moist air turns into ice crystal, called snow. ✓✓
- Snow occurs on the peak all year round. (The higher you go the colder it becomes) ✓✓

[30]

2.2 Study the map below and answer the questions.



2.2.1 **Identify** the Ocean currents at G and H **around South African** coasts. **2x1** **2**

G- Warm Mozambique (Agulhas Current) ✓ H. -Cold Benguela current. ✓ **L1**

2.2.2 **Identify** any **TWO** countries in Southern Africa that are affected by warm currents. **2x1** **2**

Mozambique✓, Swaziland ✓ ANY TWO **L1**

2.2.3 **Explain** how the Current at H will affect the temperature at places at the coastal places. **1x2** **2**

The cold Benguela current will decrease the temperature, places located along H.✓✓ **L2**

2.2.4 Explain how the current at G will affect the temperature and rainfall for places along the eastern coast? **2x2** **4**

The current at G will increase the temperatures, ✓✓ **L2**

therefore warm air will rise and causing a high rainfall at those areas. ✓✓

2.2.4 **Explain** why area A is warmer than area B?

2x2 4

Place A near the equator (equatorial region) will be warmer, ✓✓ than place located near the Poles -Area B (Polar areas) ✓✓

L2

2.2. 6 Explain why area D is warmer than area C?

2x2 4

L2

C- Colder. Himalayas is at high altitude, therefore the higher you go the colder it become-✓✓

D – warmer- places at lower altitude are warmer ✓✓

2.2.7 **Explain** why places at the east coast of South Africa are experiencing high rainfall?

1x2 2

L2

The warm Mozambique current increase the water body/ ocean, therefore warm moist air rises and causing a high rain to fall at places on the east coast. ✓✓

2.2.8 **Choose** the correct word.

1x2 2

Ocean currents that come from the equator are (cold/ **warm**✓) while ocean current coming from the poles are (warm/**cold**✓)

L1

[22]

WEEK 3: FACTORS THAT INFLUENCE TEMPERATURE AND RAINFALL

3.1 3.1 Choose the correct answer (by underlining) to make the statements True

3.1.1 Where it rains more on a mountain range is called its –

1x1 1

L1

a) Cold Front

b) Leeward side

c) Windward side✓

d) Warm front

- | | | | |
|-------|--|-----|----|
| 3.1.2 | Why does cloud formation disappear as the air moves slowly towards the leeward side of a mountain? | 1x1 | 1 |
| | a) The air condenses as it moves to the leeward side. | | L1 |
| | b) The amount of water vapour is not enough. | | |
| | c) The temperature becomes lower. ✓ | | |
| | d) There is too much water vapour. | | |
-
- | | | | |
|-------|--|-----|----|
| 3.1.3 | How does the windward side differ from the leeward side of a highland? | 1x1 | 1 |
| | a) The windward receives more precipitation than the leeward. ✓ | | L1 |
| | b) The leeward side has more vegetation than the windward side. | | |
| | c) The windward side receives more heat than the leeward side. | | |
| | d) The leeward side receives more precipitation than the windward side | | |
-
- | | | | |
|-------|--|-----|----|
| 3.1.4 | Why does cloud formation disappear as the air moves slowly towards the leeward side of a mountain? | 1x1 | 1 |
| | a) The air condenses as it moves to the leeward side. | | L1 |
| | b) The amount of water vapor is not enough. | | |
| | c) The temperature becomes lower. ✓ | | |
| | d) There is too much water vapor. | | |
-
- | | | | |
|-------|--|-----|----|
| 3.1.5 | Why do mountain climbers bring thick jackets when they go up the mountain? | 1x1 | 1 |
| | a) The temperature increases as the altitude increases | | L1 |
| | b) The temperature decreases as the altitude increases ✓ | | |
| | c) The altitude increases as the temperature increases | | |
| | d) The altitude decreases as the temperature increases. | | |

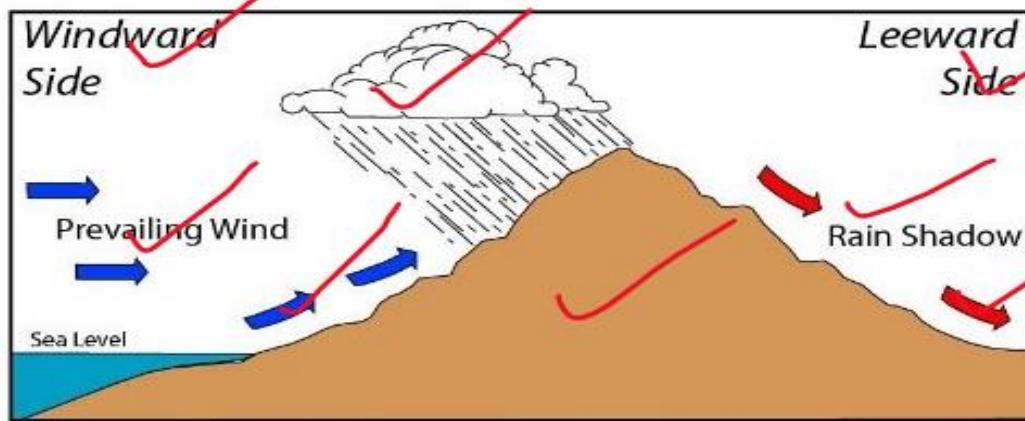
[5]

3.2 Study the picture below and answer the questions.



3.2.1 Which side of the mountain experiences low temperature? Windward side ✓	1x1	1 L1
3.2.2 Which side of the mountain experiences high temperature? Leeward side ✓	1x1	1 L1
3.2.3 What dry region forms at the back of the Mountain? Rain shadow side ✓	1x1	1 L1
3.2.4. What happens to water vapour as it rises over the Mountain? Moist wind coming from the sea flow up the mountain. ✓ The temperature falls with altitude, water vapour condenses and there is precipitation. ✓	1x2	2 L3
3.2.5 What happens to the parcel of air as it moves on the leeward side? The parcel of air will descend /drop ✓✓ The parcel of air becomes warmer and drier	1x2	2 L2
3.2.6 How does altitude/height affect climate? ➤ Areas at high altitude will have a low temperature✓✓ ➤ Areas at low altitude will have higher temperature. ✓✓ ANY RELEVANT TWO	2x2	4 L3
3.2.7 Briefly explain how slopes can influence human habitat. . ➤ Slopes facing the North in the S Hemisphere are warmer than the South-facing slopes✓✓. ➤ Because they receive direct radiation – Sun strike directly to the North ✓✓ ➤ So, the people will prefer to stay in north -facing warmer places than colder one. ✓✓ ➤ The very same will apply to the South facing slopes in the Northern Hemisphere. ✓✓ ➤ They are warmer than the Northern slopes. ✓✓ ➤ ANY RELEVANT THREE	3x2	6 L2
[17]		

3.3 3.3.1 Mountains can force wet air to rise and cool that result in rain on one side of the mountain. Draw and label sketch to illustrate how altitude and relief influence the rain on a mountain.	8x1	8 L3
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[8]

3.4 Study the photograph below showing Mt Kilimanjaro in Kenya, Kenya is a warm country situated almost on the equator. However, Mt Kilimanjaro always has snow on its summit.

4x2

8

L3

Explain by writing a paragraph why it is so cold at the top of the mountain.



- It is so because temperature decreases with an increase in altitude. ✓✓
 - In the picture alongside it shows that it is cold on the top/peak of Mt. Kilimanjaro nearly 6000m above the sea level than on a lower altitude/ place below. ✓✓
 - Mt. Kilimanjaro (5,895 m) is one among the tallest mountains and as its height crosses snow line there will be snow on the mountain. ✓✓
 - That is why Mt. Kilimanjaro covered with snow in high altitude ✓✓.
- ANY RELEVANT FOUR**

[8]

WEEK 4: HOW EACH OF THE FIVE FACTORS INFLUENCE TEMPERATURE AND RAINFALL IN SELECTED AREAS.

- 4.1 Refer to the map of South Africa showing cities and temperatures and study the table showing selected South African cities/towns with their average annual temperature and rainfall.**



Cities/Towns	Average annual temperature in °C	Annual temperature range in °C	Annual Rainfall in mm	Altitude in meters
Port Nolloth	14.2	7	61	11.6
Durban	18.6	5.6	1008	46
Cape Town	16.9	8	853	42
Johannesburg	16	11	790	1757
Bloemfontein	16.1	15.2	540	1398
Beaufort West	18	13	225	890

The climate rule of latitude states: "Places on the same latitude should have the same temperature and rainfall". According to the map, **Durban** and **Port Nolloth** are more or less on the same latitude but has significant differences in their annual average temperatures.

4.1.1 **Calculate** the difference in the annual average temperature between the two places. **4x1 4**

$$18.6^{\circ}\text{C} - 14.2^{\circ}\text{C} = 4.4^{\circ}\text{C}$$

L3

4.1.2 **Explain** why there is a difference in annual average temperature between the two places. **2x2 4**

L3

Durban is in the east coast benefiting sufficient warm moist air from the warm Indian ocean/warm Mozambique current bringing warmer temperatures

Port Nolloth is in the west coast, influenced by Cold Benguela Current with the colder temperatures.

4.1.3 **Explain** the reason for the low annual rainfall received in **Port Nolloth**. **1x2 2**

The cold Benguela current brings cold dry air which leads to less rain

L3

Port Nolloth is not in the coast but more in the interior which is generally drier hence less rainfall✓✓

[10]

4.2 Study the difference in the temperature range between Durban and Bloemfontein.

4.2.1 Define the term temperature range.

1x2 2

The difference between the maximum and minimum temperatures or between the highest and lowest mean temperatures✓✓

L2

4.2.2 Which of the **TWO** places have a continental climate?
Bloemfontein✓

1x1 1

L1

4.2.3 **Discuss TWO** reasons for the huge difference in the temperature range between the two places.

2x2 4

L2

- **Durban: is found in the east coast – warm air from the Indian ocean the warm Mozambique current creating warmer temperatures than Bloemfontein. ✓✓**
- **Bloemfontein: is found in the interior, over the plateau where temperatures are extreme. ✓✓**
- **Durban experiences high temperatures due to lower altitude, while Bloemfontein experiences lower temperatures due to high altitude. ✓✓**

[7]

4.3 Study the difference in rainfall between Cape Town and Beaufort West.

4.3.1 **Calculate** the difference in rainfall between the two places.

4x1 4

853mm✓ – 225mm ✓ = 628mm✓✓

L2

4.3.2 Name the rainfall season for Cape Town.
Winter ✓

1x1 1

L1

4.3.3 Which of the two places have a maritime climate?
Cape Town✓

1x1 1

L1

4.3.4 Explain why Beaufort West received low rainfall?

1x2 2

Low rainfall is due to far distance from the sea – lack of moisture ✓✓

L2

[8]

WEEK 5: HOW EACH OF THE FIVE FACTORS INFLUENCE TEMPERATURE AND RAINFALL IN SELECTED AREAS.

Refer to the map of South Africa showing cities and temperatures and study the table showing selected South African cities/towns with their average annual temperature and rainfall.



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Bloemfontein	16.1	15.2	540	1398
Beaufort West	18	13	225	890

5.1 Study the data for **Johannesburg** in the table and its location on the map.

5.1.1 What is Johannesburg's annual average rainfall?

1x1 1
L1

790mm ✓

5.1.2 Name the rainfall season for Johannesburg.

1x1 1
L1

Summer ✓

5.1.3 Explain the cool annual average temperature of Johannesburg.

1x2 2
L2

Cool annual temperature is due to the influence of altitude – Johannesburg located in higher altitudes where temperatures are cold ✓✓

5.1.4 Discuss TWO reasons for the high annual rainfall received in Durban.

2x2 4

- The influence of warm Indian ocean – bringing warm moist air causing rainfall✓✓ L2
- The influence of distance from the sea – warm moist air from Indian ocean causing rainfall✓✓
- The influence of the ocean current – warm Mozambique current bringing warm moist air causing rainfall✓✓

ANY RELEVANT 2

- 5.1.5 Look at the annual temperature range for Durban and Cape Town. **Account** for the different temperatures that are experienced along the east and west coast. 2x2 4 L3

- The Agulhas/Mozambique current flows from the equatorial regions bringing warm air to the eastern parts of South Africa therefore Durban has warmer average annual temperature throughout the year. ✓✓
- Cape Town is along the west coast experiences lower temperatures partly because of the cooling effect of the cold Benguela current coming from the cold polar regions. ✓✓

- 5.1.6. **Account** for Durban experiencing a lower temperature range than Johannesburg. 2x2 4 L3

- Durban is near the coast (water has a high specific heat) and experiences a maritime climate✓✓ while Johannesburg is inland (lower specific heat) and experiences a continental climate. ✓✓
- Therefore, Durban has a lower temperature range – cools and heats slower✓✓ than Johannesburg, which has a higher temperature range (heats and cools quickly). ✓✓

[16]

WEEK 6:DIFFERENCES BETWEEN WEATHER AND CLIMATE**6.1 Indicate whether the statement is WEATHER or CLIMATE**

- 6.1.1 Hot and dry conditions, together with strong winds, led to bushfires near Wagga. 1x1 1 L1

WEATHER✓

- 6.1.2 At this time of year Darwin usually experiences hot and wet weather. 1x1 1 L1

CLIMATE✓

- 6.1.3 The maximum temperature in Moscow today is -23°C 1x1 1 L1

WEATHER✓

6.1.4 On Monday night a southerly change arrived about 10:30pm.	1x1	1
WEATHER ✓		L1
6.1.5 Tully in Queensland is Australia's wettest town.	1x1	1
CLIMATE ✓		L1
6.1.6 September was chosen for the 2000 Olympics because that month usually has the best weather.	1x1	1
CLIMATE ✓		L1
6.1.7 On New Year's Day the temperature in Sydney was 45°C.	1x1	1
WEATHER ✓		L1
6.1.8 Sydney receives more rain per year than London.	1x1	1
CLIMATE ✓		L1
6.1.9 Differentiate between weather and climate.	2x2	4
Weather refers to atmospheric conditions of a place over a short period of time ✓✓ while climate is the average weather of a place or a region over a long period of time ✓✓		L2
6.1.10 Read the statements below and for each statement say:		

1) Summer is not a good time to visit Durban.
You feel hot and sticky

2) The soccer match was stopped on Friday because of the gale that blew and heavy rain that followed

a. whether the statement is about weather or climate:	2x1	2
1): Climate ✓		L1
2): Weather ✓		
b. to which weather elements the statement refers.	4x1	4
1): Temperature ✓ and Humidity ✓		L1
2): Wind ✓ and precipitation ✓		

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6.2 Elements of weather (*temperature, humidity, winds and precipitation*)

6.2.1 Write down the correct word or term for the following:

a) The instrument used to measure rainfall or precipitation. **1x1** **1**
Rain gauge ✓ **L1**

b) The element of weather that is measured with hygrometer. **1x1** **1**
Humidity ✓ **L1**

c) The instrument that is used to measure wind speed. **1x1** **1**
Anemometer ✓ **L1**

6.2.2 **Fill in** the table below, elements of weather and Units of measurement. **2x1** **2**
L2

Elements of weather	Units of measurement
Temperature	(a) °C ✓
Wind speed	(b) knots ✓

6.2.3 **Name and describe 4** elements of weather. **4x2** **8**
L2

- **Temperature** ✓: how hot or cold the air is ✓
- **Humidity** ✓: the amount of water vapour in the air ✓
- **Wind speed** ✓: how fast the wind is blowing ✓
- **Wind direction** ✓: direction from where the wind blows ✓
- **Precipitation** ✓: condensed water vapour that falls to the ground as rain, hail, snow, sleet ✓

6.2.4 **Name and define** the liquid and frozen forms of precipitation. **4x2** **8**
L2

Liquid precipitation

- **Drizzle** ✓: It consists of light water precipitation where liquid water droplets are smaller than those of rain ✓
- **Rain** ✓: it occurs when precipitation falls to the Earth as water droplets. ✓

Solid precipitation

- **Hail** ✓: Hail is frozen pellets of rain that were formed by raindrops being carried up and down in the air currents of a cumulonimbus (high) cloud. ✓
- **Sleet** ✓: It is a form of precipitation that consists of small balls of ice falling from the atmosphere. ✓
- **Snow** ✓: form when the temperature is below freezing, and water vapor is converted straight into a solid. ✓

6.2.5 In a short **paragraph**, **observe** the climate of the place you live in.

4x2

8

Discuss the different characteristics and what you like or do not like about that climate

L3

The next points could be raised:

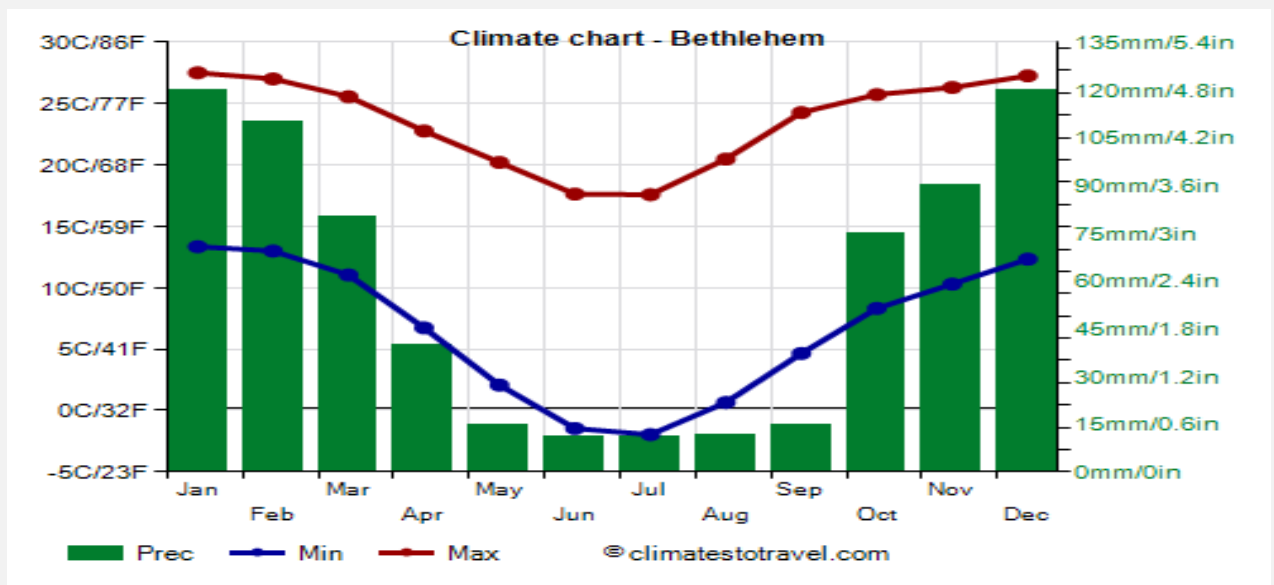
- The region is far from the ocean ✓ ✓
- The altitude 1,913 m above sea level. ✓ ✓
- The mild climate in Gauteng is never humid and is never uncomfortably hot either ✓ ✓
- Summer months average a minimum temperature of 17 degrees and a maximum of approximately 28. ✓ ✓
- Only mid-winter, the months of July and August, have the coldest weather. ✓ ✓
- Winter days have been known to reach temperatures of 25 degrees but generally the winter months averages a low of 5 degrees and a maximum of 19 degrees Gauteng experience summer thunderstorms in the late afternoon. ✓ ✓
- These thunderstorms are accompanied by thunder and lightning but are very brief ✓ ✓
- Hail is usually experienced during these thundershowers and snow is almost never found within this area. ✓ ✓

ANY FOUR RELEVANT ANSWERS

[29]

6.3 Elements of weather (*temperature, humidity, winds and precipitation*)

6.3.1 Use the Climate chart of Bethlehem Figure 6.1 below and answer the questions:



a) In which FOUR months is the average rainfall highest?

4x1 4

January✓

February✓

December✓

November✓

L1

b) In which season are these FOUR months?

1x1 1

Summer season ✓

L1

c) In what units is precipitation measured?

1x2 2

mm/ (millimetres) ✓✓

L1

d) Calculate the range monthly temperature in Bethlehem in January and in July.

4x2 8

January: Highest temperature -Lowest temperature

= 27°C✓ - 13°C✓

= 14°C✓

L3

July: Highest temperature -Lowest temperature

= 18°C✓ - (-4°C✓)

= 14°C✓

e) Which month was the wettest and how much rain was recorded?

2x1 2

January✓: 120mm✓

L2

[17]

WEEK 7 CLIMATE AROUND THE WORLD

7.1 Different parts of the world have different kinds of climates.

7.1.1 Define the term Climate region.

1x2 2

A continuous geographical area in which similar climate

characteristics are observed ✓✓

L2

7.1.2. Match column A and B to choose the relevant kind of climate in Column B

3x1 3

Column A	Column B
Latitude	Kind of climate
7.1.2.1. 40° and 65° N and S latitude	Tropical climate
7.1.2.2. Between the equator and 25°N and S latitude	Subtropical climate
7.1.2.3. 20° and 40° latitude East coast of continents	Temperate climate

L1

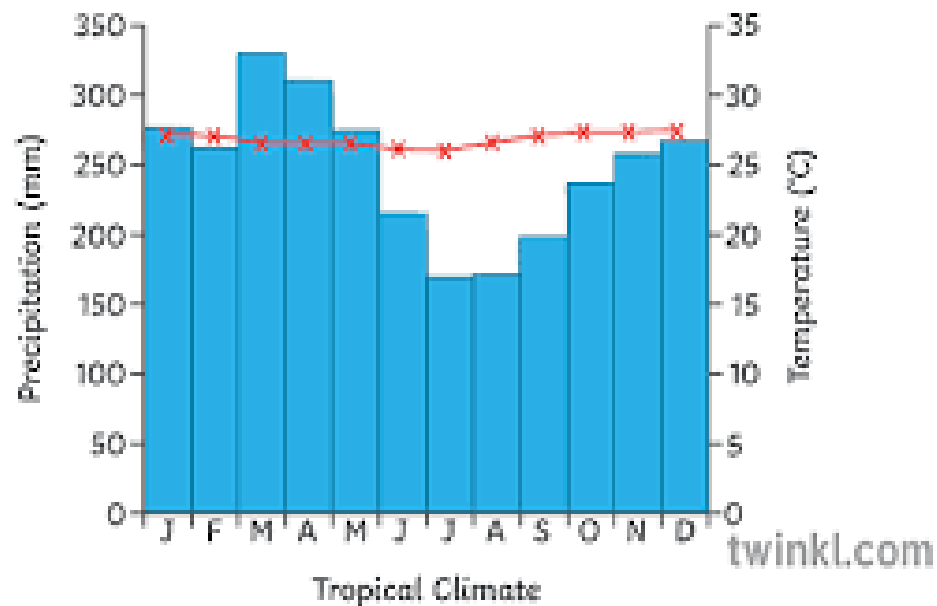
7.1.2.1 _____ Temperate climate ✓ _____

7.1.2.2 _____ Tropical climate ✓ _____

7.1.2.3 _____ Subtropical climate ✓ _____

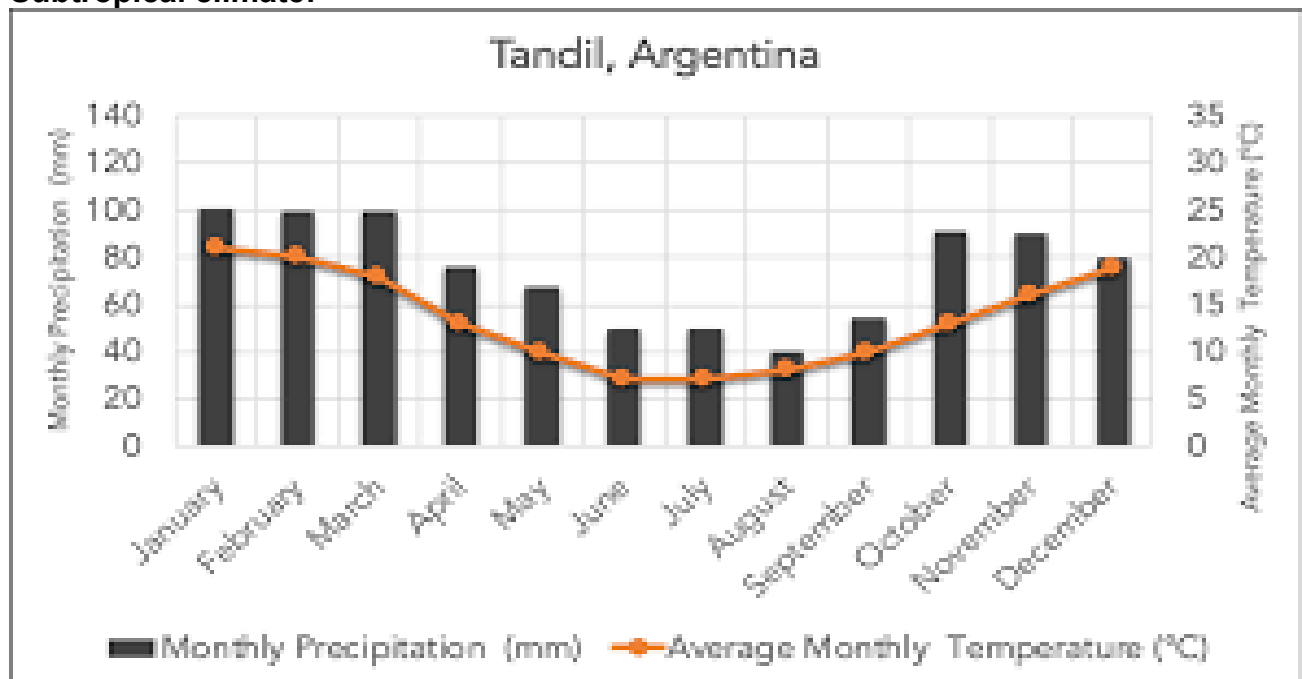
7.1.3. Use the 3 graphs below to describe the characteristics of each kind of climate in terms of temperature and rainfall.

Tropical climate:

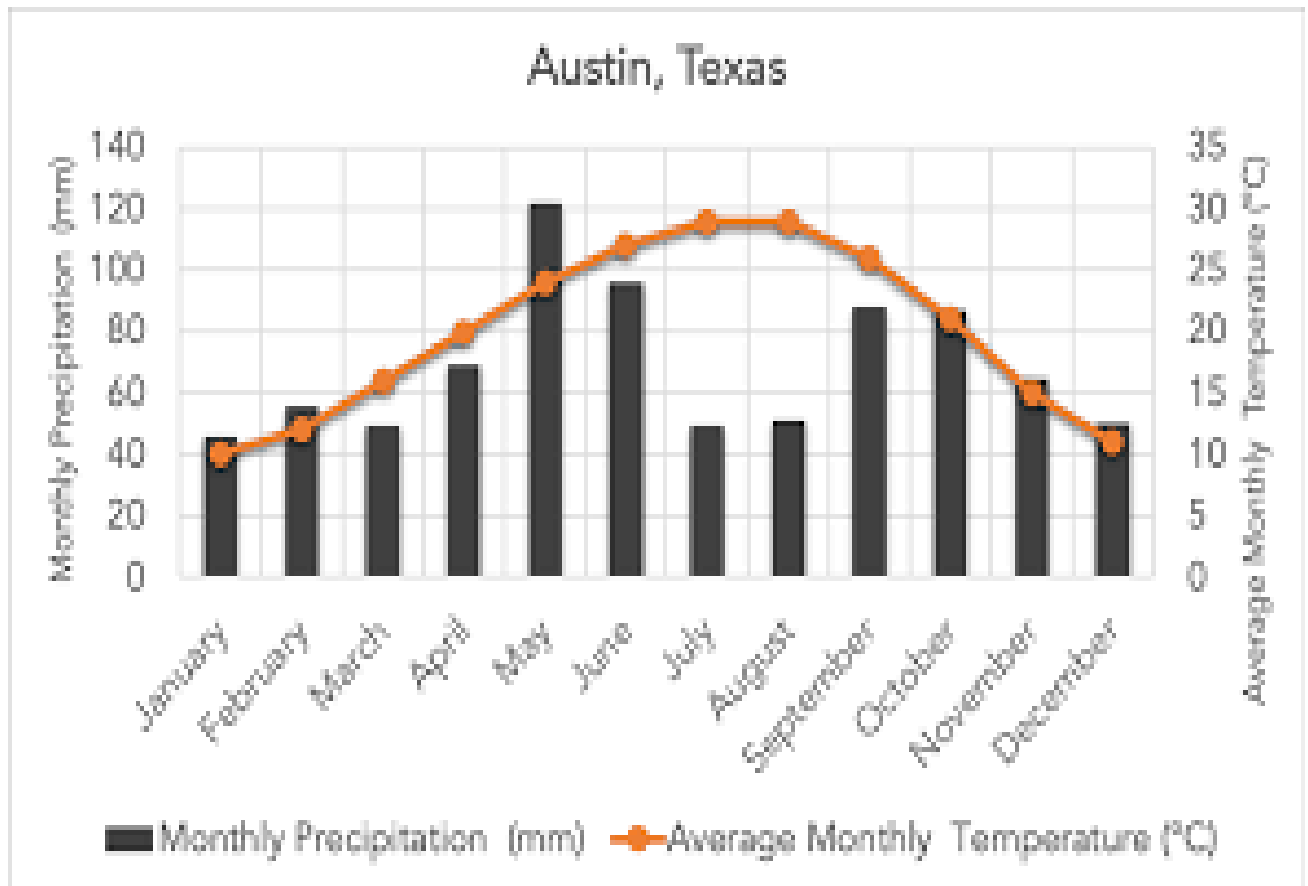


<https://www.twinkl.ae/illustration/tropical-climate-graph-geography-ks3-ks4>

Subtropical climate:



Temperate climate:



7.1.3.1. Tropical climate

3x4 12

Temperature: **High temperatures, hot summers, warm winter** ✓✓

L2

Rainfall: **High rainfall occurs mainly in summer** ✓✓

7.1.3.2. Subtropical climate

Temperature: **High temperatures** ✓✓

Rainfall: **Evenly distributed throughout the year** ✓✓

7.1.3.3. Temperature climate

Temperature: **Warm summers** ✓, **cool winters** ✓

Rainfall: **Lot of rain mostly in summer** ✓

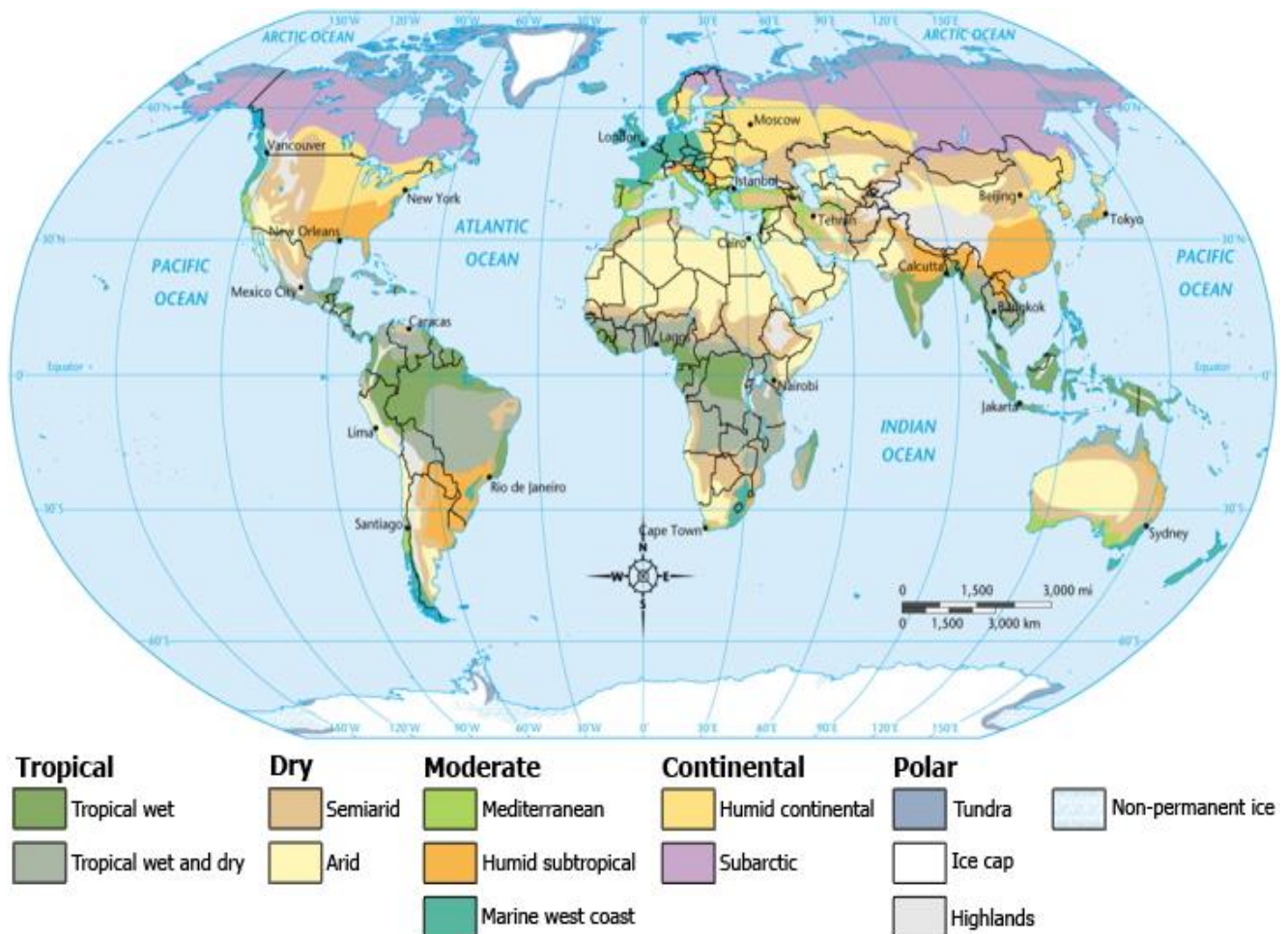
Some areas have rain throughout the year ✓

[17

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7.2 Study the following map and answer the questions below:

Maps with climatic regions



7.2.1 Find **Santiago** on the map above. Its summer temperature is about 10 °C.

7.2.1 a) What climate region lies to the east of Santiago?

1x1 1

Humid continental ✓

L1

7.2.1 b) Account for the answer in 7.2.1.a)

1x2 2

Mild and wet ✓✓

L2

7.2.2. **Explain** why there is such a difference between the summer temperature of the region east of Santiago, and Santiago.

3x2 6

L2

➤ **Santiago is in a mountain climate region, where the temperature is low.**

✓✓

➤ **The region east of Santiago is in a humid continental climate region, ✓✓**

➤ **Which is not a high altitude and therefore has warmer summers ✓✓**

[9]

7.3 Effects of climatic regions

Climatic conditions have an impact on the way people live.

4x2 8

Write a **paragraph** of not less than 8 lines and discuss how the Tropical climatic conditions might affect the lives of people living in such regions.

L3

- The high temperatures can lead to health issues like heat heat-stroke, poor eyesight, dehydration, skin cancer and malaria ✓✓
- Dams and rivers experiencing high rate of evaporation reduce availability of water
- High soil erosion due to heavy rainfall ✓✓
- May lead to infertile soil ✓✓
- Crops may be washed away ✓✓
- Leading to commercial farmers losing profit and subsistence farmers losing food ✓✓
- Floods can affect houses ✓✓ ACCEPT ANY FOUR RELEVANT ANSWERS

[8]

WEEK 8: CLIMATE AROUND THE WORLD

8.1 Match the climate with the matching description by placing the correct letter of the alphabet in the answer column next to the correct description:

8x 1 8
L1

	Climate	Description
A	Maritime	Seasonal reversal of wind direction ___ H ✓ ___
B	Continental	Summer days long with hardly any darkness ___ G ✓ ___
C	Equatorial	Winter rain ___ F ✓ ___
D	Savanna	Associated with cold ocean currents ___ E ✓ ___
E	Desert	Lack of rain in winter causes the grass to turn brown ___ D ✓ ___
F	Mediterranean	No seasons ___ C ✓ ___
G	Tundra	Places far inland ___ B ✓ ___
H	Monsoon	Temperatures influenced by the sea ___ A ✓ ___

[8]

8.2

Complete the table below:

Climate region	Average temperatures	Average rainfall	Rainy season
Tropical	Warm year round✓	2 000 mm✓	Wet tropical: year-round Dry tropical:
Subtropical	Summers above 20°C✓ Winters 15°C✓	1 000 mm✓	Summer✓
Temperate	10°C✓	1 400 mm✓	Winter✓
Desert	Cold deserts below 0°C Hot deserts up to 50°C✓	Less than 250 mm✓	None✓
Semi-desert	Very high✓	250 – 500 mm✓	Summer✓
Continental	Summers 20°C Winters below 0°C✓	500 – 1 250 mm✓	Summer rain, winter snow✓
Polar	-40 °C to 0 °C✓	Very little✓	None✓
Tundra and alpine	2 °C to 12 °C✓	100 – 400 mm (snow) ✓	None✓
Mediterranean	Summers above 20 °C Winters 10 °C to 15 °C✓	400 – 600 mm✓	Winter✓

8x3= (24) L1

[24]

8.3

a) **Discuss** the climate of Cape Town.

3x2 6

- Cape Town has a Mediterranean climate. ✓✓
- Winters are cold and rainy, ✓✓
- Summers are cool and dry. ✓✓

L3

b) **Explain** why there is little to no plant or animal life found in polar climate regions.

3x2 6

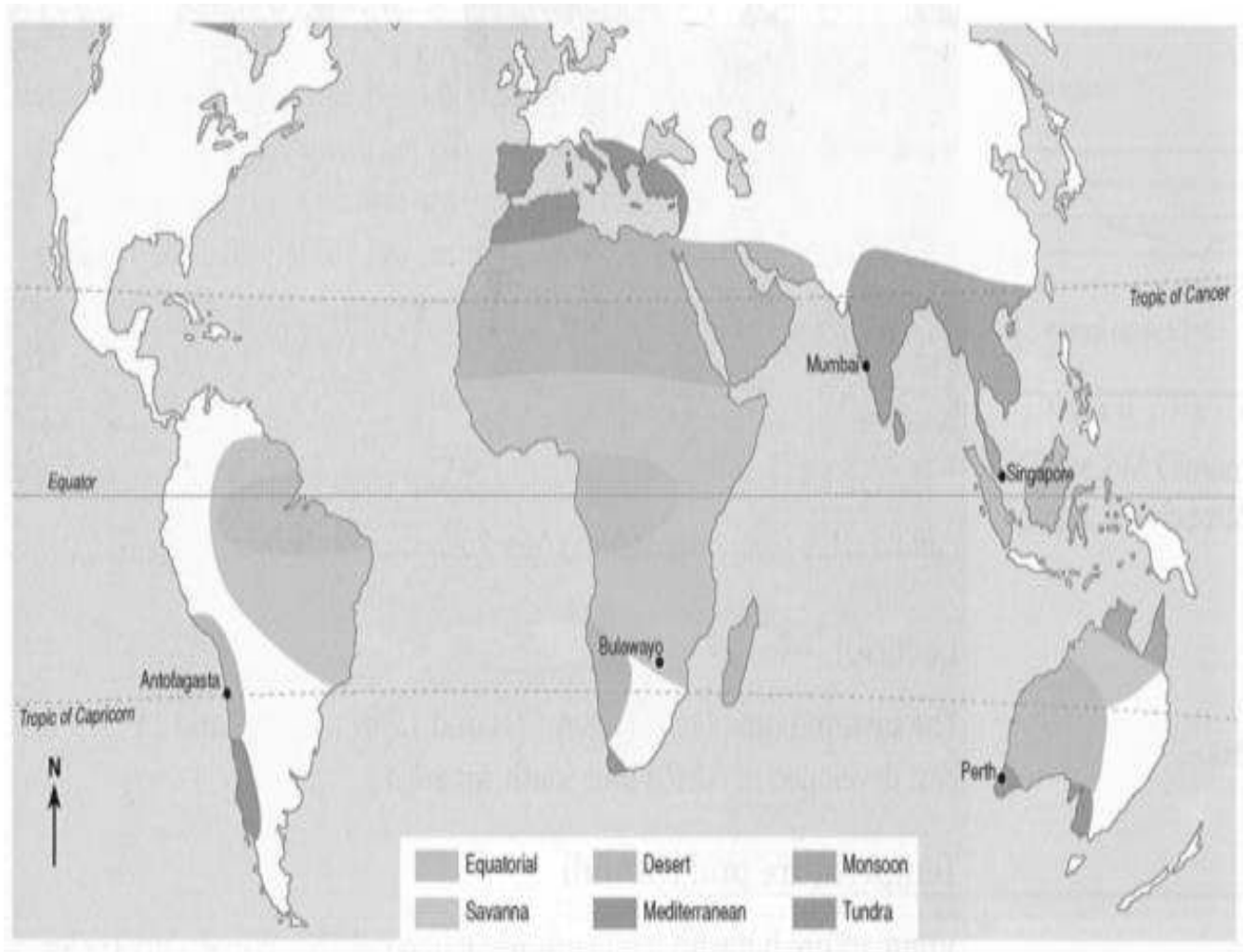
- There is almost no rainfall in polar climate regions. ✓✓
- It is too cold for snow to melt. ✓✓
- Most plants cannot grow with no water and such cold temperatures. ✓✓
- Most animals cannot survive in extremely low temperatures. ✓✓

L3

[12]

8.4 REFER TO THE MAP OF CLIMATIC REGIONS AND ANSWER QUESTIONS BELOW:

Figure 8.4: The world: Climate regions



8.4.1 Identify the climatic region with the following features:

- | | | |
|--|-----|------------|
| a. Very heavy rainfall in the Himalayas. | 1x1 | 1 |
| Monsoon ✓ | | L1 |
| b. High temperatures all the year with no seasons. | 1x1 | 1 |
| Equatorial ✓ | | L1 |
| c. Winter temperatures range from -30°C to -40°C. Summers are about 10°C. | 1x1 | 1 |
| Tundra ✓ | | L1 |
| d. Found on the western sides of continents from about 20°S and 25°S to 20°N and 25°N. | 1x1 | 1 |
| Desert ✓ | | L1 |
| | | [4] |

WEEK 9 CLIMATE REGIONS OF THE WORLD

9.1 Define the following concepts:

9.1.1 Weather

1x2

2

Weather is the prevailing conditions of the atmosphere over a short period of time ✓✓

L2

9.1.2 Climate

1x2

2

Climate is the conditions of the atmosphere observed over long period of time e.g., a year ✓✓

L2

9.1.3 Temperature

1x2

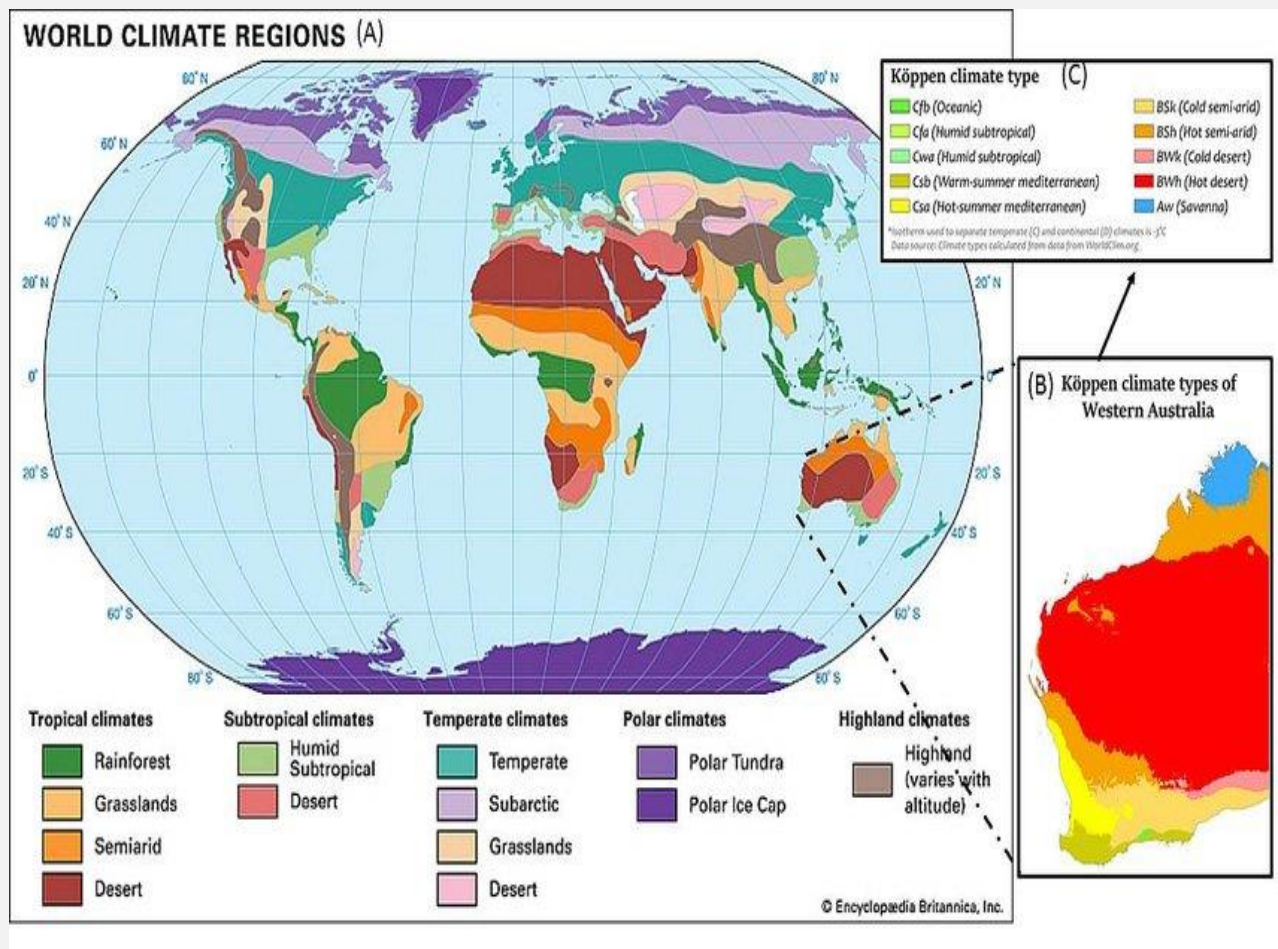
2

Temperature is the degree of coldness or hotness the object is. ✓✓

L2

[6]

9.2 Study the climate map of the world below (A, B & C) and answer the questions



9.2.1 According to the above map how many climatic regions are found around the world.

1x1

1

Eleven climatic regions 13 ✓**L1**

9.2.2 Which climate region covers a large part Europe?

1x1**1****Polar Tundra ✓****L1**

9.2.3 Name the climate region found Southwest of Southern Africa

1x1**1****Desert ✓****L1**

9.2.4 Which climate region covers the smallest part of Australia?

1x1**1****Mediterranean ✓****L1**9.2.5 Write down any **THREE** climatic regions found in Africa**3x1****3**➤ **Mediterranean ✓**➤ **Hot desert ✓**➤ **Savannah grassland ✓**➤ **Tropical rainforest, ✓**➤ **Dry tropical rainforest, ✓**➤ **Accept any THREE 3 relevant answers****L1****[7]****9.3** Briefly **discuss FOUR** (4) characteristics of hot desert region.**4x2****8**➤ **Found at about 30° North or South ✓✓**➤ **Hot desert receives very low rainfall- 10-50 mm per year ✓✓**➤ **Temperature varies between 10° C and 35° C (hot tlin summer and cool in winter) ✓✓**➤ **Precipitation is thunderstorms or mist ✓✓**➤ **The air above the area is always dry**➤ **Plants and animals survive using little water**➤ **Are influenced by high pressure that prevent formation of rainfall (Sahara Desert); by cold ocean currents (Namib Desert) or by rain shadow side (Great Karoo)****Accept ANY FOUR relevant answers****L2****[8]**

9.4 “Mediterranean and temperate climates are similar”-**3x2****6**

Discuss the above statement

L2

Both regions do not have large difference between winter and summer temperatures- warm to hot. ✓✓

Found 30° to 40° South and North. ✓✓

They have good rainfall of about 600mm. ✓✓

Accept ANY other relevant answers

[6]