EXCEL STANDARD SOCIAL STUDIES

PUPIL'S BOOK 7

FIRST EDITION

BY

EXCEL PUBLISHERS

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All authors whose books we used and consulted during our research for some of the materials in this book.

We do sincerely regret any mistakes which may be found anywhere in this book. It is not intended to be part of this book but accidental.

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PREFACE

Excel Standard Social Studies, Pupils' Book Seven has been developed basing on the revised Primary Seven Social Studies Syllabus as prescribed by the new curriculum of the National Curriculum Development Center (NCDC). The book contains accurate, relevant and current information covering all topics in all terms of the year in their order. It is intended to guide both teachers and learners.

The pupil's book cares for the interests of the learners in terms of simple and concise language used, simplified content to cater for all learners with different abilities and clear illustrations to make learning enjoyable through observation. Key words for each topic have also been included in order to enrich the learner's vocabulary and mastery of concepts.

The topics have well organized, relevant, and easy to understand notes and facts. It is written in a simple language and is well aided with maps and illustrations/diagrams where necessary to ease understanding.

The book is remarkably precise but detailed in content with no fact left hanging. It has been mainly written for Primary Seven in a language that is suitable for both rural and urban Pupils. The book can therefore be used with minimum teacher guidance.

The book has inbuilt and continuous assessment activities at the end of topic. These questions are to help the learners to test their understanding of the concepts covered and are to enable the teacher to track progress as coverage goes on. This also makes the book convenient for individual and class learning by the candidates.

The content of the book has been enriched to enable learners get solutions to the three main levels of assessment at primary level that is to say: Knowledge, Comprehension and Application.

The book is intended to provide learners with knowledge, skills and the desired attitudes and values of Social Studies and the Environment that are important to prepare learners for final assessment of the primary level.

The book is written and developed by experienced teachers of Social Studies and Religious Education and we welcome all comments on the publication with an open mind for the improvement in the teaching and learning of Social Studies. Comments and orders can be communicated directly through the following contacts:

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THEME: LIVING TOGETHER IN AFRICA

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TOPIC 1: LOCATION OF AFRICA ON THE MAP OF THE WORLD

INTRODUCTION TO THE WORLD

- The world refers to the earth, its countries, peoples and natural features.
- The earth is the part of the world made up of land and water.
- The part of the earth made of water is called hydrosphere.
- The Rotation of the earth on its axis causes days and nights.
- One complete rotation of the earth (of 360°) is made in a period of 24hrs.Therefore, the earth rotates through an angle of 15° in every 1hr (15°=60min/1hr), 1° in every 4min (1°=4min)
- The Revolution of the earth around the sun causes changes in seasons.
- An Orbit is the path followed by a planet as it moves around the sun.

Other planets that move around (revolve) the sun.

Distance from the sun in million km.	*Planet*	*Duration of one complete revolution*	*Diameter*	*Position according to size*	*Number of satellites*
57.9	Mercury	88days	4,879km	8th	0
107.9	Venus	225days	12,104km	6th	0
145.5	Earth	365.3days	12,756km	5th	1
228	Mars	1.9years	6,794km	7th	2
777.9	Jupiter	11.9years	142,984km	1st	16
1426	Saturn	29.4years	120,536km	2nd	18
2868	Uranus	83.8years	51,118km	3rd	18
4495	Neptune	163.8	49,528km	4th	8

- The hydrosphere is made up of water bodies such as;Oceans,seas and lakes.

NB. A Water body is a large area covered with water.

The Major oceans and seas of the world

- Pacific ocean
- Atlantic ocean
- Indian ocean
- Arctic ocean
- Mediterranean sea
- Red sea
- Caspian sea
- Dead sea

CONTINENTS OF THE WORLD.

- *A continent* is a large mass of land on the earth's surface.

The world is divided into 7 continents.

These include;

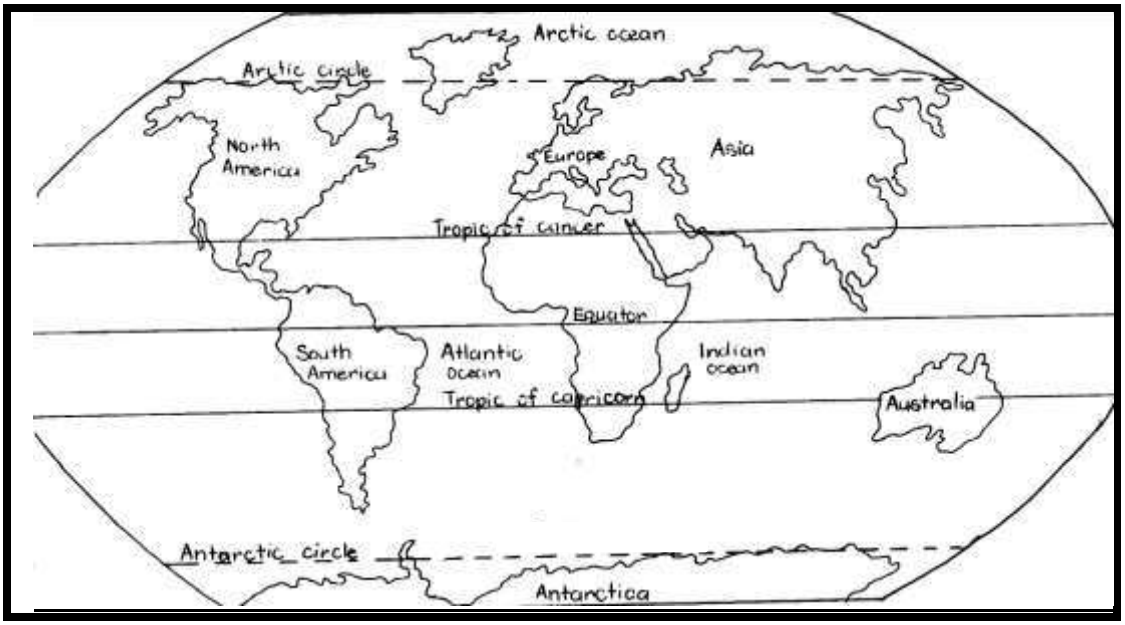
- Asia
- Africa
- North America.
- South America
- Antarctica
- Europe
- Australia

POSITION OF WORLD CONTINENTS, OCEANS AND SEAS

Facts about world continents.

- ✓ *Asia is the largest continent, followed by Africa, North America, South America, Antarctica, Europe and Australia.*
- ✓ ***Antarctica*** *is the only continent which is not inhabited by people because it experiences very cold climatic conditions.*
- ✓ *The highest point on earth is mountain Everest in Asia.*
- ✓ *Africa is the most central continent. This is because it is the only continent crossed by both the Equator and the Prime meridian,*
- ✓ *Antarctica is the largest cold desert in the world.*

THE WORLD MAP



THE CONTINENT OF AFRICA

How Africa is unique (different from other continents)

- Africa is the second largest continent.
- Africa is the most central continent
- Africa has the largest and hottest desert in the world.
- Africa has the largest number of inland countries.
- Africa has the largest race of black people.
- The longest river in the world is found in Africa.
- It is the only continent that lies within the four hemispheres.
- It has the largest area lying between the tropics.
- The shortest people in the world are found in Africa (the Pygmies)

Note:- *The Early Europeans referred to Africa as a dark continent because they had little knowledge about the interior of Africa.*

Factors that kept Africa's interior unknown to the Europeans for so long.

- Presence of huge highlands at certain entry points
- Africa's interior had hostile people.
- Presence of hot deserts at both extremes of the continent.
- Presence of dangerous animals in the interior of Africa.
- Lack of proper routes to the interior of Africa.
- Africa's interior had thick forests which harboured disease vectors.

LOCATING AFRICA USING LINES OF LONGITUDE AND LINES OF LATITUDE. (Grid reference)

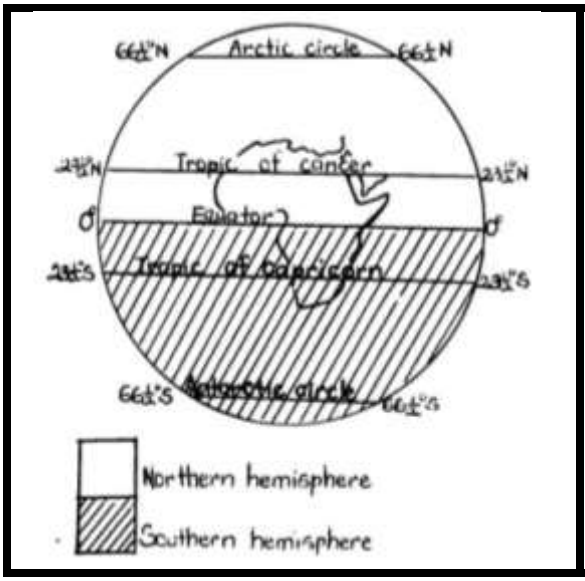
- ***Grid reference system*** is the method of locating places using lines of longitude and lines of latitude.
- Africa lies between latitudes 37°N and 35°S, and longitudes 17°W and 52°E.

Lines of Latitude.

- These are imaginary lines drawn on maps or globe from East to West.
- The general name for all lines of latitude is ***parallels*** because they do not meet at any point.
- ***Latitude*** is the distance in degrees North or South of the equator.
- Lines of latitude help in determining climate of places.
- Lines of latitude help us to tell how far a place is North or South of the equator.

Major lines of latitude.

- **The Equator (0º)**
- **Tropic of Cancer (23½ºN)**
- **Tropic of Capricorn (23½ºS)**
- **Arctic circle (66½ºN)**
- **Antarctic circle (66½ºS)**



THE EQUATOR

- **The Equator divides the world into two equal parts (hemispheres)**
- **The Equator is marked 0º because it is the starting point for all latitude readings.**
- **The Equator is the most important line of latitude because it crosses the world at the centre.**
- **All countries which are crossed by the equator lie in both the Northern and Southern hemisphere.**
- ***A hemisphere* is a half part of the world as divided by the equator or prime meridian.**
- **The area between the Tropic of cancer and the Tropic of Capricorn is called the *Tropical region*.**

Activity;

Use the political map of Africa and identify all African countries that;

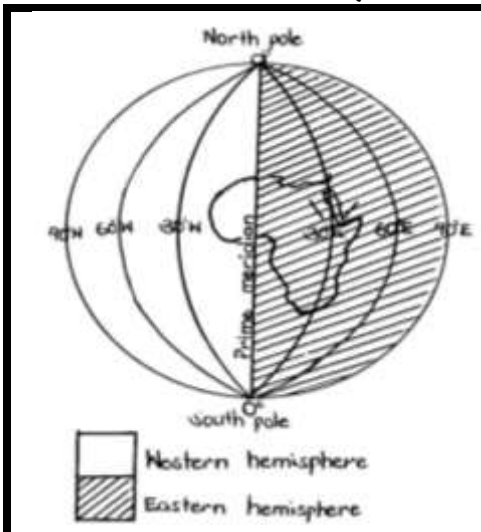
(i) are crossed by the Equator.
(ii) completely lie in the Northern hemisphere
(iii) completely lie in the Southern hemisphere.
(iv) lie in both the Northern and the Southern hemisphere

Lines of Longitude

- ***Lines of longitude* are imaginary lines drawn on maps or globes from North pole to the South pole of the earth.**
- **The general name for all lines of longitude is *Meridians*.**
- **Lines of longitude meet at the poles of the earth.**
- ***Longitude* is the distance in degrees East or West of the Prime meridian.**

Major lines of longitude.

The Prime meridian/ Greenwich meridian (0º)
The International dateline. (180ºE or W)



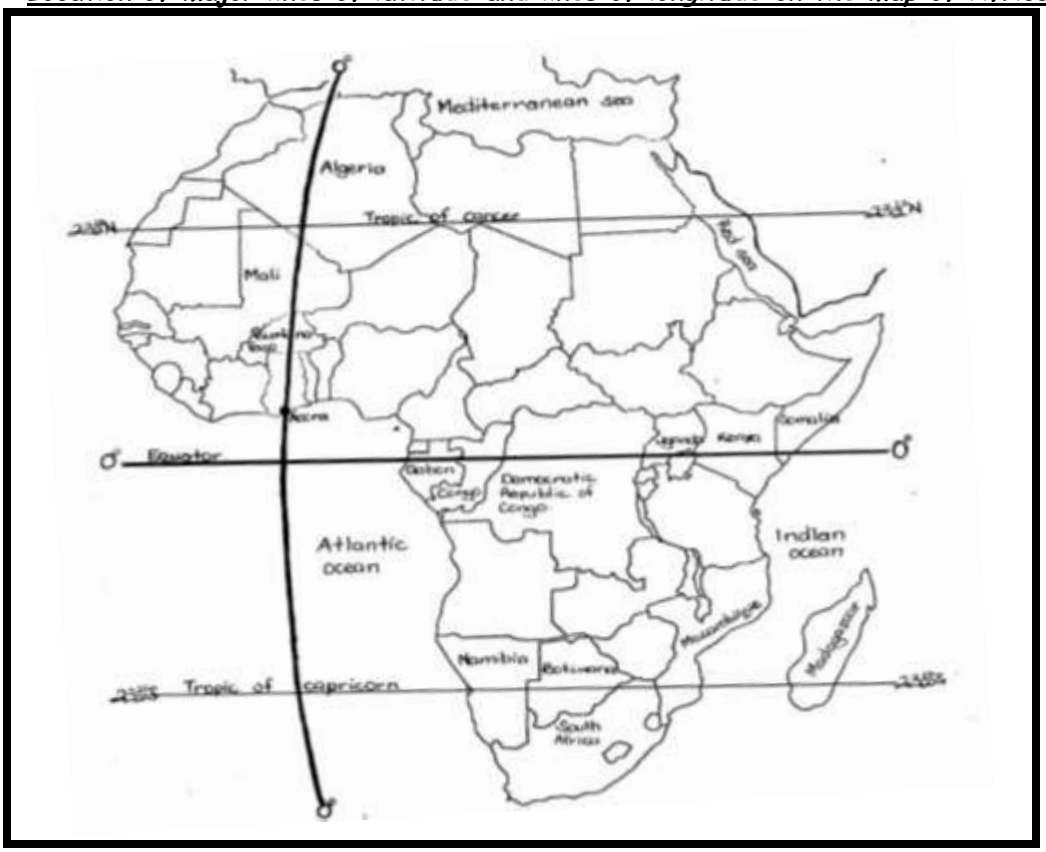
THE PRIME MERIDIAN/ GREENWICH MERIDIAN

- **The Prime meridian is also called the *Greenwich meridian* because it crosses Greenwich town in London.**
- **The Prime meridian is marked 0º because it is the starting point for all longitude readings.**
- **The Prime meridian divides the world into the Eastern and Western hemisphere.**
- **All countries crossed by the Prime meridian lie in both the Eastern and Western hemisphere.**

NOTE;

- *The Prime meridian helps in telling international time.*
- *The International dateline separates one day from the next day.*
  e.g. East of the Greenwich meridian may be Friday while West of it is Thursday
- *Both lines of longitude and lines of latitude help in locating places on a map.*

Location of major lines of latitude and lines of longitude on the map of Africa.



Activity.

Use the political map of Africa and identify all African countries that;

(i) are crossed by the Greenwich meridian.
(ii) completely lie in Western hemisphere
(iii) completely lie in the Eastern hemisphere.
(iv) lie in both the Western and the Eastern hemisphere.

Finding Time According to GMT.

- **Different regions of the world have different time zone according to the distance from the Prime meridian.**
- **Places which are in the same time zone have the same standard time.**

E.g. Uganda, Kenya and Tanzania are in the same time zone, and so have the same standard time. (East Africa standard time)

- **East Africa lies at longitude 45º while Rwanda and Burundi are 30ºE of the Greenwich meridian.**

Note:

- ✓ *The rotation of the earth on its axis causes day and night.*
- ✓ *The earth makes one complete rotation of 360^0 in one day (24hours).*
- ✓ *Therefore, it rotates through an angle of 15^0 in every 1hour (60min).*
- ✓ *Every 15^0 E or W of the Greenwich meridian is a time zone.*
- ✓ *When you travel 15^0 westwards, you lose an hour while travelling 15^0 eastwards makes you gain an hour.*

Note:

-We usually add (+) hours for places which are in the East and subtract (-) the time when finding the time for places which are in the West.

*-Changing of the time to and from 24hr clock (by either adding or subtracting 12 hrs) affects the units in which the time is given.(ie. From **am** to **pm** and viceversa).*

- **Time in each time zone is calculated basing on the Greenwich mean time (GMT) which is at 0º longitude.**

Example 1:

Find the time in East Africa which is 45^0 if it is 2:00pm at GMT.

Solution,

15^0=1hr

$45^0=(\frac{45}{15})$ hrs.

=3hrs

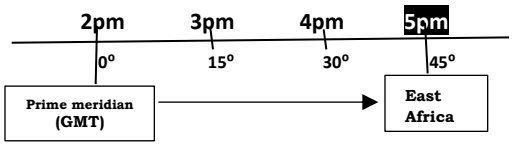
Time in East Africa=2:00pm

+3.00hrs

5:00pm

Therefore, time in East Africa is ***5:00pm.***

OR:



Therefore, time in East Africa is ***5:00pm***

Example 2.

What time will it be in a country P which is 60^0W if it is 2:00pm in Ghana?

Solution,

15^0=1hr

$60^0=(\frac{60}{15})$ hrs

=4hrs

Time in coutry P is = 2:00pm (+12hours)

-4.00hrs

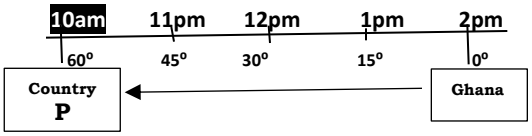
=14.00hrs

-4.00hrs

10:00am

Therefore, the time in that country will be ***10:00am.***

OR:



Therefore, the time in country P will be ***10:00am***

Example 3.

If it is 1:00pm at GMT, what time is it in East Africa?

Solution,

15^0=1hr

$45^0=(\frac{45}{15})$ hrs.

=3hrs

Time in East Africa=1:00pm

+3.00hrs

4:00pm

Therefore, time in East Africa is ***4:00pm.***

Example 4.

Find the time in Dakar, Senegal which is 15°W if it is 1:00pm in Ghana.

Solution,

15^0=1hr

$15^0=(\frac{15}{15})$ hrs

=1hr

Time in Dakar, Senegal =1:00pm (+12hours)

-1.00hr

=13.00hrs

-1.00hr

12:00midday.

Therefore, time in Dakar, Senegal is ***4:00pm.***

THE SHAPE AND SIZE OF AFRICA

- The shape of Africa is not even. It is wide in the North and narrow in the south.
- Africa is about 8,000km from the far North at Ras Ben Sakka in Tunisia to the far South at Cape Agulhas in South Africa.
- Horizontally, Africa is about 7,400km from the far East at Ras Hafun in Somalia to the far West at Cape Vert peninsula in Senegal.
- Africa's coastline is more regular than those of other continents, with few bays and gulfs.
- A coast is an area of land besides the sea or ocean.
- A coastline is the land lying along the coast.

Features along Africa's coastline.

- Bays
- Gulfs
- Capes
- Straits
- Isthmus
- Islands
- Peninsulas.

A bay is a part of the sea or ocean partly enclosed by land.

Examples of bays include;

- Bengo bay in Angola.
- Richards bay in South Africa.
- Delagoa bay in Mozambique.
- Ungwana bay in Kenya.
- St. Helena bay in South Africa.

A gulf is a large area of the sea or ocean which is almost surrounded by land.

Examples of gulfs include;

- Gulf of Guinea
- Gulf of Suez.
- Gulf of Aqaba
- Gulf of Aden (between Yemen and Somalia)

A cape is an area of land that protrudes/ continues into the sea.

Examples of capes include;

- Cape Agulhas in south Africa.
- Cape Vert in Senegal
- Cape Hafun in Somalia.
- Cape Blanc in Tunisia.

A strait is a narrow water passage joining two water masses.

OR; is a narrow water passage separating two land masses.

Examples of straits include;

- Strait of Gibraltar (separating Africa from Europe)
- Strait of Mandals / Bab-el-Mandeb.
- Mozambique channel (separating Madagascar from Africa's main land)
- Zanzibar channel.

A peninsula is an area of land that is almost surrounded by a water body.

Examples of peninsulas include;

- The Horn of Africa
- The Sinai peninsula
- Cape Vert peninsula
- The Arabian Peninsula.

An island is an area of land that is completely surrounded by a water body.

Island countries in Africa include;

- Madagascar.
- Comoros
- Seychelles
- Mauritius
- Sao Tome and Principe.
- Cape Verde

An Isthmus is a narrow strip of land connecting two land masses.

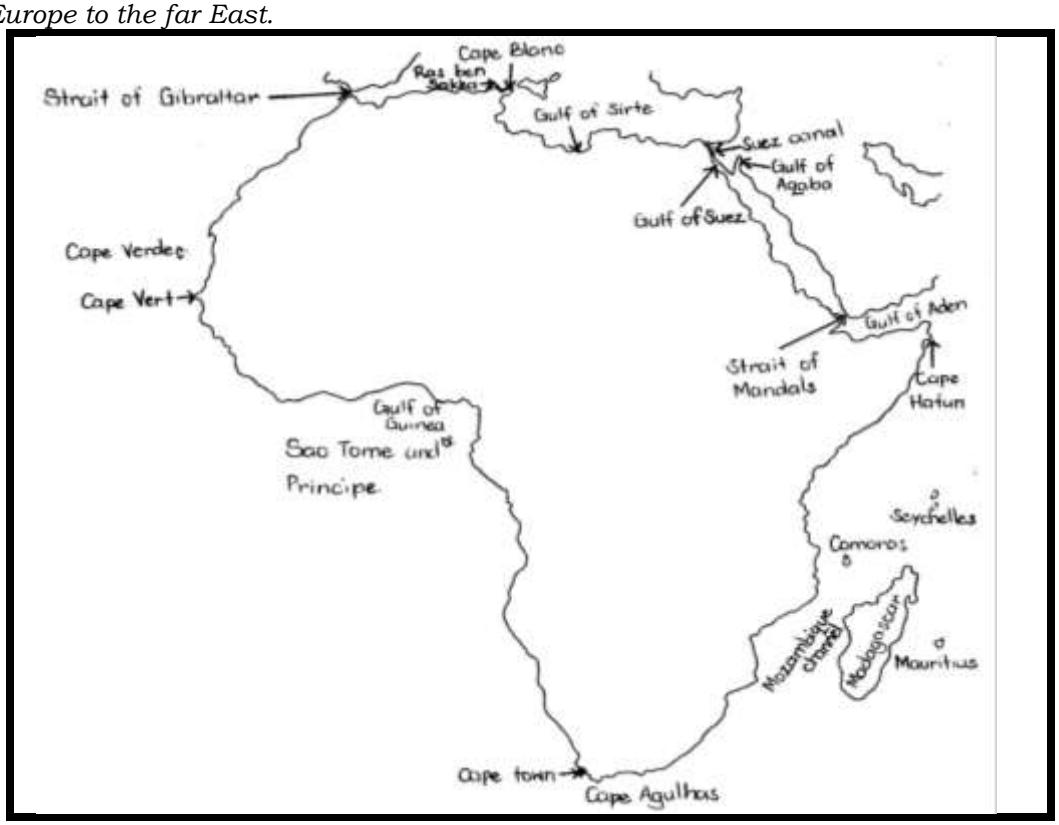
OR: Is a narrow strip of land separating two water masses.

For example, -the Suez isthmus (before the construction of the Suez canal)

NOTE;

- ✓ ***The Suez canal*** *is a large man made water channel in Egypt connecting the Red sea to the Mediterranean sea.*
- ✓ *It was constructed between 1859 and 1869 by the French Suez company led by Ferdinand De Lesseps. It was officially opened on 17th Nov, 1869.*

- ✓ *In July 1956, president Gamal Abdel Nasser brought the Suez canal under control of the Egyptian government.*
- ✓ *The Suez canal was constructed to shorten the distance travelled by water vessels from Europe to the far East.*



AFRICAN COUNTRIES

- **The African continent is made up of 55 countries.**
- **Algeria is the largest country in Africa while Seychelles is the smallest.**
- **The creation of South Sudan as an independent nation made Sudan lose her position as the largest African country.**
- **Africa has 6 island countries while 49 are inland countries.**

African countries in their order of size,and their capital cities.

No	*Country*	*Capital city*		*No*	*Country*	*Capital city*
1.	Algeria	Algiers		29	Burkina Faso	Ouagadougou
2.	Dem.Rep. of Congo	Kinshasa		30	Gabon	Libreville
3.	Sudan	Khartoum		31	Western Sahara	El-Aaiun
4.	Libya	Tripoli		32	Guinea	Conakry
5.	Chad	N'Djamena		33	Uganda	Kampala
6.	Niger	Niamey		34	Ghana	Accra
7.	Angola	Luanda		35	Senegal	Dakar
8.	Mali	Bamako		36	Tunisia	Tunis
9.	South Africa	Pretoria		37	Malawi	Lilongwe
10.	Ethiopia	Addis Ababa		38	Eritrea	Asmara
11.	Mauritania	Nouakchott		39	Benin	Porto Novo
12.	Egypt	Cairo		40	Liberia	Monrovia
13.	Tanzania	Dodoma		41	Sierra Leone	Freetown
14.	Nigeria	Abuja		42	Togo	Lomé

15.	Namibia	Windhoek		43	Guinea Bissau	Bissau
16.	Mozambique	Maputo		44	Lesotho	Maseru
17.	Zambia	Lusaka		45	Equatorial Guinea	Malabo
18.	South Sudan	Juba		46	Burundi	Gitega
19.	Somalia	Mogadishu		47	Rwanda	Kigali
20.	Central.A.Republic	Bangui		48	Djibouti	Djibouti
21.	Madagascar	Antananarivo		49	Swaziland (Eswatini)	Mbabane
22.	Botswana	Gaborone		50	Gambia	Banjul
23.	Kenya	Nairobi		51	Cape Verde	Praia
24.	Cameroon	Yaoundé		52	Comoros	Moroni
25.	Morocco	Rabat		53	Mauritius	Port Louis
26.	Zimbabwe	Harare		54	Sao Tome & Principe	Sao Tome
27.	Congo Brazzaville	Brazzaville		55	Seychelles	Victoria
28.	Cote d'Ivoire	Yamoussoukro				

Newly created states in Africa

- **Western Sahara from Morocco in 1976**
- **Eritrea from Ethiopia in 1993**
- **South Sudan from Sudan in 2011.**

NB: *The creation of Eritrea as an independent state made Ethiopia become a land locked country.*

LOCATION OF AFRICAN COUNTRIES.

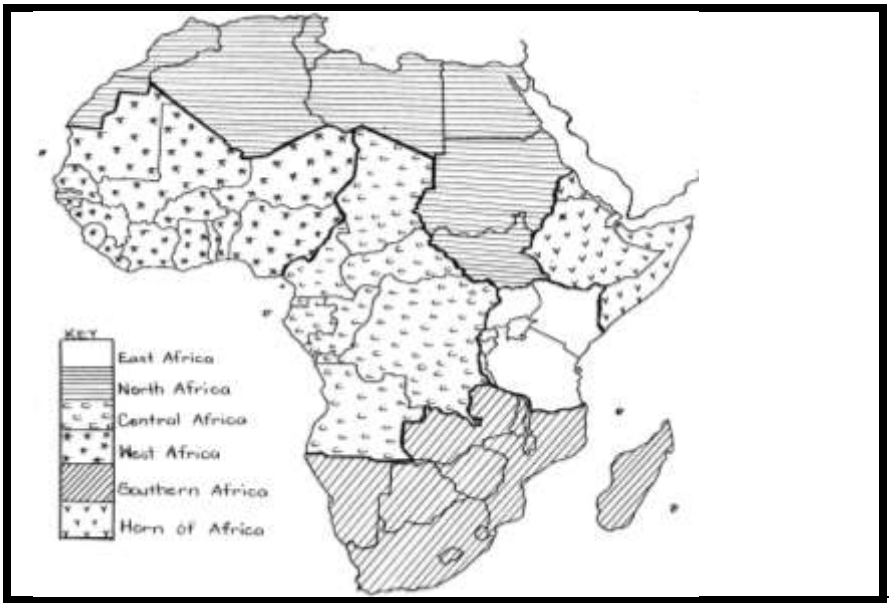


POLITICAL REGIONS OF AFRICA.

- Africa is divided into six major geographical regions.

These include:

- East Africa
- West Africa.
- Central Africa.
- Southern Africa.
- North Africa
- Horn of Africa.



Political region	*Countries*	*Dominant common market*
East Africa	-Uganda -Burundi -Kenya -Seychelles -Tanzania -Mauritius -Rwanda -Comoros	East African Community(EAC)
Central Africa	-DRC -Cameroon -Chad -Equatorial Guinea -Angola -C.A.Rep -Gabon -Congo Brazzaville -Sao Tome and Principe	Economic Community of Central African states (ECCAS)
Horn of Africa	-Somalia -Eritrea -Ethiopia -Djibouti	Intergovernmental Authority on Development(IGAD)
Southern Africa	-South Africa -Lesotho -Namibia -Eswatini -Botswana -Zimbabwe -Malawi -Madagascar -Zambia -Mozambique	-Southern African Development Community (SADC)
West Africa	-Nigeria -Gambia -Mali -Cape Verde -Burkina Faso -Senegal -Niger -Mauritania -Benin -Guinea Bissau -Ghana -Guinea -Cote D'Ivoire -Sierra Leone -Liberia -Togo	-Economic Community of West African States (ECOWAS)
North Africa	-Egypt -Western Sahara -Libya -Tunisia -Morocco -Algeria -Sudan -South Sudan	

LAND LOCKED COUNTRIES IN AFRICA

- *A land locked country* **is a country without a coastline.**
- **There are 16 land locked countries in Africa.**

These include;

- **Uganda**
- **Mali**
- **Burkina Faso**
- **Chad**
- **Zambia**
- **Lesotho**
- **C.A.R**
- **South Sudan**
- **Ethiopia**
- **Zimbabwe**
- **Eswatini**
- **Botswana**
- **Burundi**
- **Rwanda**
- **Malawi**
- **Niger**

Note;-*Lesotho* *is an enclave state. It is completely surrounded by the Republic of South Africa.*

*-**An enclave state** is an independent country which is completely surrounded by another country.*

Problems faced by land locked countries in Africa.

- **High taxation on overseas imports at the sea port.**
- **Delay of overseas imports in transit.**
- **High transport costs when importing goods.**
- **There is limited trade with the rest of the world.**
- **High prices for imported goods.**

➢ **Note:**

- ✓ ***Smuggling*** *is the illegal importation and exportation of goods.*
- ✓ *Smuggling reduces market for locally manufactured goods.*
  Smuggled goods compete for market with the locally manufactured goods.
- ✓ *smuggling may also lead to importation of low quality goods into the country.*
- ✓ ***Imports*** *are goods that are brought in a country from other countries eg. Vehicles Uganda imports from Germany.*
- ✓ ***Exports*** *are goods a country sells to other countries eg.food Uganda sells to South Sudan.*

Steps land locked countries can take/ have taken to solve some of the above challenges.

- **By joining regional economic groupings.**
- **By using alternative sea routes when importing goods.**
- **By encouraging domestic industrial production.**
- **By improving security along the high ways.**
- **By using more than one sea ports to handle their imports and exports.**
- **By using air transport when transporting overseas goods.**

Non-Land Locked Countries in Africa.

- ***A non-land locked country*** **is a country which has a coastline.**
- **There are 39 non-land locked countries in Africa, each with one or more than one sea ports.**
- **These sea ports handle imports and exports for both the land locked and non-land locked countries.**

Major sea ports in Africa

Sea port	*Country*
-Port Mombasa	Kenya
-Port Dar-es-salaam	Tanzania
-Port Sudan	Sudan
-Port Mogadishu	Somalia
-Port Matadi	DRC
-Port Accra -Port Takoradi	Ghana
-Port Durban -Cape Town -Port Elizabeth -Port East London	South Africa

-Port Lagos -Port Harcourt	Nigeria
-Port Tunis	Tunisia
-Port Alexandria	Egypt
-Port Luanda	Angola
-Port Tripoli -Port Benghazi	Libya

Benefits enjoyed by non-land locked countries

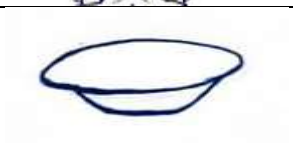
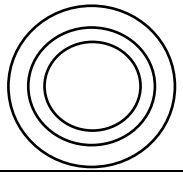
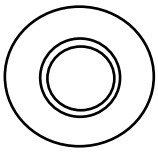
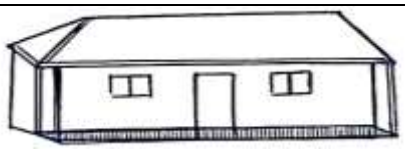
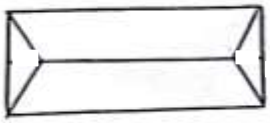
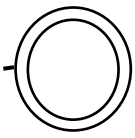
- Low taxation on overseas goods at the sea ports.
- They earn income through taxing goods for land locked countries that pass through them.
- They enjoy wide trade with the rest of the world.

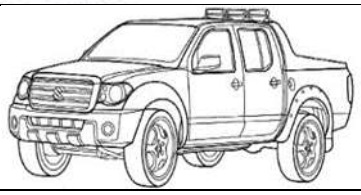
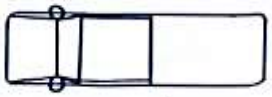
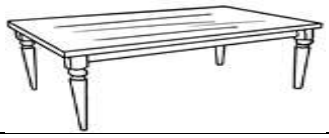
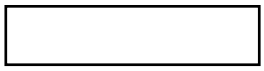
Note:-***Hinterlands*** *are areas in a country that are far away from the coast or main cities.*

REVISION OF MAPS AND PICTURES.

- A map is a drawing/ respresentation of an object as seen from above.
- Maps show how objects look like when viewed directly from above.
- We use symbols to help us understand and interpret a map of a detailed area.
- The boundary of a map determines the size and shape of the map.
- A picture is a representation of an object as seen from above.
- All features on a picture can be clearly seen as real objects.
- Pictures are more detailed than maps.

Maps and Pictures of different objects

Object name	*Picture*	*Map*
a tree		
a plate		
a pot		
a house		
a chair		
a cup		

a hut		
a car		
a table		

Similarity between maps and pictures.

- Both are representations of objects.

Types of maps.

(i) Political maps. These maps show boundaries of villages, counties, districts and countries.

(ii) Topographic maps. These maps show physical features/ landforms of a given area.eg.mountains etc.

(iii) Flow-line maps. These show movement of people, goods, animals etc.

(iv) Thematic maps. These show various social and economic themes eg. trade, energy.

Importance of maps.

- ❖ They are used for locating places.
- ❖ They help travelers to plan for routes to take while on their journeys.
- ❖ They help people to know the relief, climate and vegetation of different areas.

ELEMENTS OF A MAP.

- ❖ A compass direction
- ❖ A scale
- ❖ A title/heading
- ❖ A frame
- ❖ A key.

Importance of different elements of a good map.

Element	*Importance*
❖ A compass direction	❖ It shows the direction of places on a map
❖ A title/ heading	❖ It helps one to know what the map is all about.
❖ A key	❖ It helps a map reader to interpret symbols used on a map.
❖ A scale	❖ It helps a map reader to calculate the actual ground distance on a map.
❖ A frame	❖ It shows the extent of the area represented by the map.

MAP SYMBOLS

- These are features that are used to represent real objects on a map.

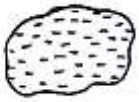
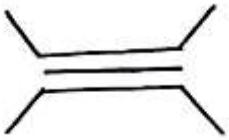
Why symbols are used on maps.

- ❖ To avoid congestion an the map.
- ❖ To ensure neatness of a map.

Common colours used on maps.

- ✓ Green-represents vegetation.
- ✓ Brown and purple-represent hills and mountains (highlands)
- ✓ Blue-represents water bodies.
- ✓ Yellow-represents scattered short grass.
- ✓ Red-represents major roads and boundaries.

Common symbols used on maps.

				
a rift valley	*waterfall*	*a dam*	*a canal*	*a swamp*
				
a quarry	*a hill*	*airport*	*contours*	*factory*
				
railway line	*a port*	*hospital*	*mountain peak*	*permanent lake*
				
seasonal lake	*church*	*a bridge*	*seasonal river*	*compass direction*

A COMPASS DIRECTION

- **A compass** is an instrument used to find direction of places.
- A drawn compass is called *a compass rose.*

People who use a compass.

- Rally drivers
- Tourists
- Pilots
- Mountain climbers
- Sailors
- Scouts and girl guides.
- Soldiers.

A compass direction.

- **A compass direction** is a symbol used on a map to show the direction of places.
- The compass points are divided into the cardinal points,semi-cardinal points (secondary points) and tertiary points.
- **Cardinal points** are the four major points of a compass.

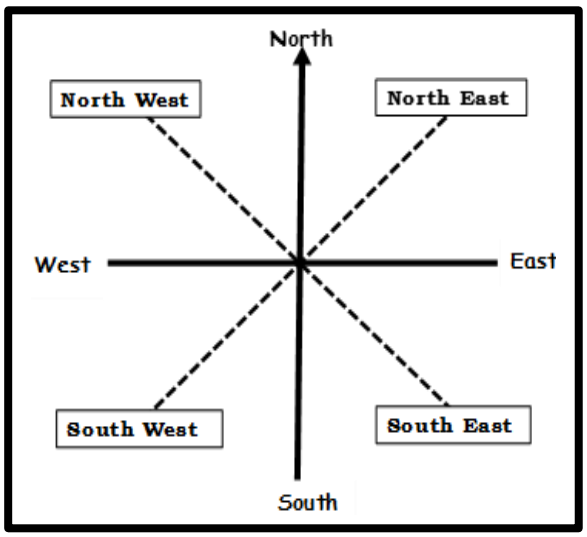
These include;

- North
- South
- West
- East

- **Secondary points** are the directions that lie midway of cardinal poits.
- Semi-cardinal points lie at 45° from cardinal points.

These include;

- South East
- South West
- North East
- North West



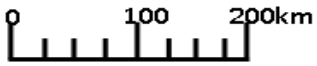
A SCALE.

- **A scale helps a map reader to calculate the actual ground distance on a map.**
- **A map reader who reads a map without a scale may fail to calculate the actual ground distance on a map.**
- **A scale is only found on accurate maps.**
- **A sketch map is a map which is not drawn to scale while an accurate map is a map which is drawn to scale.**

Types of scales.

(i) Linear scale.

This is the type of scale drawn using lines that are divided into equal parts.



Example;

*Find the actual ground distance between town **Q** and town **S** if there is a distance of 6cm between the two towns on the map.*

Solution;

1cm = 100km

6cm = (6×100)km

= 600km.

*Therefore,the actual ground distance between Town **Q** and Town **S** is 600km.*

(ii) Representative scale/ fractional scale.

This is the type of scale written in as a mathematical fraction.

It can also be written as a ratio.eg. $\frac{1}{100km}$ **or 1:100km.**

(iii) Statement scale.

This type of scale can be given as a statement or words.

Eg.1cm on a map represents 100km on the ground





1. **What is a continent?**
2. **Mention the seven continents of the world in the world in the order of their size starting with the largest.**
3. **Name the water body that separates Africa from;**
   - **(i) Europe.**
   - **(ii) America.**
   - **(iii) Arabia.**
   - **(iv) Australia**
4. **Name the only continent which is not inhabited by people.**
5. **Why is the continent in (4) above not inhabited by human beings?**
6. **What causes days and night?**
7. **State the effect of the revolution of the earth around the sun.**
8. **Mention the commonest way of telling directions in your community.**
9. **Give any three ways one can locate places on a map.**
10. **What is the direction of Africa from Europe?**
11. **Kato was going to school in the morning and he saw his shadow;**
    - **(i) Infront of him. In which direction was the school?**
    - **(ii) behind himself. In which direction was his home?**
    - **(iii) on his right hand side. In which direction was the school?**
    - **(iv) on his left hand side. In which direction was his school?**

12. Name the most central continent of the world.
13. Why is the above continent considered to be the most central continent?
14. Why was Africa referred to as a dark continent by the early Europeans?
15. Mention any three factors that kept Africa's interior unknown to the early Europeans for so long.
16. Give any three ways Africa is different from other continents.
17. What general name is given to lines of latitude?
18. Give the meaning of each of the following.
    (i) Latitude
    (ii) Lines of latitude
    (iii) Lines of longitude
    (iv) Tropical region
    (v) A hemisphere
19. Apart from Uganda, mention four other African countries which are crossed by the Equator.
20. Mention two major physical features which are crossed by the Equator in Uganda.
21. Why is the equator marked 0^0?
22. Why are lines of latitude sometimes called the parallels?
23. Name the island countries in Africa which are crossed by the following lines of latitude.
    (i) Equator.
    (ii) Tropic of Capricorn
24. What general name is given to lines of longitude?
25. Name the city in West Africa which is crossed by the Prime meridian.
26. Why is the Prime meridian sometimes called the Greenwich meridian?
27. Name the water body that neighbours Africa which is crossed by the Prime meridian
28. Mention the four countries which are crossed by the Prime meridian.
29. Name the line of longitude that helps in telling the international time.
30. Why do people living in Mombasa see the sun earlier than those in Kasese?
31. How are lines of latitude and lines of longitude important?
32. Find the time in East Africa which is 45^0 E if it is 10:00pm in England.
33. How is a Strait different from an Isthmus?
34. State the main reason for the construction o0f the Suez canal.
35. Name the water way that separates Africa from Europe.
36. What term refers to a narrow water passage that connects two large water bodies?
37. Name the water way that connects the Red sea to the Mediterranean sea.
38. How is the strait of Gibraltar politically important to Africa?
39. Name the water channel that separates Madagascar from Africa's main land.
40. What is an Island?
41. Mention the two island countries in Africa which are surrounded by the Atlantic ocean.
42. Name the largest African country.
43. How did the creation of Eritrea as an independent state affect Ethiopia?
44. Complete the table below.

Region of Africa.	*Any three countries*
(i) East Africa	---------- ---------- ----------
(ii) West Africa	---------- ---------- ----------
(iii) ----------	South Africa ---------- ----------
(iv) Central Africa	---------- ---------- ----------
(v) ----------	---------- ---------- Somalia
(vi) ----------	Libya ---------- ----------

45. Mention the newest state in Africa.

46. Name any three African countries which are completely surrounded by the Indian ocean.
47. Why is Lesotho referred to as an enclave state?
48. Name the smallest East African country.
49. Why is Seychelles islands historically remembered in Buganda and Bunyoro?
50. Why is Uganda referred to as a land locked country?
51. State any three problems Uganda faces due to her location.
52. Mention the two neighbouring countries of Uganda which are land locked.
53. How is Uganda different from Nigeria in terms of location?
54. Give one way port Mombasa has promoted economic development of Uganda.
55. Why are imports more expensive in Uganda than in Kenya?
56. Mention the type of tax charged on;
    (i) Locally manufactured goods.
    (ii) Imports/ goods entering a country.
57. Name the body that was set up by Uganda Revenue Authority (URA) to control smuggling in the country.
58. Give any two ways smuggling affects economic development in a country.
59. Why does Uganda import most of her goods through port Mombasa?
60. State any two ways Uganda can solve the challenges she faces due to her location.
61. How is a map different from a picture?
62. Mention any three elements of a good map.
63. Why are maps drawn by P.7 pupils referred to as sketch maps?
64. What problem is a map reader likely to face when reading a map without a;
    (i) Scale?
    (ii) Key?
    (iii) Title?
    (iv) Compass direction?
65. Mention any two types of scales commonly used on maps.
66. Why are foreign tourist to Uganda always given maps of places they are to visit?
67. Why are symbols used on maps instead of real objects?
68. Find the actual ground distance between Town K and Town S which are 8cm apart using the scale 1cm=150km.
69. How is a compass different from a compass direction?
70. Sarah was facing North West and she turned through an angle of 135^0 anti-clockwise. Which new direction did she face?

TOPIC 2: PHYSICAL FEATURES OF AFRICA.

INTRODUCTION TO PHYSICAL FEATURES

- **Physical features are features of the earth's surface that give it shape.**
- **These features are categorised into; drainage and relief features.**

Relief features

- **These are landforms which are identified according to their altitude.**
- ***Altitude* is the height above the sea level.**
- **Altitude is measured using an instrument called an *altimeter.***
- ***Relief* is the physical appearance of the land.**
- **Relief features are the highlands and low lands of an area.**

Relief features include;

- **Mountains**
- **Plateaus**
- **Rift valleys**
- **Valleys**
- **Coastal plains**
- **Basins**
- **Highlands**
- **Low lands**

Drainage features

- **Drainage features are landforms that contain water.**
- **Drainage features are the water bodies of an area.**

Drainage features include;

- **Lakes**
- **Oceans**
- **Seas**

Note:-

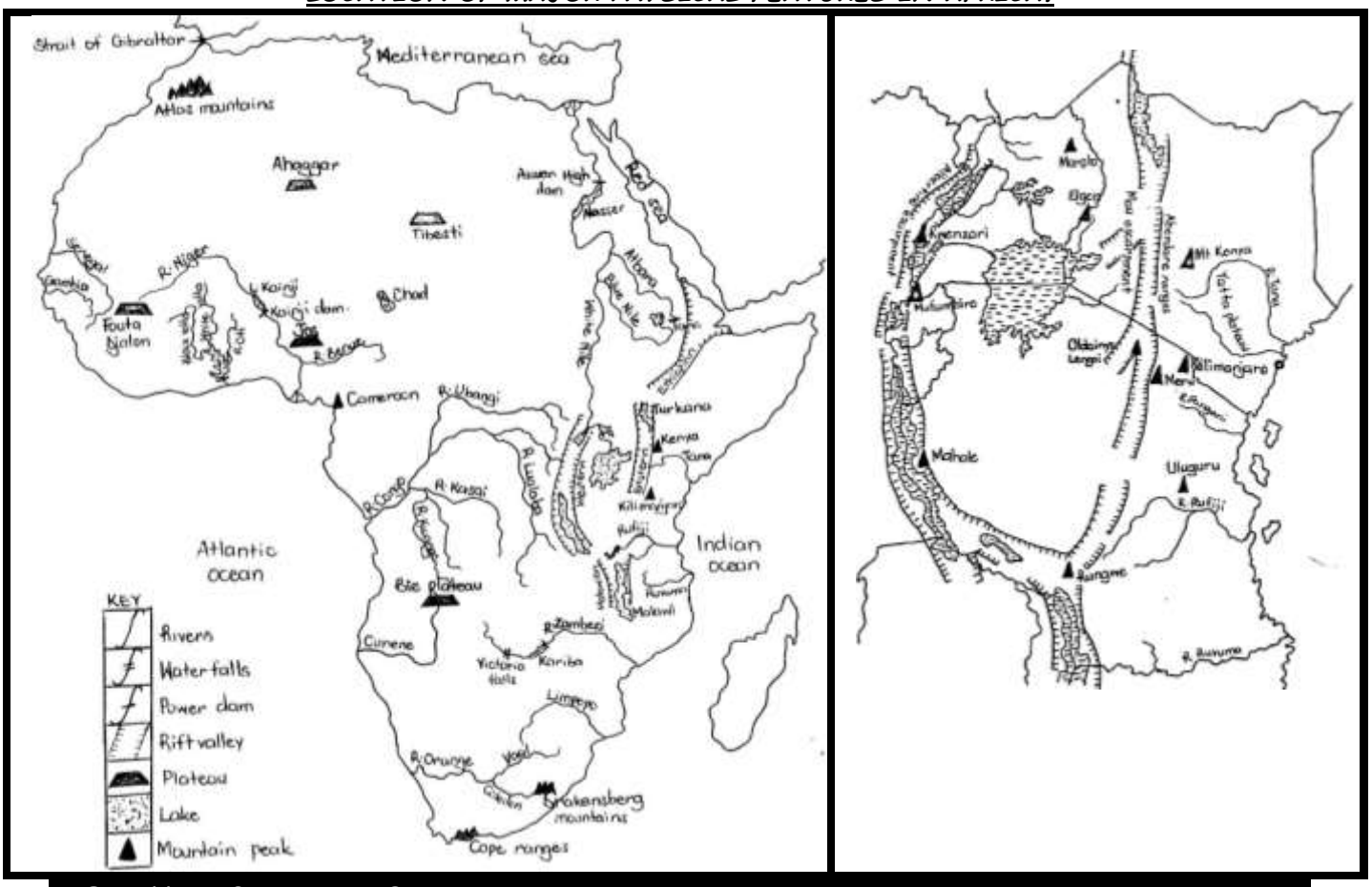
- ✓ *Africa's plateau is tilted to the North. This results into the northward flow of river Nile from lake Victoria towards the Mediterranean sea.*
- ✓ *The flow of river Nile from lake Victoria to lake Kyoga shows that lake Victoria is on a higher altitude than lake Kyoga.*

Importance of physical features

- ❖ **They earn income through attracting tourists.**
- ❖ **They are used when locating places.**
- ❖ **Some of them are mining grounds.**
- ❖ **Some of them are fishing grounds.**
- ❖ **They modify climate by helping in rain formation.**
- ❖ **Some physical features form natural boundaries between countries. This is because, these features are permanently fixed.**

eg,-***River Ruvuma*** *creates a natural boundary between Tanzania and Mozambique.*
-***River Kagera*** *forms a natural boundary between Uganda and Tanzania.*
-***River Semliki, mountain Rwenzori, the Western Rift valley, lake Albert*** *and* ***lake Edward*** *create a natural boundary between Uganda and DRC.*
-***Mountain Elgon*** *creates a natural boundary between Uganda and Kenya.*

LOCATION OF MAJOR PHYSICAL FEATURES IN AFRICA.



MOUNTAINS IN AFRICA.

- A mountain is a large raised piece of land, usually higher than a hill.

Types of mountains in Africa.

- Volcanic mountains
- Block mountains
- Fold mountains

VOLCANIC MOUNTAINS.

- These are mountains formed as a result of ***volcanicity.***
- ***Volcanicity*** is the process by which magma is forced onto the earth's surface through a vent.
- Volcanicity can also be called *volcanic activity* or *volcanic eruption.*
- ***A volcano*** is a mountain with a vent through which magma is forced through the earth crust and onto the earth's surface.
- **Magma** refers to the molten rock in the earth crust.
- ***Lava*** refers to the molten rock on the earth's surface.

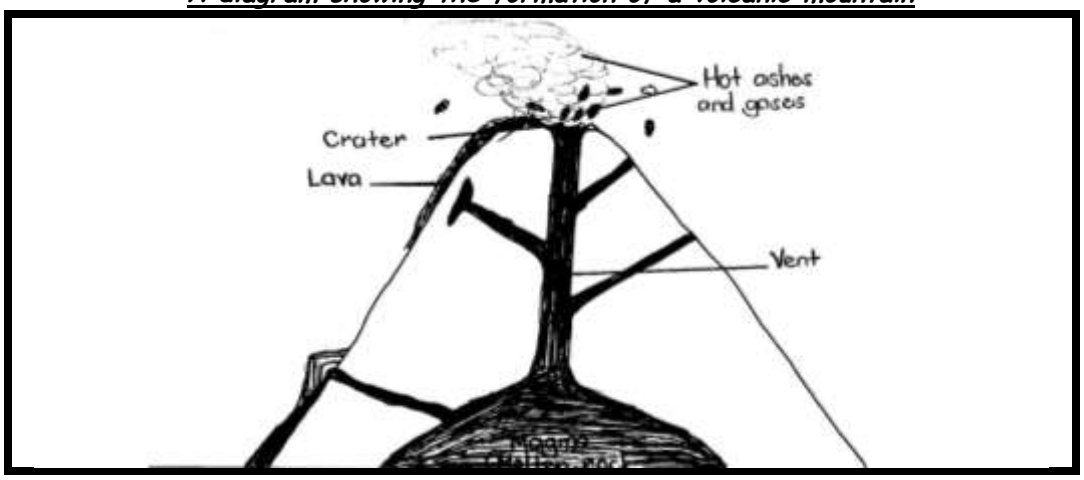
Types of volcanoes

Type of volcano	Description	Example(s)
Active volcanoes	These are mountains which can erupt at any time.	• Nyamulagira in DRC • Nyiragongo in DRC • Mountain Mufumbiro in Uganda. • Ol Doinyo Lengai in Tanzania
Dormant volcanoes.	These are mountains that have not erupted in the recent past but still show signs of erupting.	• Mountain Moroto in Uganda. • Mountain Longonot in Kenya.
Extinct volcanoes	These are mountains that do not show any signs of erupting.	• Mountain Kilimanjaro in Tanzania. • Mountain Kenya • Mountain Elgon in Uganda

Other volcanic mountains in Africa include;

- **Drakensberg mountains in Lesotho and South Africa**
- **Mountain Longonot in Kenya.**
- **Mountain Mufumbiro in Uganda.**

A diagram showing the formation of a volcanic mountain



Importance of volcanicity

- **It leads to formation of fertile volcanic soils which are favourable for crop growing.**
- **Volcanic mountains attract tourists who bring in income.**

Dangers of volcanicity.

- **It leads to death of people and animals.**
- **It leads to destruction of property.**
- **It leads to air pollution.**

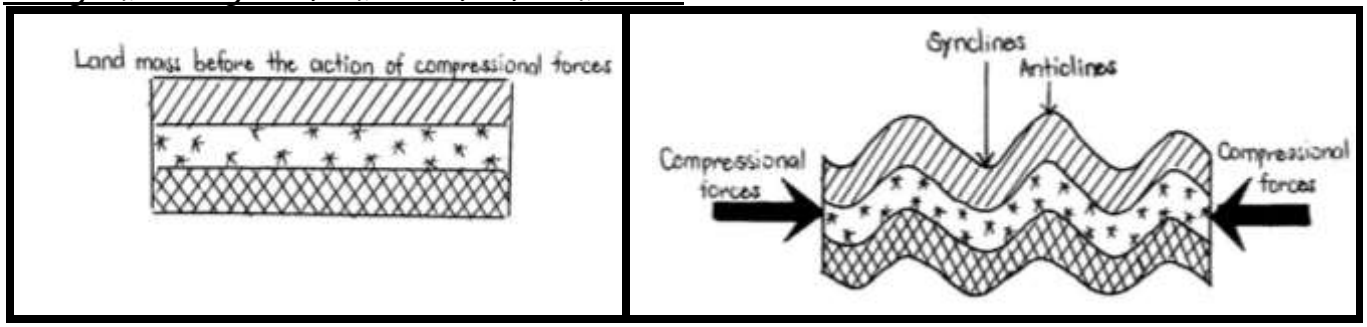
Other features formed as a result of volcanicity.

- **Crater lakes.**
- **Calderas**
- **Inselbergs**
  - ***An inselberg*** *is an isolated hill that stands above the general level of the surrounding land eg.Labwor hill in Karamoja, Musaijamukuru hill in Hoima, Osukuru hill in Tororo.*
  - *These inselbergs attract tourists who bring in income and are also a major source of minerals eg. The Osukuru hills which provide limestone used for making cement.*
- **Lava dammed lakes**
- **Hot springs /geysers eg. Kitagata hotsprings in Bushenyi, Sempaya hotsprings in Bundibugyo**
  - *Hot springs attract tourists and also help in generation of geothermal energy.*

FOLD MOUNTAINS

- **Fold mountain are formed as a result of *folding.***
- ***Folding*** **is the process by which land mass is forced to collide due to compressional forces.**
- **Fold mountains are formed when two land masses are forced to collide by horizontal earth movements causing the rocks to be folded and uplifted.**
- **The raised parts of a fold mountain are called *anticlines.***
- **The sunken parts of a fold mountain are called synclines.**

A diagram showing the formation of a fold mountain



Examples of fold mountains in Africa.

- Cape ranges in South Africa.
- Atlas mountains in North West Africa (Morocco)

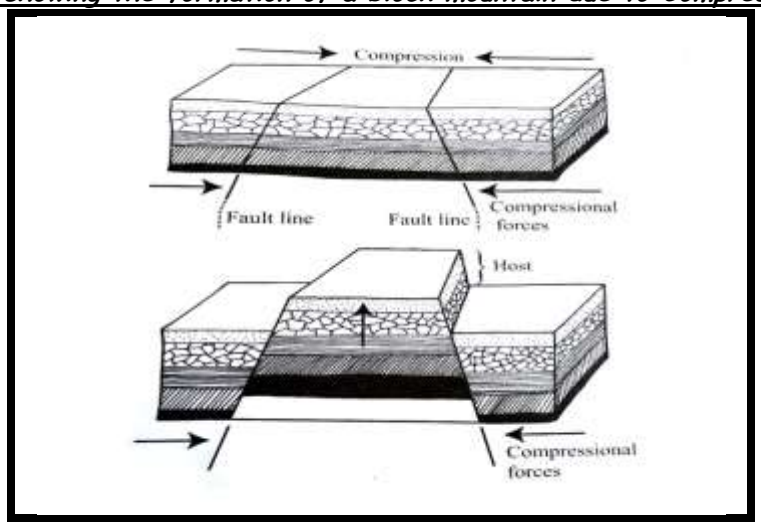
BLOCK MOUNTAINS

- These mountains are also called *horst mountains.*
- Block mountains were formed as a result of ***faulting.***
- ***Faulting*** is the cracking/ breaking of rocks in the earth's crust.
- The central block between the two faults is lifted up by compressional forces forming a block mountain.

Forces that led to the formation of a block mountain

- Compressional forces
- Tensional forces.

A diagram showing the formation of a block mountain due to Compressional forces.



Examples of block mountains in Africa.

- Mountain Rwenzori in Uganda
- Mountain Usambara in Tanzania
- Mountain Uluguru in Tanzania
- Mountain Pare in Tanzania
- Mountain Danakil in Ethiopia

Highest peaks of major mountains in Africa.

Mountain	*Type*	*Formation*	*Highest peak*	*Description*	*Location*
Mountain Kilimanjaro	Volcanic	Volcanicity	Kibo peak	Snowcapped	Tanzania
Mountain Kenya	Volcanic	Volcanicity	Batian peak	Snowcapped	Kenya
Mountain Rwenzori	Block	Faulting	Margherita peak	Snowcapped	Uganda
Mountain Elgon	Volcanic	Volcanicity	Wagagai peak	Dry	Uganda
Mountain Mufumbiro	Volcanic	Volcanicity	Muhavura peak	Dry	Uganda
Mountain Moroto	Volcanic	Volcanicity	Sokdek	Dry	Uganda
Drakensberg mountains	Volcanic	Volcanicity	Thabana-Ntlenyana	Dry	Lesotho
Cape ranges	Fold	Folding	Du Toits	Dry	S.Africa
Atlas mountains	Fold	Folding	Toubkal	Dry	Morocco
Mountain Cameroon	Volcanic	Volcanicity	Fako	Dry	Cameroon

HIGHLANDS IN AFRICA.

A highland is an area of land consisting of hills and mountains.

Examples of highlands in Africa.

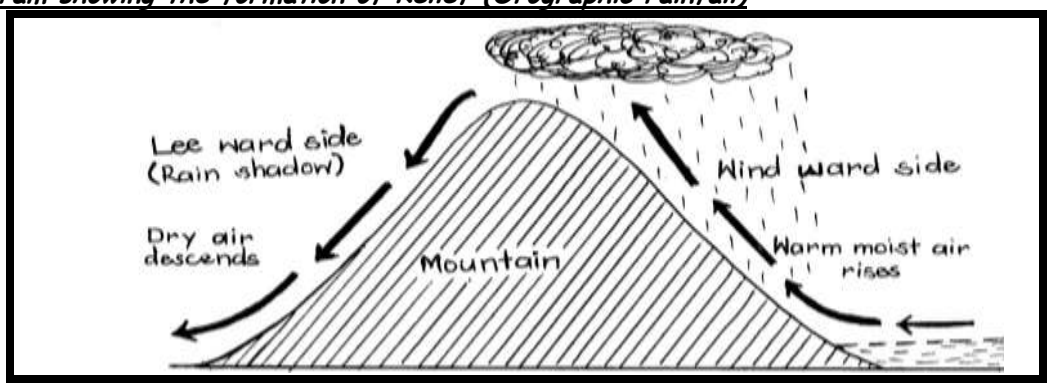
- Kenya highlands
- Ethiopian highlands
- Guinea highlands
- Adamawa highlands

Importance of highlands (hills and mountains)

- ❖ **They help in rain formation.**
- ❖ **They have fertile soils which support crop cultivation.**
- ❖ **They attract tourists who bring in income.**
- ❖ **They have cool temperatures which favour dairy farming.**
- ❖ **They are used by telecommunication companies to place on masts.**
- ❖ **Some mountains form natural boundaries between countries.**

Eg-*Mountain Rwenzori creates a natural boundary between Uganda and DRC.*
-Mountain Elgon creates a natural boundary between Uganda and Kenya.
-Mountain Mufumbiro creates a natural boundary between Uganda and Rwanda.

A diagram showing the formation of Relief (Orographic rainfall)



Disadvantages of mountains.

- ❖ **They hinder agricultural mechanisation.**
- ❖ **They make road and railway construction difficult.**
- ❖ **Some volcanic mountains erupt and destroy property.**
- ❖ **They are greatly affected by landslides and soil erosion.**

Problems faced by people living on slopes of mountains.

- ❖ **Severe soil erosion.**
- ❖ **Landslides.**
- ❖ **Poor ground transport.**
- ❖ **Poor agricultural mechanization.**

Why transport is very poor in highland areas.

It is difficult and expensive to construct roads in mountainous areas.

Note:

- ✓ *People living in highland areas (Kapchorwa) rear donkeys to use them as means of transport.*
- ✓ *Road transport can also be improved in highland areas by constructing winding roads.*
- ✓ *Landslides can be reduced in highland areas through planting trees*

Why agricultural mechanisation is poor in mountainous areas.

The steep slopes make the use of tractors difficult.

PLATEAUS / PLATEAUX

- ***A Plateau*** **is a raised flat topped piece of land.**
- **The plateau covers the largest part of Uganda.**
- **It lies between 200m and 2000m above the sea level.**

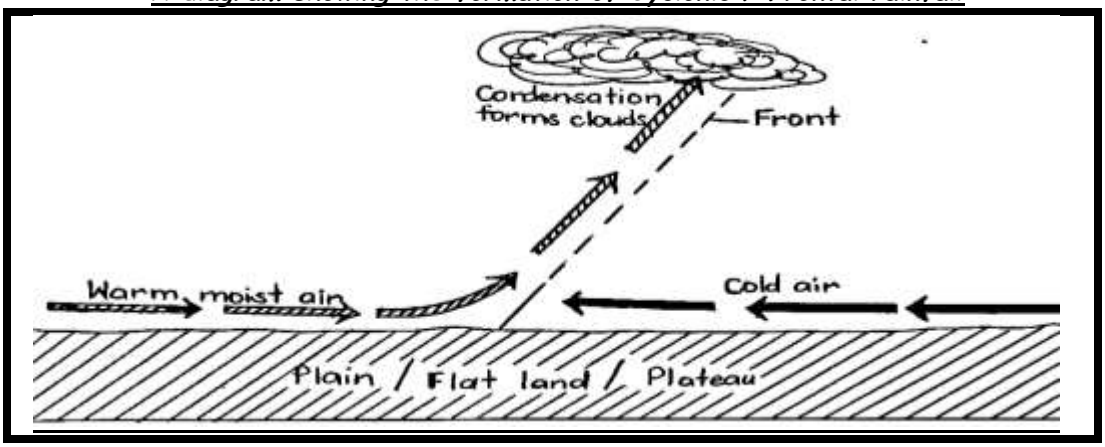
Features found on a plateau

- **Lakes**
- **Rivers**
- **Streams**
- **Hills**
- **Plains**

Economic activities carried out in plateau areas.

- **Crop cultivation**
- **Tourism**
- **Fishing**
- **Mining**
- **Animal rearing**
- **Lumbering**
- **Industrialisation.**

A diagram showing the formation of Cyclonic / Frontal rainfall



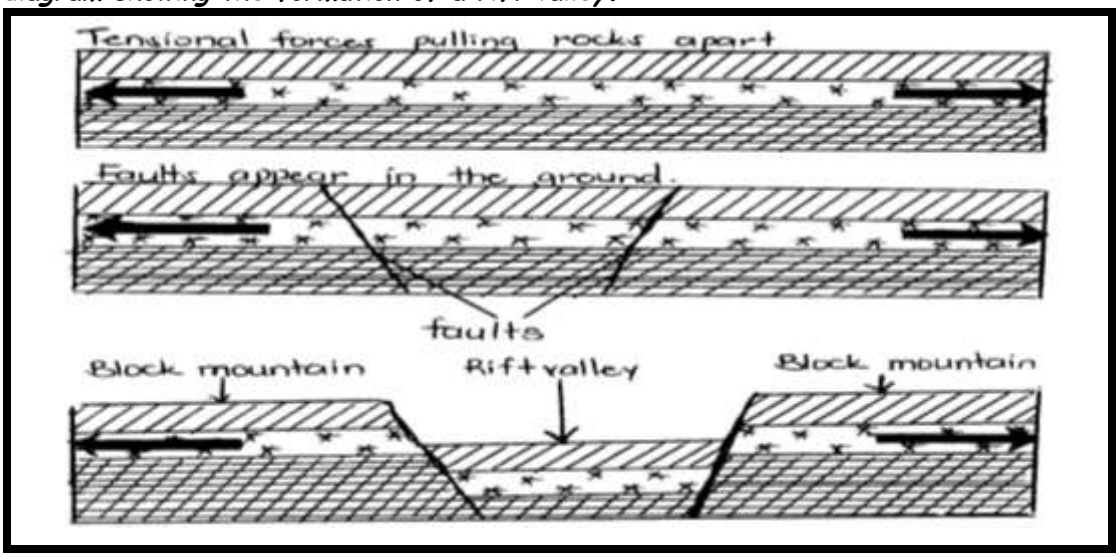
Major plateaus in Africa

- Nyika plateau in Kenya
- Yatta plateau in Kenya
- Jos plateau in Nigeria
- Bie plateau in Angola
- Fouta Djallon in Guinea
- Tibesti in chad
- Ahaggar plateau in Algeria

THE AFRICAN GREAT RIFTVALLEY

- *A rift valley* is a long and wide depression on the earth's surface with steep sides.
- The steep sides of a rift valley are called *escarpments.*
- The rift valley was formed as a result of *faulting.*
- The Great rift valley starts from Syria and runs through Jordan, Red sea, Ethiopia, Kenya, Uganda, Tanzania and ends at Beira in Mozambique.
- The width of the Great rift valley varies from 30 to 100km.

A diagram showing the formation of a rift valley.



Arms/ branches of the African Great riftvalley.

Arm/ branch	*Location*	*Major escarpment*	*Rift valley lakes*
The Ethiopian rift valley	•It enters Africa from Red sea and runs through Danakil depression.	Mega escarpment.	-L .Abaya -L.Ashala -L .Azwai -L.Shamo
The Western rift valley	•It runs through Uganda, Rwanda, Burundi and Tanzania.	Albertine escarpment	-L.Albert -L.Edward -L.Tanganyika

The Eastern rift valley	•It runs through Kenya and Tanzania.	Mau escarpment	-L.Turkana -L.Manyara -L.Magadi -L.Baringo -L.Nakuru -L.Natron -L.Eyasi
The Malawian rift valley	•It runs through Malawi and Mozambique.	Muchinga escarpment	-L.Malawi

Economic activities done in Rift valley areas

- Crop cultivation
- Mining
- Tourism
- Fishing
- Animal rearing

Dangers / disadvantages of the Rift valley.

- ❖ It is affected by soil erosion.
- ❖ It hinders road and railway construction.
- ❖ It experiences very high temperatures due to low altitude.

BASINS

- *A Basin* is a large low lying land between plateaus and highlands.
- Basins are formed as a result of sinking of land masses/ *down warping.*
- When water collects in some basins, lakes are formed.

Examples of basins in Africa.

- The Victoria basin
- The Congo basin
- The Okavango basin
- The Chad basin
- The Nile basin
- The Zambezi basin
- Orange basin
- Senegal basin

COASTAL PLAINS

- A Coastal plain is a narrow strip of land along the coast.
- Coastal plains favour the construction of sea ports and also promote tourism.
- The coastline of Africa is not regular due to the effect of waves.

Features found on the coastal plain

- Coral reefs
- Cliffs
- Beaches
- Lagoons

***Coral reefs** are hard rocks at the bottom of the sea formed by polyps.*

Importance of coral reefs

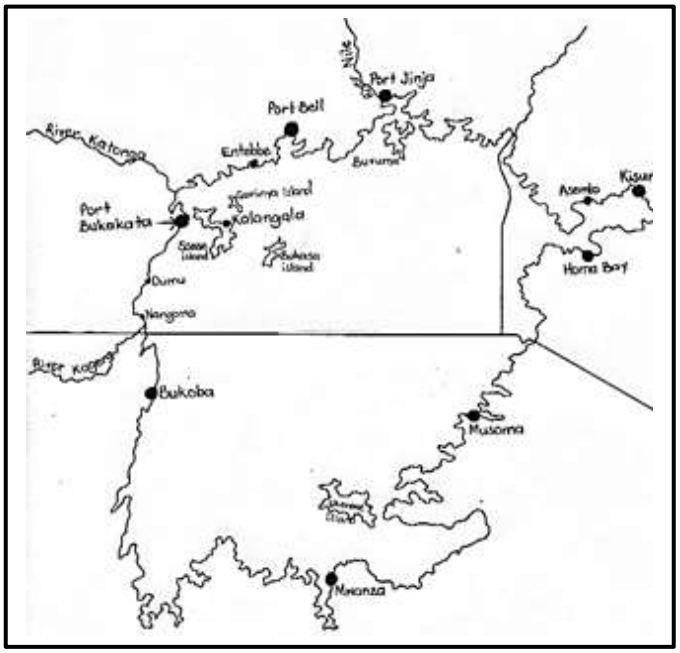
- ❖ *The attract tourists who bring in income.*
- ❖ *They also provide limestone which is used for making cement.*
- ❖ *They are used for making jewellery.*

LAKES IN AFRICA.

A lake is a large depression / hollow on the earth's surface in which water collects.

Major lakes in Africa

- Lake Victoria
- Lake Tanganyika
- Lake Turkana
- Lake Chad
- Lake Tana
- Lake Malawi
- Lake Ngami
- Lake Volta
- Lake Nasser
- Lake Kainji
- Lake Kariba

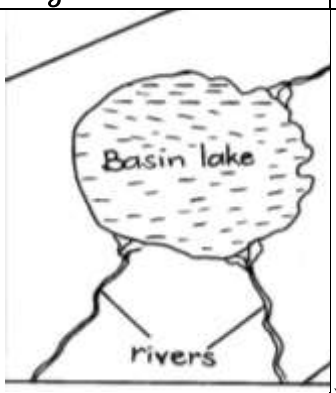


Activity: Locate the major lakes and rivers on the map of Africa in your book

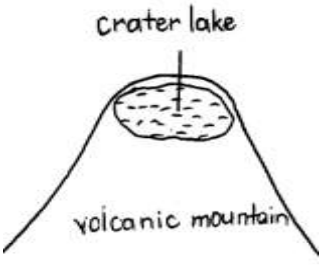
TYPES OF LAKE FORMATIONS

- Basin lakes/ depression lakes/ down warped lakes
- Rift valley lakes
- Ox-bow lakes
- Crater lakes
- Glacial lakes
- Lava dammed lakes
- Manmade lakes
- Lagoon lakes

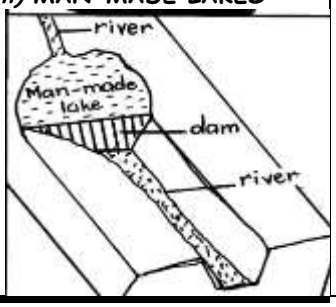
(i) BASIN LAKES

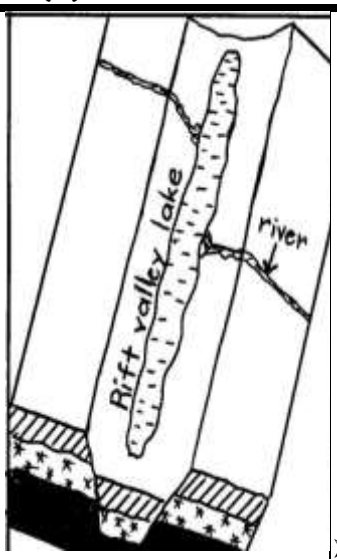
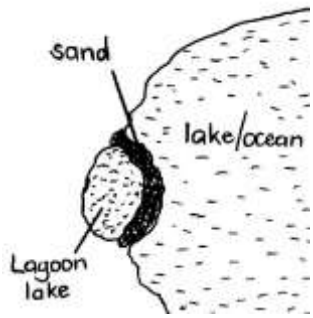
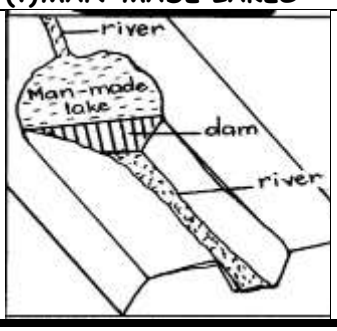
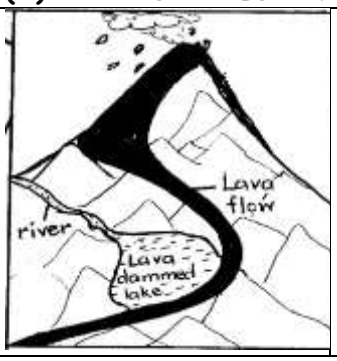
Diagram	*Description*	*Examples*
	➢ These are also called depression lakes/ down warped lakes. ➢ Basin lakes were formed as a result of ***down warping.*** ***Characteristics of basin lakes*** ➢ They are irregular in shape. ➢ They are wide and usually shallow. ➢ They have inlet and outlet rivers. ➢ They have fresh water. **Note:** ➢ *Basin lakes have fresh water because they have outlet rivers.* ➢ *Lake Victoria referred to as an inter-territorial lake because it is shared by three East African countries.* ➢ *Lake Victoria has got inland ports which handle imports and exports of East African countries. This is how it promotes inter-territorial trade in the region.*	• Lake Victoria • Lake Kyoga • Lake Chad • Lake Amboseli • Lake Ngami in Botswana

(ii) CRATER LAKES

	➢ These are formed on top of volcanic mountains. ➢ They are formed as a result of volcanicity.	• L. Katwe in Uganda. • L. Nyamunuka in Uganda • L. Muhavura in Uganda. • L. Panjam in Nigeria

(iii) MAN-MADE LAKES

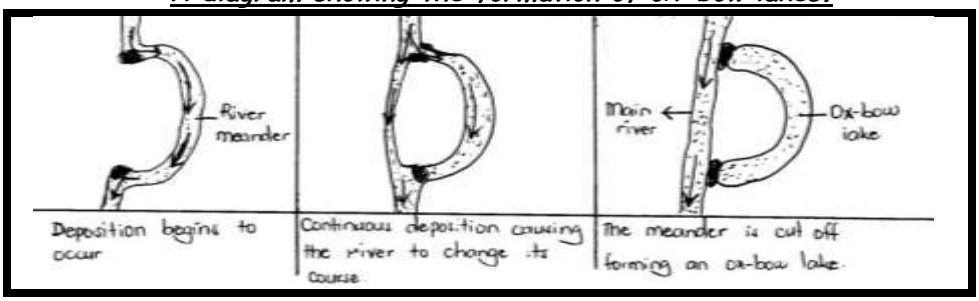
	➢ They are formed as a result of ***dam construction.*** ➢ They can also be formed as a result of digging valley dams in swamps. ➢	• L. Volta in Ghana (the largest) • L. Nasser on R.Nile in Egypt. • L. Kariba in Zambia • L. Kainji on R.Niger in Nigeria

(iv) RIFT VALLEY LAKES		
	These are lakes which lie on the floor of the rift valley and were formed as a result of faulting. ***Characteristics of rift valley lakes*** • They are long and narrow (oblong) • They are deep. • They are salty. • They have steep sided shores. • Most of them have no outlet rivers. ***Why rift valley lakes are salty.*** • They lie on top of salt rocks. (because they experience a lot of evaporation) • They have no outlet rivers. Note:- ➢ *Most rift valley lakes have no major outlet rivers.* ➢ *Lake Magadi provides salt and soda ash used for making glasses.*	-(refer to the African Great rift valley)
(iv) LAGOON LAKES		
	➢ These are formed as a result of ***marine deposition.*** ➢ They are formed when sand or mud separates the sea water. ➢ Most lagoon lakes in Africa are found at the West Africa coast due to an indented coastline. ➢ The East African coast has few lagoon lakes because it is smooth	• L.Nabugabo in Uganda. • L.Koule in Ghana • L.Nokeu in Benin • L.Igela in Gabon
(v)MAN-MADE LAKES		
	➢ They are formed as a result of ***dam construction.*** ➢ They can also be formed as a result of digging valley dams in swamps.	• L. Volta in Ghana (the largest) • L. Nasser on R.Nile in Egypt. • L. Kariba in Zambia • L. Kainji on R.Niger in Nigeria
(vi) LAVA DAMMED LAKES / VOLCANIC LAKES		
	➢ They are formed when lava flows and blocks a flowing river.(as a result of volcanicity) ➢ Then water collects behind to form a river.	• L. Bunyonyi (the deepest in Uganda) • L. Mutanda in Uganda • L. Tana in Ethiopia • L. Kivu in Rwanda and DRC

VII) ***OX-BOW LAKES***

- These are formed as a result of ***river deposition.***
- They are mainly formed on meandering rivers in the lower stage of a river.

A diagram showing the formation of ox-bow lakes.



Examples of Ox-bow lakes

- Lake Utange on river Rufiji
- Lake Gambi on river Tana in Kenya.
- Lake Manzala on the Nile delta in Egypt.

RIVERS IN AFRICA

- ***A river*** is a mass of flowing water on the earth's surface.
- Most rivers in Africa originate from high plateaus and highlands because such areas receive plenty of rainfall which provides water to the rivers.
- Rivers flow from areas of high altitude to areas of low altitude.
- Rivers continuously get their water from rainfall, melting snow or underground water flow.

Examples of major rivers in Africa.

- River Nile
- River Congo
- River Ruvuma
- River Kagera
- River Rufiji
- River Zambezi
- River Volta
- River Senegal
- River Orange
- River Limpopo
- River Gambia
- River Benue
- River Atbara
- River Tana

Examples of seasonal rivers in Africa.

- River Turkwel in Kenya
- River Lagh Bor in Kenya
- River Lagh Bogal in Kenya

Terms related to rivers.

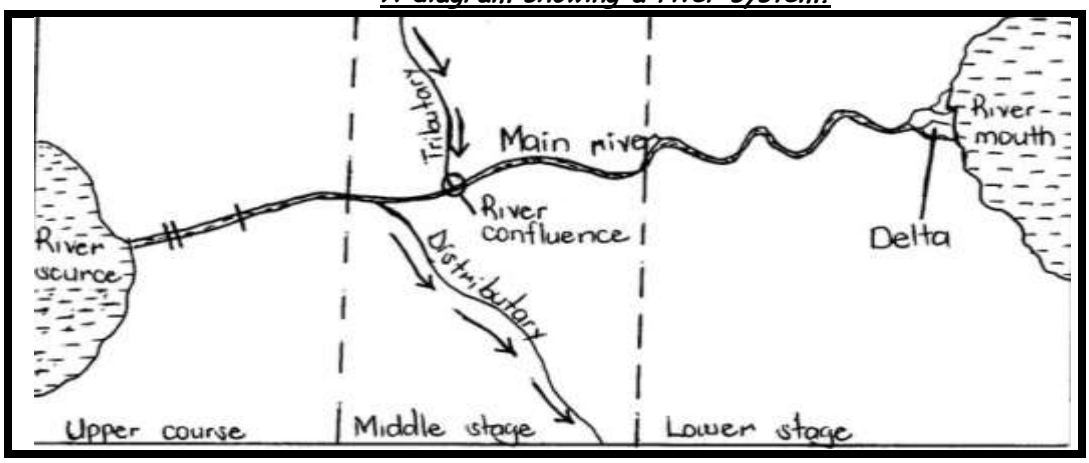
- ***A river source*** is a point where a river begins to flow.
- ***A river mouth*** is a point where a river ends its flow.
- ***A tributary*** is a small river that joins the main river.
- ***A distributary*** is a small river that branches away from the main river.
- ***A river confluence*** is a place where two or more rivers meet.
- ***An estuary*** is a wide part of a river as it ends its flow/enters the sea or a lake.
- ***A drainage basin*** is an area of land drained by a river, its tributaries and distributaries.
- ***A flood plain*** is a flat area near a river that often floods when the water level rises.
- ***A delta*** is the place where a river divides/splits into several streams as it ends its flow.

E.g.-R.Nile, R.Zambezi, R.Okavango and R.Niger form delta at their mouths.

Note:

- ✓ *Deltas are formed at the mouths of rivers, as a result of river deposition.*
- ✓ *Deltas have rich fertile soil for crop growing.*
- ✓ *They also attract tourists who bring in income.*
- ✓ *A waterfall is a steep flow of a river.*
- ✓ *Waterfalls attract tourists who bring in income, and also help in generation of hydro electricity.*
- ✓ *However, waterfalls may cause water accidents and also block water transport.*

A diagram showing a river system.



Stages of River Development

- A river has three main stages/ courses.

These are;

- The Youth stage/Upper course
- The Mature stage/ Middle stage
- The Old stage/ Lower stage (Senile)

Stage	*Characteristics*
The Upper course	• It has waterfalls and rapids • The river flows fast. • It forms a V-shaped valley (gorge). • There is a lot of vertical erosion. NOTE: ➢ *This stage is suitable for generation of hydro electricity because it has many waterfalls.* ➢ *The upper stage is suitable for tourism because it has waterfalls which attract tourists.*
The Middle stage	• The river flows gently. • It forms a U-shaped valley. • There is lateral erosion in this stage. • It begins to form meanders.
The Lower stage	• The river flows slowly. • It forms meanders and ox-bow lakes. • It form a deltas or an estuary. • The river deposits its load forming flood plains.

Features found along river valleys.

- Waterfalls
- Deltas
- Estuaries
- Gorges
- Ox-bow lakes

RIVER NILE

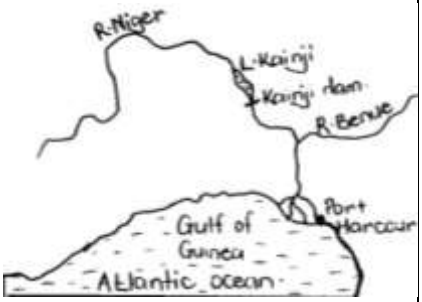
- River Nile is the longest river in the world.
- Its local name is Kiira.
- It flows northwards because the North is on a low altitude.
- John Hanning Speke was the first European explorer to see the source of river Nile.

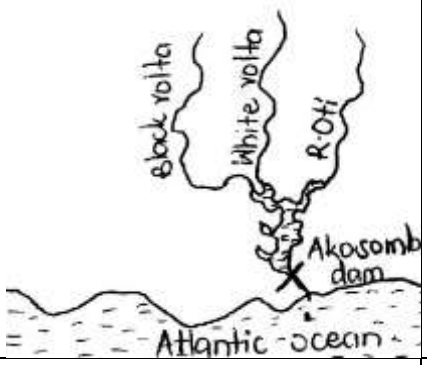
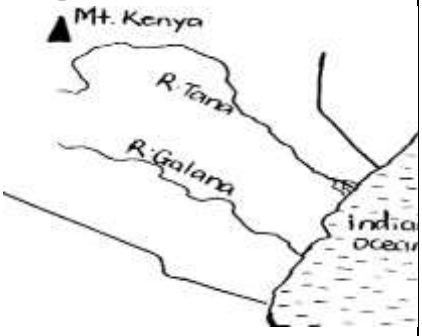
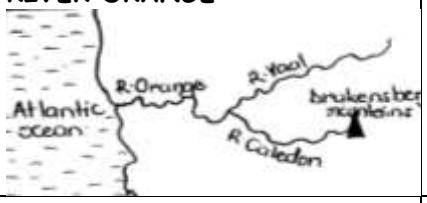
Source	-Lake Victoria
Mouth	-Mediterranean sea
Countries drained	-Uganda -Sudan -Ethiopia -Egypt -South Sudan
Main tributaries	-Blue Nile from lake Tana in Ethiopia -River Atbara -River Achwa in Uganda



Waterfalls	**-Karuma falls** **-Murchison falls** **-Itanda falls**
Hydroelectric power dams	**-Nalubaale power dam** **-Kiira dam in Uganda** **-Bujagali power dam** **-Karuma dam** **-Aswan high dam in Egypt** **-Jebel Aulia dam in Sudan** **-Roseires dam in Sudan** **Note:** *-The construction of Aswan High dam resulted into creation of lake Nasser.* *-The Nile is the life blood of Egypt because the people of Egypt depend on the water of the Nile for irrigation and domestic use.*
Nile valley countries	**-Uganda, -South Sudan,** **-Ethiopia, -Sudan, -Egypt.** ***NB:-The Nile valley** is the area drained by river Nile, its tributaries and distributaries.* *-The Nile valley is densely populated because it receives reliable rainfall, and also has fertile soils which support crop growing.*

Other rivers in Africa

RIVER CONGO  	**❖It is the biggest river in Africa.** **❖It forms an estuary at its mouth.** **❖It forms a natural boundary between DRC and Congo-Brazzaville** ***Power dams on river Congo*** **-Nzilo power dam -Inga power dam** ***Major tributaries of river Congo*** **-River - River Kasai** **❖It carries the largest volume of water to the ocean.** **because;** *-it has many tributaries* *-it originates from equatorial climatic region which receives plenty of rainfall throughout the year.*
RIVER NIGER  	**❖ It flows through Niger and Nigeria, and pours its water into the Atlantic ocean.** **❖ It forms a delta at its mouth. ie.the Niger delta.** **❖ River Benue is the main tributary of river Niger.** **❖ The construction of Kainji dam on river Niger resulted into formation of lake Kainji.** ***Importance of the Niger delta.*** **❖ It has many oil wells.** **❖ It has fertile soils for crop growing.** **❖ It attracts tourists who bring in income.**

RIVER VOLTA 	❖ It flows through Burkina Faso and Ghana, and pours its water into the Atlantic ocean. ❖ The construction of the Akosombo power dam along river Volta resulted into creation of lake Volta. ❖ Lake Volta is the largest manmade lake in Africa. ***Main tributaries of river Volta.*** -Black Volta, -White Volta, -River Oti.
RIVER ZAMBEZI 	❖ It flows through Zambia and Mozambique. ❖ It pours its water into the Indian ocean. ❖ It forms a delta at its mouth. ❖ Lake Kariba was formed after the construction of Kariba dam along river Zambezi. ***Hydro electric power dams along river Zambezi.*** ❖ Kariba dam in Zambia ❖ Cahora Bassa dam in Mozambique ❖ Kafue dam in Zambia NB: *Victoria falls along river Zambezi in Zambia are the highest waterfalls in Africa.*
RIVER TANA 	❖ It originates from the Kenya highlands and flows into the Indian ocean. ❖ River Thiba and River Nyamindi are the main tributaries of river Tana. ❖ *River Thiba* supplies water to *Mwea Tebere irrigation scheme*. (famous for rice growing) ❖ The *Seven Forks scheme* was built on river Tana. ***Power dams built along river Tana.*** -Gitaru dam, -Kindaruma, -Kamburu, -Masinga dam, -Kiambere dam.
RIVER ORANGE 	❖ It originates from the Drakensberg mountains and flows into the Atlantic ocean. ❖ *River Vaal* and *river Caledon* are the main tributaries of river orange. ❖ *Vaal power* dam and *Verwoerd dam* were built along river orange in South Africa.
RIVER LIMPOPO	❖ It flows into the Indian ocean. ❖ It forms a natural boundary between South Africa and Mozambique.

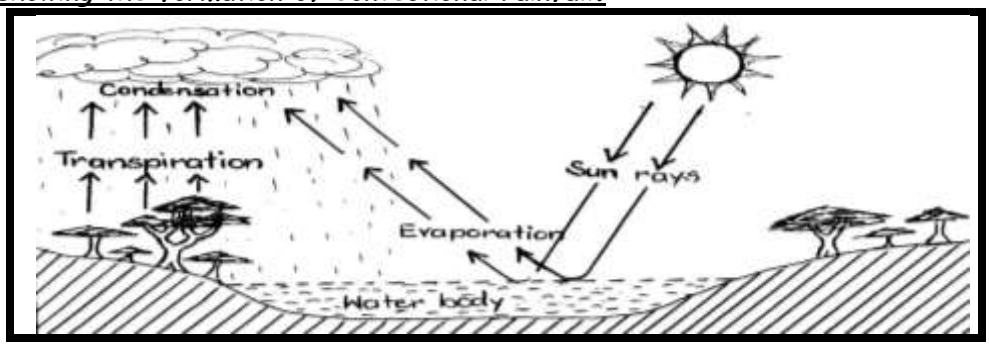
Rivers in Africa and the water bodies they pour their water.

Ocean/ sea/ lake	*Rivers*
Lake Victoria	-River Kagera -River Katonga -River Mara -River Nzoia -River Yala
Indian ocean	-River Ruvuma -River Rufiji -River Pangani -River Tana, -River Galana,
Atlantic ocean	-River Congo, -River Senegal, -River Niger, -River Gambia, -River Volta, -River Orange.
Mediterranean sea	-River Nile

Importance of lakes and rivers

- ❖ They help in rain formation.
- ❖ They act as fishing grounds.
- ❖ Rivers help in generation of hydro electricity.
- ❖ They attract tourists who bring in income.
- ❖ They form natural boundaries between countries.
- ❖ They are used for recreation.
- ❖ They are used as a medium of water transport.
- ❖ They provide water for irrigation, domestic and industrial use.

A diagram showing the formation of Convectional rainfall.



Problems associated with lakes and rivers.

- ❖ Drowning
- ❖ Flooding
- ❖ They harbour disease vectors.
- ❖ Rivers and lakes hinder road and railway construction.

Problems facing lakes and rivers

- ❖ Silting which reduces the depth of water bodies.
- ❖ Overuse of water from lakes and rivers.
- ❖ Drought which lowers the water level.
- ❖ Dumping of wastes into water bodies.
- ❖ Over fishing.

Why most parts of rivers in Africa are not navigable (not used for for transport)

- ❖ Some rivers have waterfalls and rapids.
- ❖ Some parts of rivers are shallow and narrow
- ❖ Some rivers have dangerous aquatic animals.
- ❖ Some rivers have floating vegetation.(suds)

THE INFLUENCE OF PHYSICAL FEATURES.

a) On People

- ❖ Mountainous areas attract human settlement due to the presence of fertile soils for cultivation.
- ❖ Plains favour pastoralism due to the presence of pasture.
- ❖ Ground transport is poor in highland areas due to the presence of steep slopes.
- ❖ Many people settle around lakes and rivers because such areas receive reliable rainfall and have fertile soils which support crop cultivation.

Factors which attract human settlement in;

i) Plateau areas

- ❖ Presence of pasture for animals.
- ❖ Agricultural mechanisation is easy in such areas.
- ❖ Construction of houses, roads, railways and industries is easy.
- ❖ Natural hazards like floods are not common in these areas.

ii) Highland areas

- ❖ Presence of fertile soils.
- ❖ Availability of reliable rainfall.

Common economic activities carried out in highland areas.

- Crop farming
- Dairy farming
- Mining

Reasons why there are very few people living in higher parts of mountains.

- Transport is poor in higher parts of the mountains
- Highland areas experience very low temperatures which do not favour human settlement.

b) On Plants

- Areas around lakes and rivers have many plants due to plenty of rainfall received.
- Slopes of mountains have forests due to presence of fertile soils and reliable rainfall received.
- Mountain tops have few plants due to low temperatures.

c) On Animals.

- Plains have plenty of grass which attracts animals.
- Water bodies favour aquatic animals.
- Pastoralism is common on plateau areas due to the presence of pasture for animals.
- There are many climbing animals eg.mountain gorillas in highland areas due to the presence of many fruit trees.

d) On Climate.

- Mountains receive plenty of relief rainfall.
- The wind ward side of a mountain receives plenty of rainfall because it receives warm moist air.
- The lee ward side of the mountain receives very little rainfall because it receives dry winds.
- Mountainous areas experience very low temperatures because they lie at a higher altitude.
- Rift valleys and low lands experience very high temperature because they are of low altitude.
- Lake shores receive plenty of convectional rainfall.



Testing Exercise.

1. Which physical feature covers the largest part of Uganda?
2. Why does river Nile flow from lake Victoria towards lake Kyoga?
3. Mention any three rivers that flow into lake Victoria.
4. Why are physical features used to create boundaries between places?
5. Mention the three types of mountains in Africa.
6. Compare the following mountains in terms of their formation.
   (i) Mountain Rwenzori and mountain Kilimanjaro
   (ii) Mountain Elgon and Atlas mountains.
   (iii) Drakensberg mountains and the Cape ranges mountains
7. How does volcanicity promote farming activities in an area?
8. Why is it not advisable for people to settle on slopes of volcanic mountains?
9. Mention the forces responsible for the formation of fold mountains.
10. What name is given to the;
    (i) Raised parts of a fold mountain?
    (ii) Sunken parts of a fold mountain?
11. Give the meaning of each of the following;
    (i) Volcanicity
    (ii) Faulting
12. Why is the highest peak of mountain Rwenzori snowcapped throughout the year?
13. Why did Henry Morton Stanley name mountain Rwenzori "the mountains of the moon"?
14. Give any three ways volcanicity affects the natural environment.
15. Mention one factor that favours the growth of arabica coffee on the slopes of mountain Rwenzori.
16. State any three problems facing people living in mountain areas.

17. Complete the table below correctly.

Mountain	*Formation*	*Highest peak*
(i) Mountain Elgon	volcanicity	----------
(ii) ----------	----------	Margherita
(iii) Mountain Kilimanjaro	----------	----------
(iv) Mountain Moroto	----------	----------
(v) Drakensberg mountains	----------	----------

18. How can road transport be made possible in highland areas?
19. How is mountain Rwenzori politically important to Uganda?
20. Mention ant two other mountains in East Africa that were formed through similar process as mountain Rwenzori.
21. Give one way the presence of mountains promotes economic development of an area.
22. State any one way mountains hinder economic development in an area.
23. Why does the lee ward side of a mountain receive very little rainfall?
24. What factor makes the wind ward side of a mountain suitable for crop growing?
25. Give the meaning of a Plateau.
26. Which type of rainfall is mostly received in plateau areas?
27. Name the forces that led to the formation of the rift valley.
28. What name is given to the steep sides of a rift valley?
29. Name the major escarpments of the Western rift valley?
30. Why do rift valley areas experience very high temperatures?
31. Give any two factors that favour dairy farming in the Kenya highlands.
32. How are hills useful to telecommunication companies?
33. State the major cause of landslides in mountainous areas.
34. Give one way landslides can be controlled in hilly areas.
35. State any three characteristics of rift valley lakes.
36. How is the rift valley similar to block mountains in terms of their formation?
37. Name the relief feature that lies along the East African coast.
38. Give any two ways coral reefs are economically important.
39. What name is given to the hard rocks formed by polyps at the bottom of the seas and oceans?
40. Name the largest fresh water lake in Uganda.
41. Why is lake Victoria referred to as an inter-territorial lake?
42. Mention any four physical feature that create a boundary between Uganda and Democratic Republic of Congo.
43. Complete the table below correctly.

Lake	Formation	Any three examples.
(i) Basin lakes	----------	---------- ---------- --------
(ii) Rift valley lakes	----------	---------- ---------- --------
(iii) ----------	----------	Lake Katwe ---------- --------
(iv) ----------	Marine deposition	Lake Nabugabo ---------- --------
(v) ----------	----------	Lake Bunyonyi ---------- -------
(vi) Ox-bow lakes	----------	---------- ---------- --------

44. Why do most rift valley lakes usually have salty water?
45. State any two characteristics of basin lakes.
46. Why is lake Katwe not considered to be a rift valley lake yet it lies on the floor of the rift valley?
47. Compare lake Tanganyika and lake Kyoga in terms of their formation.
48. Which lake in Kenya is referred to as a sanctuary for flamingoes?
49. Name one man-made lake found along each of the following rivers

(i) River Nile
(ii) River Volta
(iii) River Zambezi
(iv) River Niger.

50. Name the deepest lake in Africa.
51. Mention any four inland ports located on lake Victoria.
52. How does lake Victoria promote inter-territorial trade among the East African countries?
53. Mention any four major rivers in Africa that drain into the Indian ocean.
54. Why do most rivers in Africa originate from high mountains?
55. Name the largest river in Africa.
56. Mention any three rivers in Africa that form deltas at their mouths.
57. Give one reason why the Nile delta is densely populated.
58. Give any two ways waters falls along river Nile have promoted economic development in Uganda.
59. Why does river Congo carry the largest volume of water to the sea as compared to other rivers in Africa?
60. Mention any two characteristics of the upper stage of a river.
61. Why is the upper stage of a river suitable for hydro electric power generation?
62. How did the construction of Nalubaale power dam affect the Ripon falls?
63. Mention any three rivers in Africa that pour their water into the Atlantic ocean.
64. Which stage of a river is characterised by ox-bow lakes?
65. Mention the main tributary of river Nile in Uganda.
66. Why is lake Kyoga so swampy?
67. Give any two ways the Niger delta is economically important to Nigeria.
68. What name is given to the part of river Nile between lake Victoria and lake Albert?
69. What natural evidence shows that lake Victoria is on a higher altitude than the Mediterranean sea?
70. How is the mouth of river Congo different from that of river Niger?
71. What factor makes navigation along the Victoria Nile difficult?
72. State the political importance of river Ruvuma to Tanzania.
73. State the major cause of land fragmentation in Kigezi sub-region.
74. How does terracing help to reduce soil erosion in highland areas?
75. Why are there usually very few people living in higher parts of mountains in Africa?

TOPIC 3: **THE CLIMATE OF AFRICA.**

INTRODUCTION TO WEATHER.

- ***Weather*** is the state of the atmosphere of a place at a given time.
- ***Meteorology*** is the scientific study of weather.
- ***A meteorologist*** is a scientist who studies weather.
- Elements of weather are measured and recorded at a *weather station/ meteorological centre.*
- The biggest meteorological centre/ weather station in Uganda is *Entebbe meteorological centre.*
- ***Weather forecasting*** is the telling of the expected future weather conditions of an area.

Importance of weather forecasting.

- It helps farmers to plan well their farm activities. e.g. Planting, harvesting etc.
- It helps travellers to prepare for their journeys.
- It helps pilots and sailors to avoid air and water accidents.

Main aspects of climate.

- Rainfall
- Temperature.

Types and conditions of weather.

Type of weather	*Condition of weather*
Rainy weather	Rainy
Windy weather	Windy
Cloudy weather	Cloudy
Sunny weather	Sunny

Elements of weather / factors of weather

- Rainfall
- Cloud cover
- Wind
- Humidity
- Sunshine
- Air pressure
- Temperature

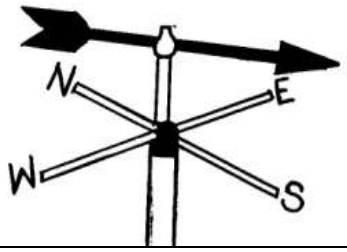
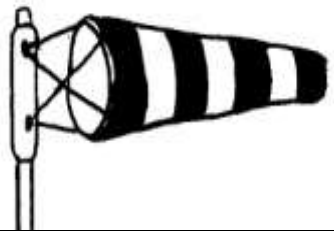
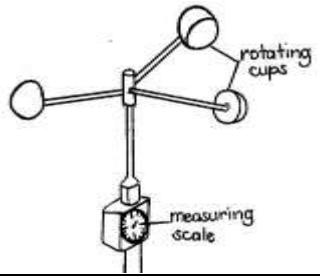
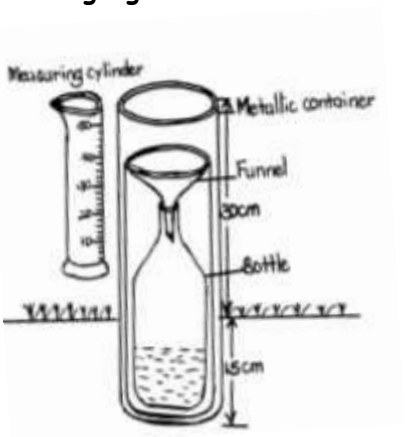
Importance and dangers of various weather elements

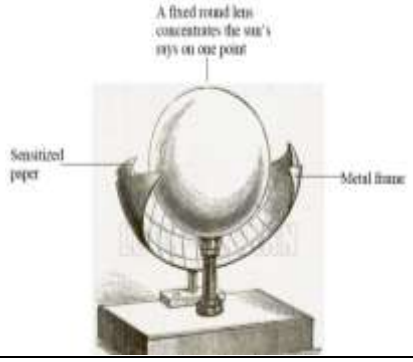
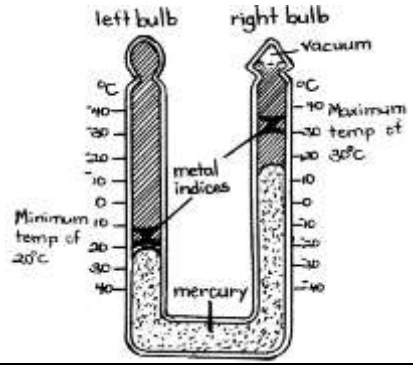
Element	*Importance and dangers*
Wind	❖ ***Wind*** is air in motion. ❖ Wind is caused by the *difference in atmospheric pressure.* ❖ Wind blows from the areas of high atmospheric pressure to areas of low pressure. ***Importance*** ❖ It is used in winnowing. ❖ Wind drives away bad smell. ❖ It dries people's clothes. ❖ It helps in sailing boats on large water bodies. ❖ It helps in pollination. ❖ It helps in flying kites and balloons. ❖ It can be turned into power by wind mills. Wind mills are mainly used in Karamoja to pump water. ***Dangers.*** ❖ Strong wind destroys farmers' crops. ❖ Wind causes soil erosion. ❖ It pollutes the environment by raising dust. ❖ It drives away clouds that would bring rainfall. ❖ Strong wind blows off roofs of houses. ❖ Strong wind makes water vessels capsize on water bodies. ❖ Dry winds cause desert conditions in areas where they blow to.

Clouds	❖ These are solid drops of rain in the atmosphere. ***Importance*** ❖ Clouds protect us from direct sun rays. ❖ Some clouds give us rain eg. Nimbus clouds. ❖ Clouds regulate world temperatures. ❖ Clouds keep the earth warm at night.
Rainfall	❖ ***Rainfall*** is the amount of rain received in a particular area. ❖ Areas that receive plenty of rainfall are usually densely populated while those that receive unreliable rainfall usually have very few people (are sparsely populated) Types of rainfall ❖ Convectional rainfall (mostly received around forests and large water bodies) ❖ Relief/ Orographic rainfall (received mostly in highland areas) ❖ Cyclonic/ frontal rainfall (received mostly in plateau areas/ plains) ***Importance*** ❖ Rain is a natural source of water in the environment. ❖ It helps plants to grow well. ❖ It helps to reduce dust in the environment. ❖ It helps to cool the environment. ❖ It increases the volume of water in water bodies. ❖ Rain water softens the soil for cultivation. ***Dangers*** ❖ Too much rainfall causes floods. ❖ It causes landslides in mountainous areas which lead to displacement of people, death of people and animals, destruction of property etc. ❖ It leads to soil erosion. ❖ Heavy rainfall destroys farmers' crops. ❖ It makes murram roads muddy and slippery.
Sunshine	✚ The sun is the major source of light in the environment. ✚ Africa receives abundant sunshine throughout the year because the sun is overhead Africa throughout the year. ✚ Sunshine is tapped and utilized by many people in Africa in form of solar energy. ***Importance*** ❖ It is used in preserving food. ❖ It is a source of Vitamin D. ❖ It dries farmers' crop harvests. ❖ It is used in generation of solar energy. ❖ It helps in drying clothes. ***Dangers*** ❖ Strong sunshine leads to drought. ❖ Direct sun rays cause skin cancer. ❖ It leads to global warming. ❖ It dries up pasture for animals. ❖ It causes dust in the environment. ❖ It dries crops in the garden before they are ready for harvesting.

WEATHER INSTRUMENTS

- **These are tools used in measuring and recording atmospheric conditions.**

Weather instrument	Importance
Wind vane / a weather cock 	❖ **It shows the *direction of wind.*** ❖ **A wind vane is placed in an open place or on top of buildings to prevent wind obstruction.** **Note:-***An arrow of a wind vane usually points to the direction from which wind is blowing.*
A Windsock 	❖ **It is used to determine the *strength of wind.*** ❖ **It's usually found at the airports, air fields, at chemical plants etc.** **Note:-***A wind sock is* ***not*** *among the instruments of weather found at a weather station.*
An Anemometer 	❖ **It measures the *speed of wind.*** ❖ **It has cups which trap wind and rotate as wind blows into them.** ❖ **The speed of wind is measured in kilometres per hour (km/hr)**
A Rain gauge 	❖ **It is used to *measure the amount of rainfall received* in an area.** ❖ **It is always placed at least *30cm* above the ground to prevent splashes and flowing water on the ground from entering the rain gauge.** ❖ **It should be placed 15cm below the ground to prevent the evaporation of water collected and to make it firm.** ❖ **It is placed in an open flat place to prevent obstruction of rain drops in order to take accurate measurements.** ***Importance of different parts of a rain gauge.*** ❖ ***The funnel****-it directs water into the bottle.* ❖ ***Water bottle****-it collects the amount of rain water received.* ❖ ***Measuring cylinder****-it is used for measuring the amount of water collected in the bottle.* **Note:-***Rainfall is measured in* ***millimetres*** *in order to know the depth of rain water into the soil.*
A ceilometer	❖ **It is used to measure the height and thickness of clouds.**

A Barometer 	❖ It is used to measure *air pressure.* ❖ Air pressure is measured in millibars. ❖ Measuring air pressure enables experts to predict storms.
A Sunshine recorder 	❖ It shows the duration of sunshine in a day.
Hygrometer 	❖ It is used to measure *humidity.* ❖ *<u>Humidity</u> is the amount of water vapour in the atmosphere.*
Six's thermometer 	❖ It measures the highest and lowest temperatures of the day.

<u>A STEVENSON SCREEN.</u>

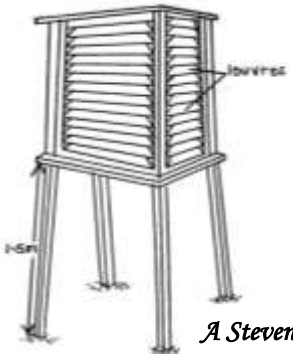
- This is a wooden box with louvres on metallic stands in which delicate weather instruments are kept at a weather station.
- It protects weather instruments from rainfall and direct heat.
- The Stevenson screen is made of louvres to allow free air circulation in the box.
- It is painted white to enable it reflect sunlight.
- It is raised 1.5m above the ground to keep it free from splash water.
- It is made of wood to prevent it from absorbing heat.

Weather instruments kept in a Stevenson screen.

- **Barometer**
- **Hygrometer**
- **Six's thermometer (Maximum and thermometer).**

Note:

- *The above instruments are kept in a Stevenson screen in order to protect them from destruction since they are delicate.*
- ***The Ministry of Water and Environment** is responsible for monitoring weather and climate, and issuing advice to the public on weather conditions in Uganda.*



A Stevenson screen

CLIMATE OF AFRICA.

- **Climate is the average weather condition of a place recorded for a long time.**
- **Climatology is the scientific study of climate.**
- ***A climatologist* is a scientist who studies climate.**

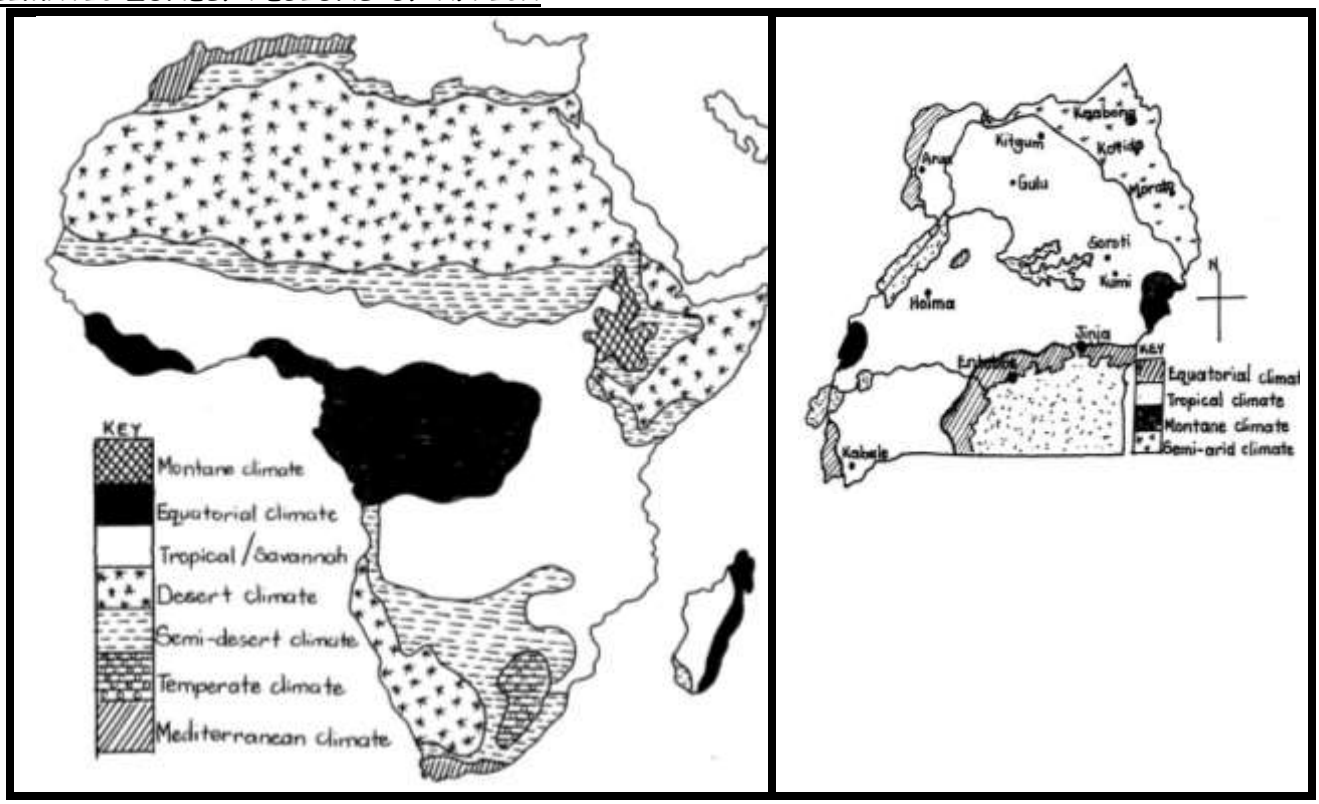
CLIMATIC REGIONS/ ZONES OF AFRICA

- ***A climatic region* is a large area that experiences the same / similar weather patterns.**

The climatic regions of Africa include the following;

- **Equatorial climatic zone.**
- **Tropical (Savannah) climatic zone**
- **Semi-desert/ Semi-arid climatic zone**
- **Desert / Arid climatic zone**
- **Mountain / Montane climatic zone**
- **Mediterranean climatic zone.**
- **Temperate climatic zone.**

CLIMATIC ZONES/ REGIONS OF AFRICA



i) EQUATORIAL CLIMATE

- It is described as hot and wet throughout the year.
- This type of climate is experienced in areas lying between 5°N and 5°S of the equator.
- The high rate of evaporation and transpiration causes heavy rainfall in this region (usually above 1750mm)
- In Uganda, Equatorial climate is mostly experienced on the shores of lake Victoria.

African countries that experience Equatorial climate

- Democratic Republic of Congo
- Gabon
- Central African Republic
- Congo Brazzaville
- Equatorial Guinea
- Uganda-on the shores of lake Victoria

Characteristics of Equatorial climate.

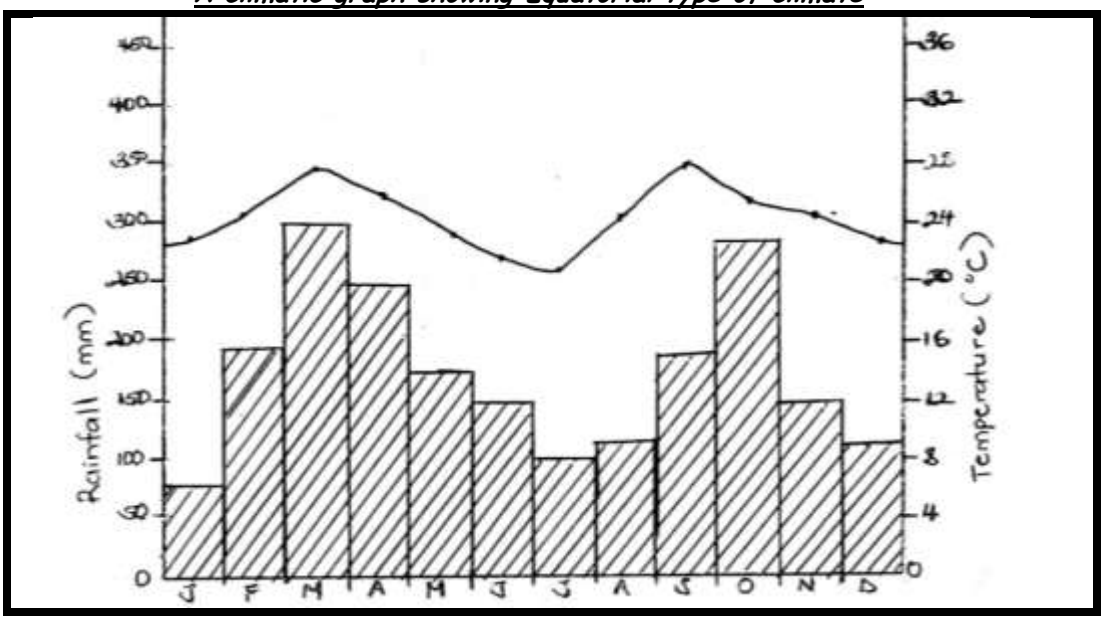
- ❖ It is hot and wet throughout the year.
- ❖ Convectional rainfall is mostly received. (mainly in the afternoon.)
- ❖ It has no dry month.
- ❖ It has two heavy maximum rainfall seasons. (a double rain maxima during the equinoxes)
- ❖ It experiences very high temperatures daily. (of about 25° daily on average.)

Note:- *People living in Equatorial climatic region build houses with slanting roofs to allow easy flow of rain water off the roofs/ to allow easy down flow of rain water from the roofs.*

A climatic table showing Equatorial type of climate.

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp (°C)	23	25	27	26	24	22	21	25	28	26	25	23
Rainfall(mm)	70	190	300	250	170	150	50	120	180	270	150	120

A climatic graph showing Equatorial type of climate



Note:-*According to the above table and the graph, the increase in temperatures causes increase in the amount of rainfall received in the Equatorial climatic region.*

Economic activities carried out in equatorial climatic region

- Crop growing
- Lumbering
- Tourism

Common crops grown in equatorial climatic region

- Oil palm
- Cocoa
- Rubber
- Coffee
- Bananas

Note:- *The above crops are commonly grown because they require plenty of rainfall for them to grow well.*

ii) TROPICAL CLIMATE / SAVANNAH CLIMATE

- Tropical climate is described as hot and wet.
- Tropical type of climate is experienced in most parts of Africa.
  This is because most parts of Africa lie between the tropics (with in the tropical region).
- This type of climate is experienced between the Tropic of cancer and the Tropic of Capricorn.
- Tropical climatic region lies in areas between 5º to 15ºN and 5º to 15ºS of the equator.

African countries that experience Tropical climate.

- Uganda
- Zambia
- Zimbabwe
- Kenya
- Tanzania
- Rwanda
- Ghana
- Nigeria
- Burundi
- Mali
- Malawi

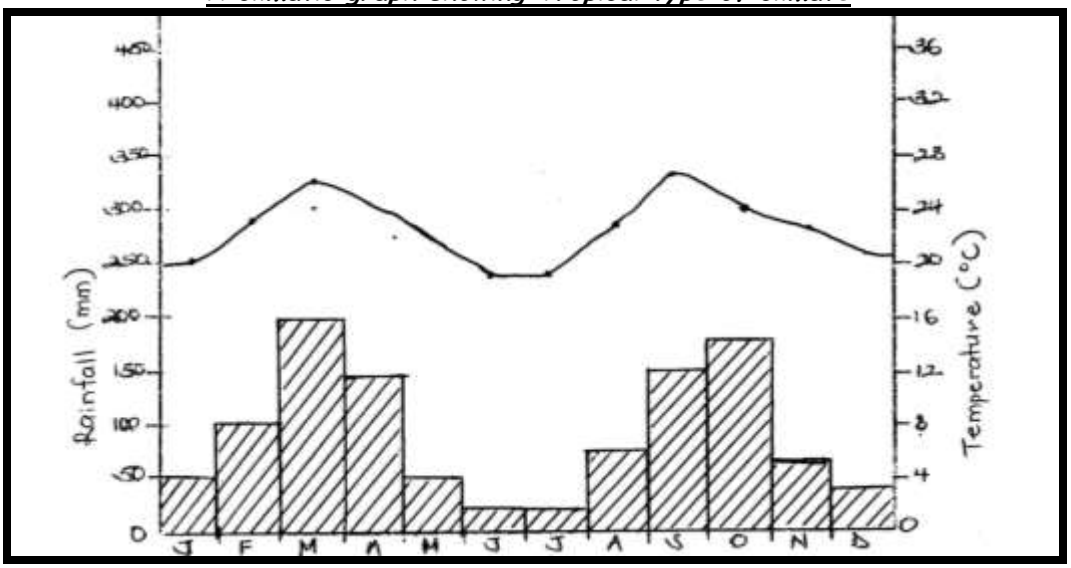
Characteristics of Tropical climate

- ❖ Rainfall is mainly received when the sun is overhead the equator.
- ❖ It has two wet seasons and two dry seasons.
- ❖ Rainfall decreases as one moves far from the equator.
- ❖ Tropical type of climate is hot and wet.

The climatic table showing Tropical type of climate.

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp. (ºC)	20	23	26	24	22	18	19	23	27	24	23	21
Rainfall (mm)	50	110	200	140	50	25	25	75	150	175	60	40

A climatic graph showing Tropical type of climate



Note:-*According to the above table and the graph, the increase in temperatures causes increase in the amount of rainfall received in the Tropical climatic region.*

Economic activities commonly carried out in Tropical climatic region

- Crop growing
- Tourism
- Bee keeping
- Pastoralism
- Lumbering

Common crops grown in Tropical climatic region

- Maize
- Sorghum
- Beans
- Ground nuts
- Fruits like; jack fruits, oranges, mangoes, guavas,

iii) DESERT CLIMATE / ARID CLIMATE and (iv) SEMI-DESERT CLIMATE /SEMI-ARID CLIMATE

- ***Desert climate*** **is described as hot and dry throughout the year.**
- ***Semi-desert climate*** **is described as hot and dry.**
- **Desert areas receive very little rainfall because they receive dry winds.**
- **Deserts are very hot during day with temperatures ranging between 35°-50°C.**
- **Deserts are very cold at night due to the absence of clouds in the sky.**
- **Desert climate is experienced in areas located between the Tropical and Mediterranean climatic region.**

Major deserts in Africa.

- **Sahara desert (the largest and hottest in the world)**
- **Namib desert**
- **Kalahari desert**

African countries that experience desert climate

- **Libya**
- **Angola**
- **Egypt**
- **Somalia**
- **Western Sahara**
- **Morocco**
- **Namibia**

Note:

- ***Marine deserts*** *are deserts caused by dry winds blowing over large water bodies eg. Namib desert.*
- ***Continental deserts*** *are deserts caused by dry winds blowing over land for example the Sahara desert, Kalahari desert.*
- ***Harmattan winds*** *are responsible for causing desert conditions in the Sahara.*
- *People living in desert areas usually wear light white clothes to reflect sunlight and heat.*
- *The desert dwellers build houses with flat roofs in order to prevent desert storms from blowing off their roofs, and also to regulate indoor temperatures.*
- *Sand dunes and Oases are the major tourist attractions in desert areas.*
- ***Sand dunes*** *are large heaps of sand formed by blowing wind in the desert.*
- ***An oasis*** *is a place where water can be obtained in the desert.*
- *The Desert dwellers wear turbans on their heads to keep their bodies cool by preventing the loss of body moisture through the heads*

Importance of oases.

- **They provide water for irrigation farming and for domestic use.**
- **They attract tourists who bring in income.**

Characteristics of Desert climate.

- **It is hot and dry throughout the year.**
- **There is very low humidity.**
- **It receives very little rainfall.**
- **It has hot days and cold nights.**
- **Skies are clear with less cloud cover.**

Economic activities commonly done in desert areas.

- **Irrigation farming**
- **Pastoralism**
- **Tourism**

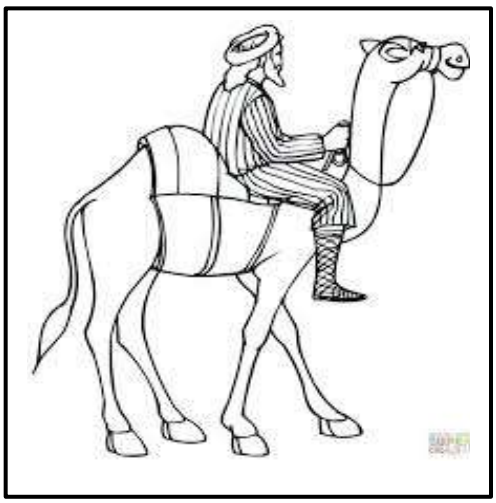
Note:

-Crop farming in desert areas is done around oases through irrigation.

-Barley, dates and olives are commonly grown in desert areas.

-Most crops grown in desert areas take a short time to mature (cereal crops)

-River Nile, lake Chad and oases provide water to dwellers of the Sahara.



Common animals kept in desert areas.

- **Camels (for use as means of transport)**
- **Cattle**

Importance of camels to desert dwellers

- They are used for transport.
- They are a source of income when sold.
- They provide meat.
- They provide milk to them.

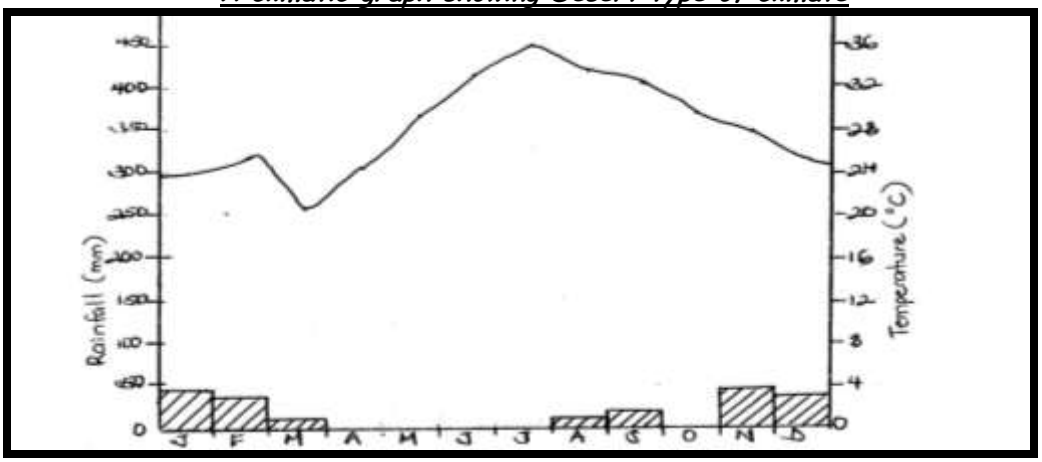
Factors that enable camels to survive in harsh desert conditions.

- They have large humps which store fats for so long.
- They have long eyelashes which protect their eyes from desert sand.
- They have large hooves which enable them to walk on desert sand.
- Their nostrils can close which protect which protect their noses from desert sand.
- Their body temperature changes which prevents water loss from the body through sweating.

A Climatic table showing Desert type of climate.

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp. (°C)	24	26	21	25	30	34	36	34	33	30	28	26
Rainfall (mm)	40	30	15	==	==	==	==	15	20	==	45	35

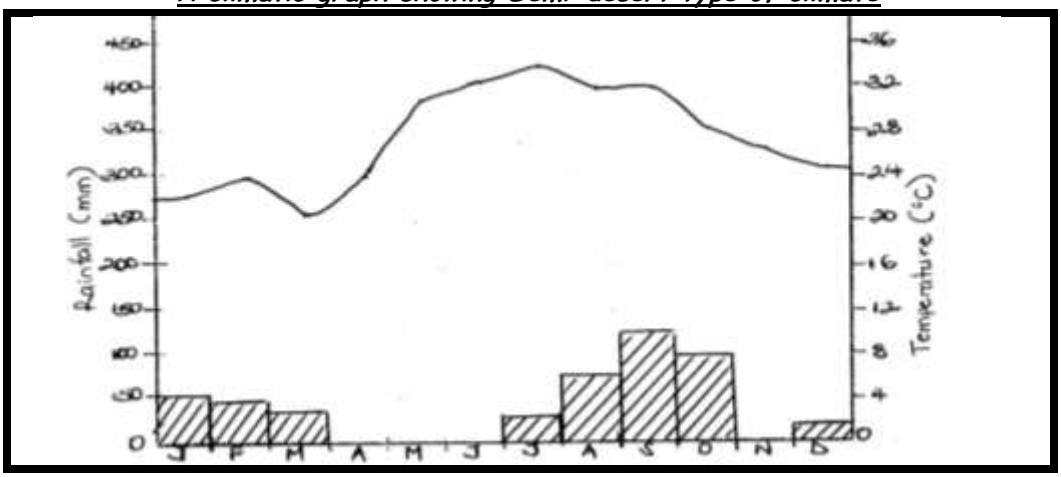
A climatic graph showing Desert type of climate



A Climatic table showing Semi-desert type of climate.

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp (°C)	23	24	21	24	31	33	34	32	32	29	27	25
Rainfall (mm)	50	40	28	==	==	==	30	75	120	100	==	20

A climatic graph showing Semi-desert type of climate



Note:-*North Eastern Uganda and the Northern part of Kenya experience Semi-desert climate because they lie on the lee ward side of the Ethiopian highlands.*

v) MEDITERRANEAN CLIMATE.

- It is described as warm dry summers and cool wet winters
- It is also called the *Warm Temperate Western margin.*
- It is experienced in areas between 30° and 40° North and South of the Equator.
- It is experienced in areas bordering the Mediterranean sea and the extreme Western corner of South Africa. (Cape region of South Africa)
- When it is winter in the North, it is summer in the South and vice versa.
- The coldest months in North Africa are December and January while June and July are the hottest.
- The coldest months in South Africa are June and July while December and January are the hottest.
- The Westerly winds cause rainfall in the Mediterranean climatic region during winter

African countries that experience Mediterranean climate.

- Morocco
- Algeria
- Tunisia
- Libya

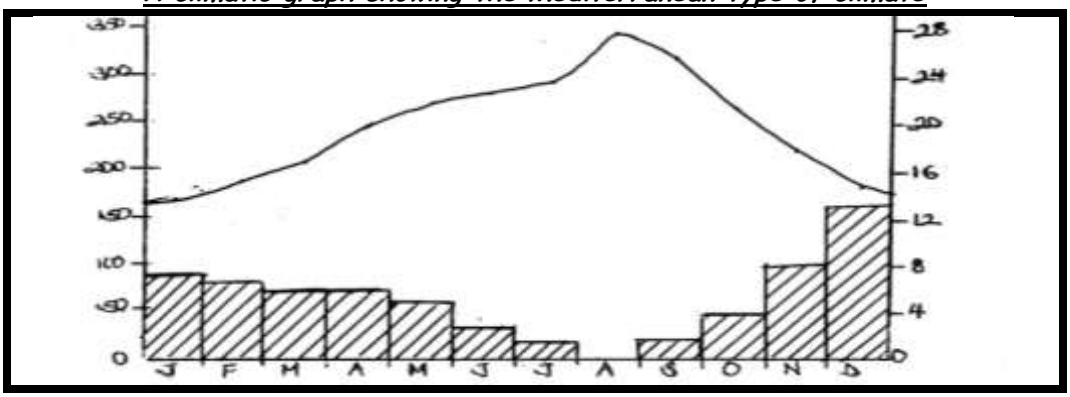
Characteristics of Mediterranean climate.

- ❖ It has cool and wet winters
- ❖ It has hot and dry summers.
- ❖ It receives moderate rainfall especially during winter.
- ❖ It experiences high temperatures during summer.
- ❖ Rainfall decreases with the increase in temperature.

A Climatic table showing Mediterranean type of climate.

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp(°C)	14	15	17	20	22	23	24	28	26	22	18	15
Rainfall (mm)	90	80	70	70	60	30	18	==	20	50	100	130

A climatic graph showing the Mediterranean type of climate



Note:-*According to the above table and the graph, rainfall decreases with the increase in temperature in the Mediterranean climatic region.*

Common economic activities carried out in Mediterranean climatic region.

- Citrus fruit growing.
- Lumbering
- Animal rearing (pastoralism)
- Tourism
- Wine making

Major crops grown in Mediterranean climatic region.

- Citrus fruits like; oranges, lemons, limes, tangerines, grape vines.

Products obtained from citrus fruits

- Juice
- Wine

vi) *TEMPERATE CLIMATE.*

- Temperate climate is described as warm wet summers and cool dry winters.
- It is experienced in Eastern parts of South Africa.
- It extends to the Drakensberg mountains.
- The areas that experience Temperate climate in South Africa are called the Veld / High Veld.

- The High Veld is warm with temperatures ranging between 10°-19°C.

African countries that experience Temperate climate.

- South Africa
- Eswatini
- Lesotho

States in South Africa that experience Temperate climate.

- Orange free state
- Cape colony
- Transvaal
- Natal province

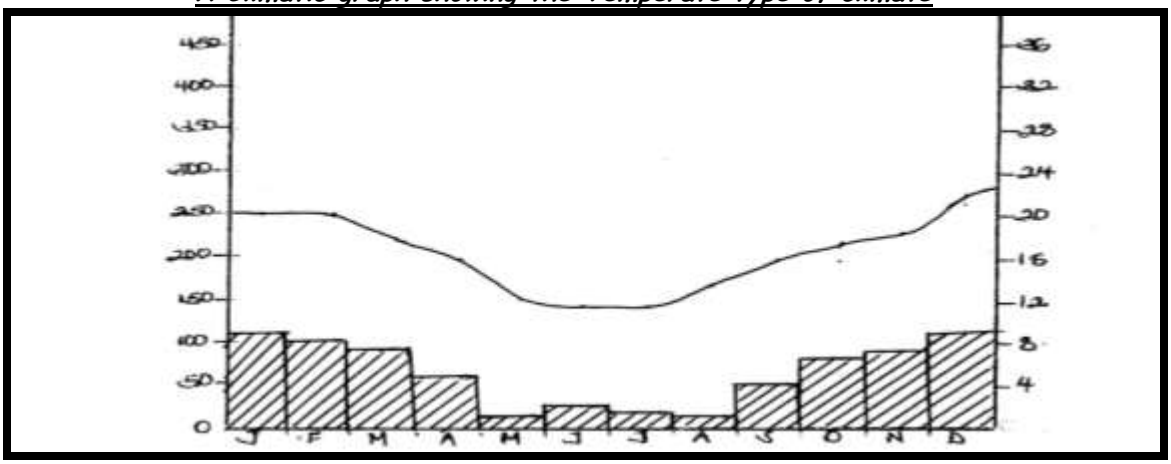
Characteristics of Temperate climate.

- ❖ It receives moderate rainfall during summer.
- ❖ Rainfall increases with the increase in temperature.
- ❖ It has warm and wet summers.
- ❖ It has cool and dry winters.

A Climatic table showing Temperate type of climate.

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp (°C)	20	20	18	16	13	12	12	14	16	18	19	22
Rainfall(mm)	115	100	95	60	20	30	20	15	50	80	85	110

A Climatic graph showing the Temperate type of climate



Note:-*According to the above table and the graph, rainfall decreases with the decrease in temperature and viceversa.*

Economic activities commonly done in temperate climatic region

- Sheep rearing
- Ranching
- Crop cultivation
- Dairy farming
- Tourism

Note:

-***Sheep rearing*** *is the main economic activity carried out in Temperate climatic region (the Veld)*

-***Merino sheep*** *is mainly reared in Temperate climatic region. (mainly for wool production and for mutton)*

-***Dairy farming*** *in Temperate region is favoured by the presence of plenty of pasture for animals, and favourable cool climate which favours dairy farming.*

-Crops commonly grown in Temperate climatic region include; maize, sugarcanes, potatoes, wheat, etc.

vii) ***MOUNTAIN CLIMATIC REGION / MONTANE CLIMATIC REGION***

- Montane climate is experienced in highland areas.
- Temperature reduces with the increase in altitude.
- Temperature reduces by 1°C for every 100 metres above the sea level.
- The highest peaks of some mountains in Africa are snowcapped because they rise high above the snow line.
- The wind ward side receives plenty of rainfall because it receives warm moist air.
- The lee ward side receives very little rainfall because it receives dry winds.

Some areas in Africa that experience Montane climate.

- Areas around mountain Rwenzori
- Areas around mountain Kenya
- Areas around mountain Elgon
- Areas around mountain Kilimanjaro
- The Ethiopian highlands

African countries that experience Montane climate

- Ethiopia.
- South Africa
- Kenya
- Uganda

Characteristics of Montane climate.

- ❖ It has cool temperature.
- ❖ Relief rainfall is mostly received.
- ❖ The wind ward side receives more rainfall than the lee ward side.

Economic activities commonly done in Montane climatic region.

- Crop cultivation (Arabica coffee cultivation)
- Tourism
- Lumbering
- Dairy farming

FACTORS THAT INFLUENCE THE CLIMATE OF AFRICA

- Nearness to water bodies (drainage)
- Latitude
- Altitude
- Human activities
- Ocean currents
- Prevailing winds
- Vegetation

The Influence of the above factors on Climate.

1. ***PREVAILING WINDS***

- ***Wind*** is moving air.
- Wind is caused by the difference in atmospheric pressure.
- Wind blows from areas of high pressure to areas of low pressure.

Categories of winds.

On shore winds.

- These blow from the sea to land.
- They usually bring rain because they pick moisture from seas and lakes over which they blow.

Off shore winds.

- These are winds which blow from land towards the sea.
- They are usually dry and bring no rain because they pick no moisture from the land over which they blow.

Terms associated with winds.

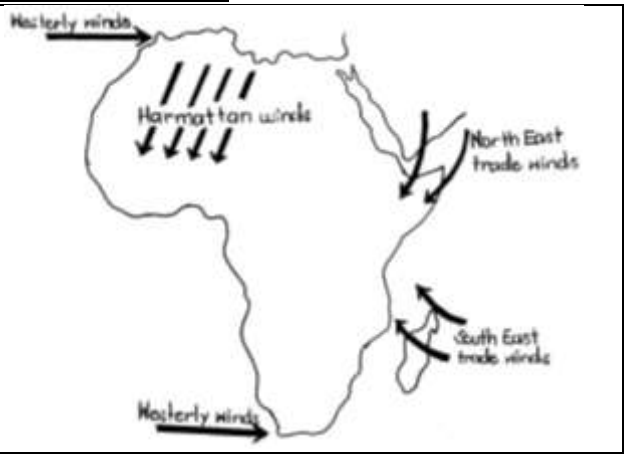
i) ***Trade winds*** are winds that were used by the early traders to move their boats.

ii) ***Monsoon winds*** are winds whose direction is reversed from one season to the next.

iii) ***Westerly winds*** are regular winds that blow from the West towards the East outside the tropics.

Winds that influence the climate of Africa

The North East trade winds	▪ These blow from Arabia towards the Horn of Africa. ▪ They bring no rain because they pick no moisture from the desert over which they blow.
The South East trade winds	▪ These blow over the Indian ocean. ▪ They bring a lot of rainfall to the Eastern part of Africa because they carry a lot of moisture.



The Westerly winds	▪ **These bring rain to the Mediterranean areas and Cape province of South Africa.**	
The Harmattan winds.	▪ **These are hot and dry winds blowing over the Sahara.** ▪ **They bring no rain to West Africa because they pick no moisture.**	

2. *OCEAN CURRENTS.*

- ***Ocean currents*** **are masses of water flowing in a particular direction across the ocean.**
- **Ocean currents are categorised into warm and cold ocean currents.**
- ***Warm ocean currents*** **are currents which flow from warm areas to cold areas.**

For example;

- **Mozambique current**
- **Guinea current**
- **Agulhas current.**

- ***Cold ocean currents*** **are currents which flow from cold areas to warm areas.**

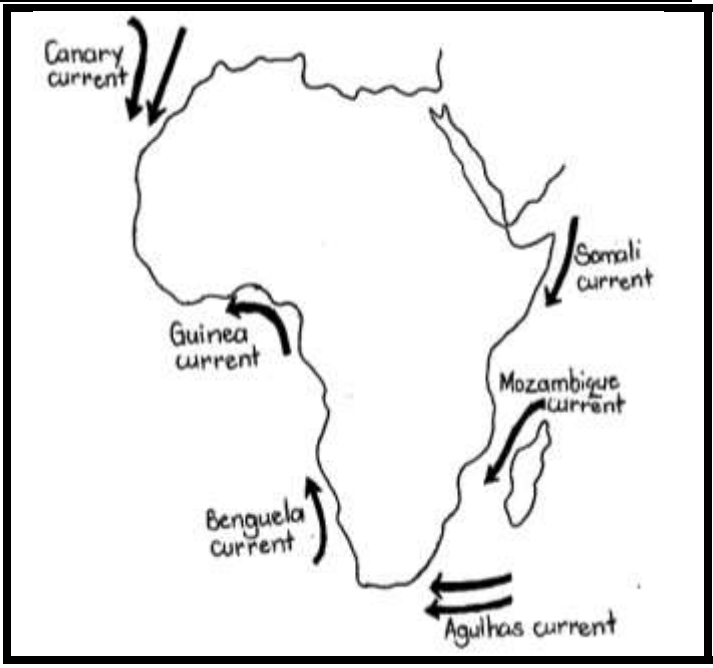
For example

- **Somali ocean current**
- **Benguela current**
- **Canary current.**

Note:- *The winds that blow over warm ocean current pick a lot moisture and bring rainfall to the main land.*

-The winds that blow over cold ocean currents pick no moisture and bring no rainfall to the main land.

Ocean currents that influence the climate of Africa.



The influence of the above ocean currents on climate of Africa.

- ***Somali current****-They cause desert conditions in the Horn of Africa.*
- ***Mozambique current****-They bring rain to the Eastern side of Madagascar and Southern Africa.*
- ***Canary current****-They bring no rain to North West Africa.*
- ***Benguela current****-They cause desert conditions in the Namib and Kalahari desert.*
- ***Guinea current****-They bring rain to West Africa.*
- ***Agulhas current****-They cause rain to South Africa.*

- ***Note:-****The influence of ocean currents on climate is that areas which receive warm ocean currents have a warmer climate than those that receive cold ocean currents.*

Winds which cause different ocean currents.

Winds	*Ocean currents caused*
South East trade winds	• **Mozambique currents**
	• **Agulhas current**
South West monsoon winds	• **Guinea current**

3. ALTITUDE

- ***Altitude*** **is the height above the sea level.**
- **Temperature reduces with the increase in altitude.**
- **The lower parts of a mountain are warmer and have higher temperatures than the higher parts of the mountain.**
- **The higher the altitude, the cooler the temperature, and the lower the altitude, the hotter the temperature.**

Note:- *Mombasa is hotter than Kasese because Mombasa is on a lower altitude than Kasese.*

4. VEGETATION

- **Places with thick vegetation usually receive plenty of rainfall while those that have scanty vegetation usually receive very little rainfall.**
- **Note:-** *Vegetation modifies climate of an area by helping in the formation of convectional rainfall through transpiration.*

5. HUMAN ACTIVITIES

- **Some human activities affect climate positively while others affect climate of an area negatively.**

Human activities that affect climate of an area positively.

- **Afforestation**
- **Reafforestation**
- **Agro-forestry**

Human activities that affect climate of an area negatively.

- **Deforestation**
- **Bush burning**
- **Swamp drainage**
- **Industrialisation**

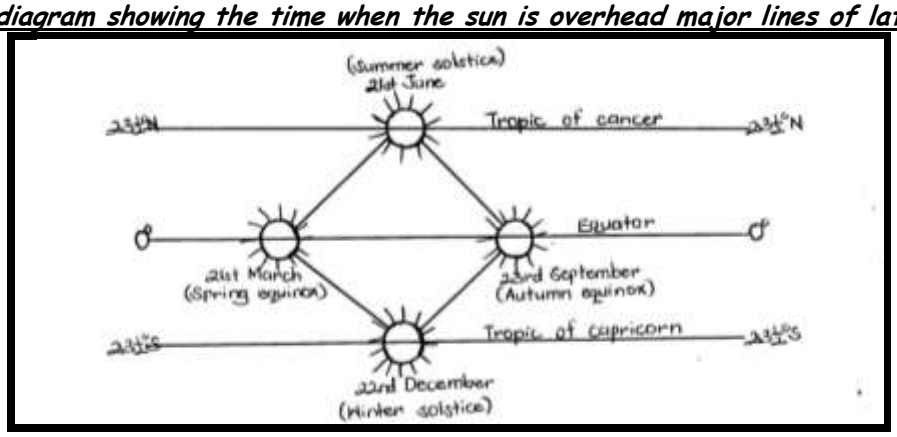
6. LATITUDE

- ***Latitude*** **is the distance in degrees North or South of the equator.**
- **Areas which are near the Equator are hotter than those which are far away from the equator.**
- **Low latitude areas are areas which are near the equator, and are usually very hot.**
- **High latitude areas are areas which are far away from the Equator and are usually cool.**
- **Areas which are far away from the Equator are usually very cool because they receive slanting sun rays.**

Note;

- *Most parts of Africa are always hot because the sun is overhead Africa throughout the year.*
- ***The Revolution of the earth*** *(in 365days) causes changes in seasons. ie. Winter, Summer, Spring and Autumn.*
- ***Tropical region*** *is the area of land lying between the Tropic of cancer and Tropic of Capricorn.*
- ***Equinox*** *is the time of the year when the sun is overhead the equator.*
- *The days and nights are always equal whenever the sun is overhead the equator.*
- *Very high temperatures are experienced around equinoxes.*
- ***Solstice*** *is the time of the year when the sun is overhead the tropics.*
- *Areas which are far away from the equator usually experience very low temperatures because they receive slanting sun rays which travel a very long distance to the earth.*

A diagram showing the time when the sun is overhead major lines of latitude.



7) NEARNESS TO WATER BODIES (DRAINAGE SYSTEM)

- **Areas near large water bodies usually receive more rainfall than those which are far away from large water bodies.**
- **Areas near large water bodies usually receive convectional rainfall.**
- **Winds that blow over large water bodies pick a lot of moisture which rises and condenses to form convectional rainfall.**

Note: - *Water bodies modify climate by helping in the formation of convectional rainfall through evaporation.*

Characteristics of convectional rainfall

- **It is mainly received in the afternoon.**
- **It is usually accompanied by lightning and thunder.**
- **It is mostly received in areas that experience a lot of evaporation and transpiration.**

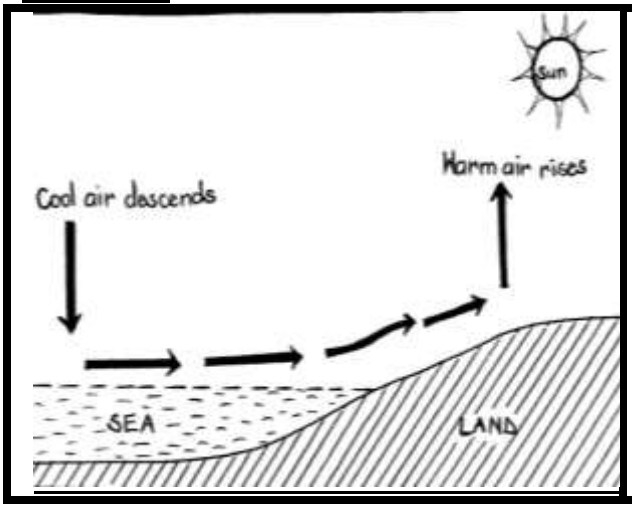
BREEZES.

- ***A breeze* is the movement of air from a cool region to a warm region.**

Types of breezes.

- **Sea breeze**
- **Land breeze**

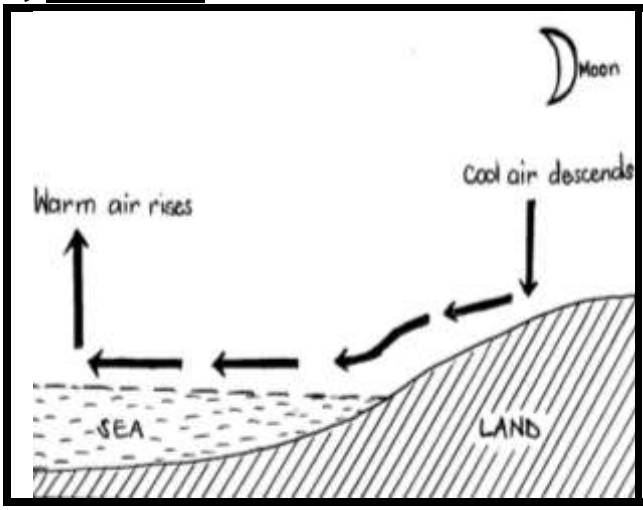
i) Sea breeze



- ***This is the movement of cool air from the sea towards land.***
- **It takes place during the *day.***
- **During the day, the land is heated faster than water bodies.**
- **The warm air on land rises and cold air from the sea moves towards land to replace it.**

NB:- *Sea breezes help in formation of convectional rainfall.*

ii) Land breeze



- **This is the movement of cold air from land towards the sea.**
- **It takes place during the *night.***
- **At night, the land cools faster than the sea.**
- **The warm air from the sea where pressure is low rises and the cooler air blows from land towards the sea to replace it.**

PRESSURE BELTS

- ***Air pressure*** **/ atmospheric pressure is the force exerted by air on the earth's surface.**
- ***Pressure belts*** **are regions of the earth that experience almost the same atmospheric pressure.**
- **Cool areas have high pressure while warm areas have low pressure.**
- **Mountain tops and hill tops (highland areas) have high pressure while valleys, plains/ plateaus (low lands) have low pressure.**

Causes of difference in pressure.

- **Altitude**
- **Latitude**
- **Temperature**

Effect of the difference in pressure.

- **It causes the direction of wind.**

Note:-

- *Wind blows from areas of high pressure to areas of low pressure.*
- ***Isobars*** *are lines drawn on weather maps connecting places with the same atmospheric pressure.*
- ***Isotherms*** *are lines drawn on weather maps joining places with equal temperatures.*
- ***Isohyets*** *are lines drawn on weather maps connecting places that receive the same amount of rainfall.*
- ***Isonephs*** *are lines drawn on weather maps connecting places with the same cloud cover.*
- ***Isohels*** *are lines drawn on weather maps connecting places that receive equal amounts of sunshine.*
- ***Contours*** *are lines drawn on maps joining places of the same altitude (height above the sea level).*

CLIMATE CHANGE

- **Climate change is the long-term, large scale fluctuation in the patterns of weather experienced in an area.**
- **It is the fluctuation of the average weather condition of an area over a long period of time.**
- **It is experienced through changes in precipitation, temperature and wind.**
- **Global warming is the major cause of climate change.**

Global warming

- **This is the constant rise of world temperatures.**
- ***Or:*** **This is the continuous heating of the earth due to emission of greenhouse gases to the atmosphere.**

Examples of greenhouse gases.

- **Carbondioxide**
- **Carbonmonoxide**
- **Nitrous oxide**

Causes of global warming.

- **Deforestation**
- **Bush burning**
- **Industrialisation**
- **Ozone layer depletion**

Note

- ✓ *Global warming occurs when the ozone layer is destroyed by excessive sun heat (rays).*
- ✓ *Ozone layer is a layer of gases that protect the earth from strong sun rays.*
- ✓ *When trees are cut and bushes burnt, it reduces on the vegetation that would have absorbed carbondioxide which destroys the ozone layer.*

Effects / indicators of global warming

- ❖ **Acidic rainfall**
- ❖ **Melting of snow on high mountains.**
- ❖ **Excessive heat during day.**
- ❖ **Incidents of severe and prolonged drought.**
- ❖ **Reduction in the volume of water in water bodies.**

Ways of reducing global warming.

- ❖ **By planting more trees.**
- ❖ **By using renewable sources of energy. eg hydro electricity and solar energy.**
- ❖ **By treating industrial fumes before emissions.**
- ❖ **Banning importation of old vehicles.**

❖ By enforcing laws that protect the environment.

THE INFLUENCE OF CLIMATE ON HUMAN ACTIVITIES

a) Desert and Semi-desert climate

Economic activities commonly carried out in Desert climate.

- Pastoralism.
- Tourism.
- Crop cultivation.

The influence of desert climate on human activities.

❖ People grow crops by irrigation.
❖ People build houses with flat roofs in order to prevent desert storms from blowing off their roofs.
❖ Pastoralism is favoured by the presence of large vacant land.
❖ Animals with large humps and large hooves are reared eg. camels.
❖ Sand dunes and oases encourage tourism.

Problems faced by people living in desert areas.

❖ Sand dust caused by storms.
❖ High temperatures during day time.
❖ Shortage of water.
❖ Poor transport
❖ Shortage of pasture for animals.

Possible solutions to the problems faced by people living in desert areas.

❖ By digging valley dams to store water.
❖ By practising irrigation farming to increase food supply.
❖ By growing drought-resistant crops.
❖ By growing fast maturing crops.
❖ By rearing camels in order to use them as means of transport.
❖ By painting houses with white in order to reflect sunlight.
❖ By dressing in light white clothes to reduce heat during day.

b) Equatorial and Tropical climate.

Economic activities commonly carried out in Equatorial and Tropical climate.

- Tourism.
- Crop growing.
- Lumbering

The influence of Equatorial and Tropical climate on human activities.

❖ Lumbering is done in the tropical rain forests.
❖ Tourism is favoured by the plenty of animals.
❖ Perennial crops are usually grown due to plenty of rainfall received.
❖ People wear thick clothes to provide warmth on rainy and windy weather.
❖ People keep a variety of animals due to presence of pasture for animals.(in Tropical climatic region)
❖ Houses are built with slanting roofs to allow easy flow of rain water off the roofs.

Problems faced by people living in Equatorial and Tropical regions.

❖ Floods
❖ Attacks from wild animals
❖ Poor ground transport.
❖ Presence of many disease vectors like tsetse flies, mosquitoes etc.

Possible solutions to the problems faced by people living equatorial and tropical climatic region

❖ By building houses with slanting roofs.
❖ By wearing rain coats and gum boots to safeguard against rainy weather.
❖ By creating more wildlife conservation areas.

c) Montane climate

Economic activities commonly carried out in Montane climate.

❖ Tourism.
❖ Crop growing.
❖ Lumbering

The influence of the montane climate on people.

- ❖ People build houses with slanting roofs.
- ❖ People rear donkeys for use as means of transport.
- ❖ People wear thick clothes to protect their bodies from much coldness.
- ❖ Thick forests promote lumbering in this climatic region.
- ❖ People grow perennial crops due to plenty of rainfall received.

Problems faced by people living in Montane climatic region.

- ❖ Poor transport network.
- ❖ Landslides.
- ❖ Severe soil erosion
- ❖ Much coldness

Possible solutions to the problems faced by people living in montane climatic region

- ❖ By building winding roads.
- ❖ By keeping donkeys for transport.
- ❖ By wearing thick clothes to overcome much coldness.
- ❖ By planting trees to reduce soil erosion and landslides.

Note:

- ➢ *Plant roots control landslides in highland areas by holding the soil particles firmly.*
  How does climate affect people's way of dressing?
- ➢ *People living in cool areas usually wear thick clothes while those that live in hot areas usually wear light clothes.*
  How does weather affect people's way of dressing?
- ➢ *On cold days, people usually wear thick clothes while on hot days, people usually wear light clothes.*



Testing Exercise.

1. Give the meaning of each of the following.
   (i) Weather.
   (ii) Weather forecasting.
2. Mention any three elements of weather.
3. How is weather forecasting important to farmers?
4. Mention one element of weather that makes people carry umbrellas.
5. What causes wind?
6. Why do desert areas experience very cold nights?
7. Mention any two farmers' activities that are carried out during each of thee seasons.
   (i) Dry season.
   (ii) Wet season
8. Give any two ways wind promotes farming activities in an area.
9. How can tall buildings be protected from being struck by lightning?
10. Why is rainfall measured in millimetres?
11. Complete the table below correctly.

Weather instrument	*Importance*	*Element of weather related*
(i) Rain gauage	----------	Rainfall
(ii) ----------	Measures the speed of wind	----------
(iii) Sunshine recorder	----------	----------
(iv) ----------	----------	Air pressure
(v) ----------	Shows the direction of wind	----------
(vi) Hygrometer	----------	----------
(vii) Ceilometer	----------	----------

12. A P.7 pupil saw an an arrow of a wind vane pointing to the South. From which direction was wind blowing?
13. Why is a rain gauge always placed in an open flat place?
14. Why is a rain gauge always placed 30cm above the ground?
15. Mention any two instruments of weather kept in a Stevenson screen.
16. How is a wind sock useful to pilots?
17. Give the meaning of the term Humidity.
18. Why is a Stevenson screen made of louvres?
19. What causes heavy rainfall in the Equatorial climatic region when the sun is overhead the Equator?
20. State any two characteristics of each of these types of climate.
    (i) Equatorial climate
    (ii) Tropical climate
    (iii) Desert climate
    (iv) Mediterranean climate
    (v) Temperate climate
21. Why do equatorial regions experience very cold nights?
22. Mention any two African countries that experience each of the types of climate below.
    (i) Equatorial climate
    (ii) Mediterranean climate
23. Why do most people living in the equatorial climatic region buil houses with slanting roofs?
24. Complete the table below correctly

Type of climate	*Description*	*Two suitable economic activities*
(i) Equatorial climate	----------	-------- ---------
(ii)Savannah climate	----------	-------- ---------
(iii) ----------	It is hot and dry.	--------- ---------
(iv) ----------	----------	-Irrigation farming -Pastoralism
(v)----------	Warm dry summers and cool wet winters	--------- --------
(vi) Temperate climate	----------	--------- --------

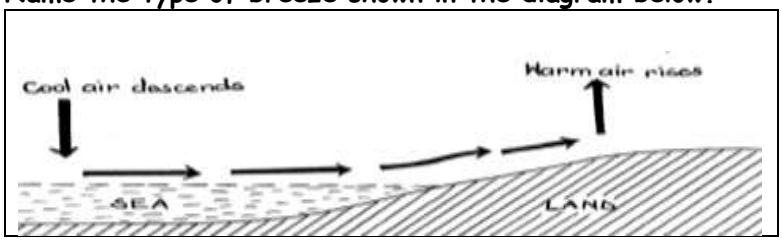
25. Which type of climate is experienced in moist parts of Africa?
26. Why do most parts of Africa experience the type of climate in (25) above?
27. Mention the two months of the year when the sun is overhead the Equator.
28. Name the hottest and largest desert in Africa.
29. Why do desert areas experience very cold nights?
30. How can crop farming be made possible in arid areas of Africa?
31. Mention any two major economic activities that are commonly carried out in desert climatic areas.
32. Why do most desert dwellers build houses with flat roofs?
33. Why do people living in deserts usually wear turbans on their heads?
34. State one way sand dunes are economically important?
35. Give the meaning of each of the following.
    (i) Equinox
    (ii) Sand dunes
    (iii) An oasis
36. Mention any three factors that enable camels to survive in harsh desert conditions.
37. Name the animal that is referred to as the ship of the desert?
38. Why does the North Eastern part of Uganda receive very little rainfall?

39. Apart from irrigation farming, give any two other ways food production can be increased in arid areas.
40. Name the climatic region of Africa which favours the growth of citrus fruits.
41. Mention any four citrus fruits that are commonly grown in the above region.
42. State any two factors that favour dairy farming in the temperate climatic region of South Africa.

Study the climatic graph below and use it to answer the questions 42 to 48.

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp (^{O}C)	24	26	29	26	24	22	21	25	30	26	25	23
Rainfall(mm)	70	190	300	250	170	150	50	120	180	270	150	120

43. Name the climatic region in which the above information in which the above information was recorded.
44. Give a reason for your answer in (43) above.
45. Calculate the annual temperature range according to the information in the table above.
46. In which month were the highest temperatures experienced?
47. What is the relation between rainfall and temperature according to the above table?
48. Which month received the least amount of rainfall?
49. Calculate the annual rainfall that was received in the climatic region in which the above table was recorded.
50. Name the ocean currents that is responsible for causing desert conditions in Namib desert.
51. How do the following ocean currents influence the climate of Africa?
    (i) Guinea warm ocean current.
    (ii) Canary current
    (iii) Somali current
52. Apart from prevailing winds, mention any four other factors that influence the climate of Africa.
53. How do the following winds affect the climate of Africa?
    (i) Harmattan winds
    (ii) Westerly winds
    (iii) South East trade winds
54. Which element of climate is influenced by the change in altitude?
55. State the effect of the revolution of the earth.
56. What causes heavy rainfall in the equatorial climatic region when the sun is overhead the equator?
57. Why is Kibo peak snowcapped throughout the year?
58. How does altitude affect climate of an area?
59. Why is Mbale cooler than Mombasa?
60. Why do areas which are far away from the equator usually experience very low temperatures?
61. What is a Breeze?
62. Name the type of breeze shown in the diagram below.



63. Give a reason to support your answer in (62) above.

64. How are sea breezes important to farmers?
65. In which way does deforestation lead to global warming?
66. State any two problems faced by people living in desert climatic region.
67. How are valley dams useful to people living in North Eastern Uganda?
68. Give any two ways people safeguard themselves against rainy weather.
69. How does planting of trees in mountainous areas help to control landslides?
70. Why are there always very few people living on the lee ward sides of mountains?

TOPIC 4: **VEGETATION OF AFRICA**

INTRODUCTION TO VEGETATION.

- *Vegetation* is the plant cover of an area.
- It includes all plants that grow on the surface of the earth.

Types of vegetation

- Natural vegetation
- Planted vegetation

(i) Planted vegetation

- Planted vegetation is the plant life cover of an area that is planted by man.

Examples of planted vegetation.

- Planted forests
- Planted grass eg.paspalum
- Planted flowers
- Crops

(ii) Natural vegetation

- *Natural vegetation* is the plant life cover of an area that grows on its own.
- It includes all plants in the environment that grow without the influence of man.

Examples of natural vegetation.

- Natural forests
- Grasslands
- Shrubs
- Swamp vegetation
- Thickets
- Natural flowers
- Bushes

Importance of vegetation

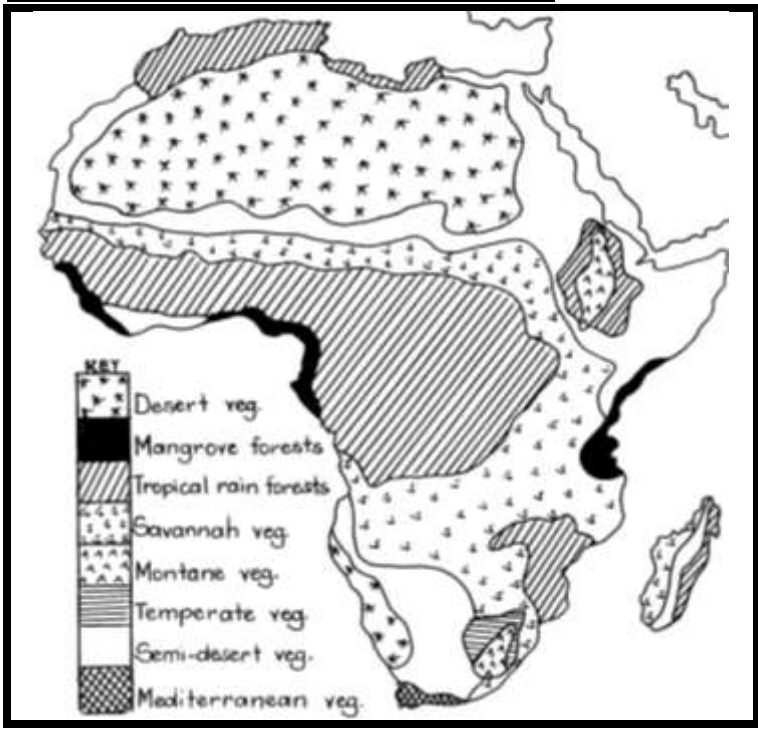
- It helps in formation of convectional rainfall.
- It is a source of wood fuel. i.e. charcoal, firewood,
- It purifies air by absorbing carbon dioxide and releasing oxygen to the atmosphere.
- It provides raw materials for the pulp industry.
- It provides herbal medicine to people.
- It provides raw materials for crafts industry.
- It is a source of income through attracting tourists.
- Wattle trees provide tannin used for softening leather.
- It is a source of food to people and animals.
- It acts as natural habitat for wild animals.

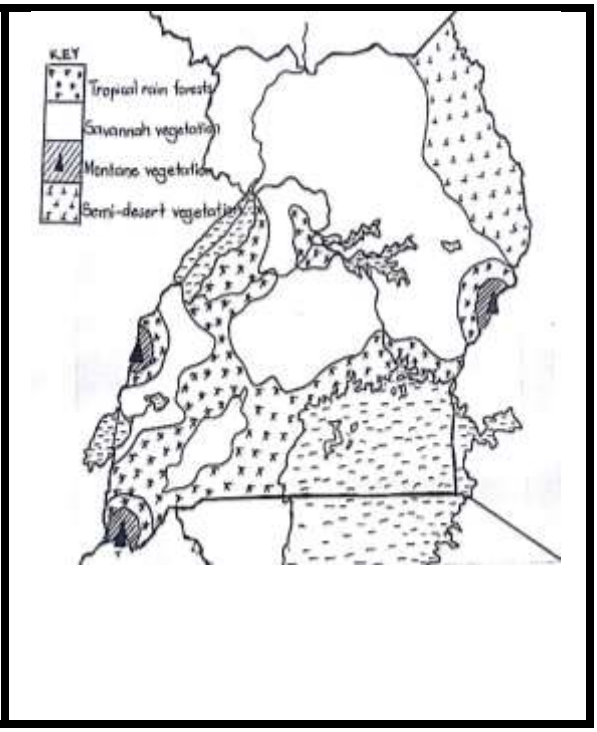
VEGETATION ZONES OF AFRICA.

(TYPES OF NATURAL VEGETATION)

- Savannah vegetation
- Montane/ Mountain vegetation
- Temperate vegetation
- Mangrove vegetation
- Desert vegetation
- Semi-desert vegetation
- Equatorial rain forests / Tropical rain forests

VEGETATION ZONES OF AFRICA





a) <u>EQUATORIAL RAIN FORESTS</u>

- **This vegetation zone is described as ever green.**
- **Equatorial rain forests are also called the <u>Tropical rain forests.</u>**
- **They are called rain forests because they grow in areas that receive plenty of rainfall.**
- **Tropical rain forests mainly grow in areas which experience equatorial climate.**
- **They are found along the coast of West Africa and Central Africa.**
- **In Uganda, tropical rain forests are mainly found around the shores of lake Victoria.**

<u>Examples of Tropical rain forests (Natural forests) in Uganda.</u>

- **Budongo forest in Masindi**
- **Mabira forest in Buikwe**
- **Malabigambo forest in Rakai**
- **Maramagambo forest in Rubirizi and Mitooma.**
- **Bugoma forest in Hoima.**
- **Ssese forest in Kalangala.**
- **Kibale forest in Kibale.**

<u>African countries with Tropical rainforests.</u>

- **Democratic Republic of Congo**
- **Gabon**
- **Congo Brazzaville.**
- **Ghana**
- **Cameroon**

<u>Characteristics of Equatorial rain forests.</u>

- **Trees are ever green. (they don't shed their leaves).**
- **Trees are of different species.**
- **Trees have broad leaves.**
- **Trees grow very tall due to phototropism (to get sunlight).**
- **Trees have buttress roots.**
- **Trees have hard wood.**
- **Trees form a canopy (a layer of branches and leaves that form a cover to the ground).**
- **They have a thick undergrowth which makes them impenetrable.**

Common tree species in Equatorial rain forests/ hard wood trees.

- **Mahogany**
- **African walnut**
- **Ebony**
- **Teak**
- **Green heart**
- **Rose wood**
- **Mvule trees (Iroko)**

Economic activities commonly done in Equatorial rain forests.

- **Lumbering**
- **Herbal medicine collection**
- **Fruit gathering.**
- **Charcoal making**
- **Tourism**

NOTE:

- ***A canopy*** *is an umbrella-like structure formed by trees in tropical rain forests.*
- *Common tree species in planted forests include; Eucalyptus, Cedar, Fir, Spruce, Cypress, Pine etc. These tree species provide soft wood.*
- *Most trees in planted forests provide soft wood timber from which various products such as match boxes, papers, ply wood, toilet papers, wooden rulers, pencils are made.*
- *Most trees in natural forests provide hard wood timber from which various products such as wooden tables, wooden desks, wooden windows, benches, cupboards, wooden chairs are made.*
- ***Deciduous trees*** *are trees that shed their leaves during the dry season.*

Importance of forests.

- **Forests help in formation of convectional rainfall through transpiration.**
- **They are source of income through tourism.**
- **They act as a habitat for wild animals.**
- **They are source of herbal medicine.**
- **They help to reduce soil erosion.**
- **They are source of timber.**
- **Trees act as wind breaks.**

Problems facing forests

- **Deforestation.**
- **Outbreak of bush fires.**
- **Human encroachment on forests.**

DEFORESTATION

- **Deforestation is the massive cutting down of trees without replacement.**
- **Lumbering is the cutting down/felling of mature trees for production of timber.**

Reasons why people cut down trees/ carry out deforestation.

- **To get land for settlement**
- **To get land for crop growing.**
- **To get land for constructing roads.**
- **To get land for building industries.**
- **To get timber.**
- **To get wood fuel.**
- **To get land for constructing flat play grounds.**

Dangers / effects of deforestation.

- **It leads to soil erosion.**
- **It leads to desertification/ drought.**
- **It destroys the natural habitat for animals.**
- **It leads to displacement of wild animals.**
- **It leads to extinction of some valuable tree species.**
- **It reduces the amount of rainfall received in an area.**

FOREST CONSERVATION.

- **Forest conservation is the act of protecting forests from extinction.**

Ways of conserving forests.

- **By practising afforestation.**
- **By practising reafforestation.**
- **By practising agro-forestry**
- **By teaching people on the importance of forests.**
- **By educating people about the dangers of deforestation.**
- **Through rural electrification. (extension of electricity to rural areas)**
  - **Note:**
    - ***Afforestation*** *is the planting of trees on a large scale where they have never been/ existed.*
    - ***Reafforestation*** *is the planting of trees on a large scale where they have ever been/ existed.*
    - ***Agro-forestry*** *is the growing of crops together with useful trees on the same piece of land.*
    - ***Forestry*** *is the practice of planting and caring for forests.*
    - ***National Forestry Authority (NFA)*** *is the body that is responsible for conservation of forests in Uganda.*
    - ***National Environment Management Authority (NEMA)*** *is the body responsible for conservation of the environment in Uganda.*

Roles of NFA.

- **It teaches people about the importance of forests.**
- **It enforces laws against deforestation.**
- **It creates forest reserves.**
- **It evicts people settling in forest reserves.**

b) MANGROVE FORESTS.

- **Mangrove forests / swamps are found in low lying areas along the coast of Africa.**
- **The mangrove forests are also called *mangrove swamps* because they grow in salty sea water.**

African countries with Mangrove forests

- **Tanzania**
- **Nigeria**
- **Ghana**
- **Cote d'Ivoire**
- **Sierra Leone**
- **Mozambique**
- **Cameroon**

Characteristics of Mangrove forests

- **They have hard wood.**
- **Trees have buttress roots above the ground.**
- **They commonly grow in salty water.**
- **They have water proof timber.**

Note: *-Timber from mangrove forests is suitable for ship building because it is water proof.*
-The buttress roots help trees in mangrove forests to stand firmly in salty water.

Importance of Mangrove forests.

- **They provide waterproof timber used for ship building.**

c) MEDITERRANEAN VEGETATION

- **Mediterranean vegetation is found in North West Africa and Southern tip of South Africa (Cape province)**
- **The growth of forests in this region is favoured by too much rainfall received in winter.**

Countries where Mediterranean forests are found.

- **Tunisia**
- **Algeria**
- **South Africa.**
- **Libya**
- **Morocco**

Characteristics of Mediterranean vegetation

- **The trees have thick leaves in order to reduce the rate of transpiration.**
- **Trees have deep and widely spread roots.**

❖ **Trees shed their leaves during the dry season (to reduce the rate of transpiration)**

Common tree species in Mediterranean forests

- **Cypress**
- **Fir**
- **Citrus fruits.**
- **Cedar**
- **Pine**

Economic activities commonly done in Mediterranean vegetation zone.

- **Lumbering**
- **Tourism**

GRASSLANDS

- ***Grasslands*** **are large areas of land covered with grass.**
- **The height of grass depends on the amount of rainfall received and the fertility of the soil.**
- **Savannah grasslands and temperate grasslands are the main examples of Africa's grasslands.**

d) TEMPERATE GRASSLANDS

- **It grows in Temperate climatic region.**
- **Temperate grasslands of Africa are called the High veld / the Veld.**
- **The Veld is called the High veld because it is on a high plateau in South Africa.**

States in South Africa with temperate grasslands

- **Orange Free State**
- **Transvaal**
- **Natal**

Characteristics of temperate grasslands.

❖ **They have few scattered short trees.**
❖ **Its grass is short.**
❖ **Grass is long and narrow with a hairy covering.**

Common economic activities carried out in temperate grasslands.

- **Sheep rearing**
- **Dairy farming.(due to the presence of plenty of pasture for animals, and favourable cool climate)**

e) SAVANNAH VEGETATION

- **Savannah is the name given to the Tropical grasslands of Africa.**
- **Savannah vegetation covers the largest part of Africa.**
- **Savannah vegetation is located in the Tropical region of Africa.**

Parts of Savannah vegetation

- **Savannah grassland / dry savannah vegetation**
  This has short grass and few scattered trees.
- **Savannah woodland / wooded savannah / wet savannah vegetation**
  It has tall grass and many trees.

Note;

✓ *Miombo woodland of Central Tanzania is an example of wooded savannah.*
✓ *Miombo woodland is sparsely populated because the area is highly infested with tsetse flies which spread sleeping sickness to people, and nagana to cattle.*
✓ ***Bee keeping*** *is the main economic activity carried out in Miombo woodland of central Tanzania.*
✓ *Most game parks in Africa are located in savannah grasslands because there is plenty of pasture for animals.*

Characteristics of Savannah vegetation

❖ **It has tall grass.**
❖ **It has scattered trees.**
❖ **Trees have long roots which they use to tap underground water.**
❖ **Grass appears green during the wet season.**
❖ **Trees usually shed their leaves during the dry season. (in order to reduce the rate of transpiration)**

Note: -***Deciduous trees*** *are trees that shed their leaves during the dry seasons.*

African countries with savannah vegetation.

- Uganda
- Kenya
- Malawi
- Tanzania
- Angola
- Zambia
- Zimbabwe

Common tree species in savannah vegetation.

- Acacia
- Baobab
- Palm trees

Economic activities commonly done in savannah vegetation

- Tourism
- Bee keeping
- Pastoralism

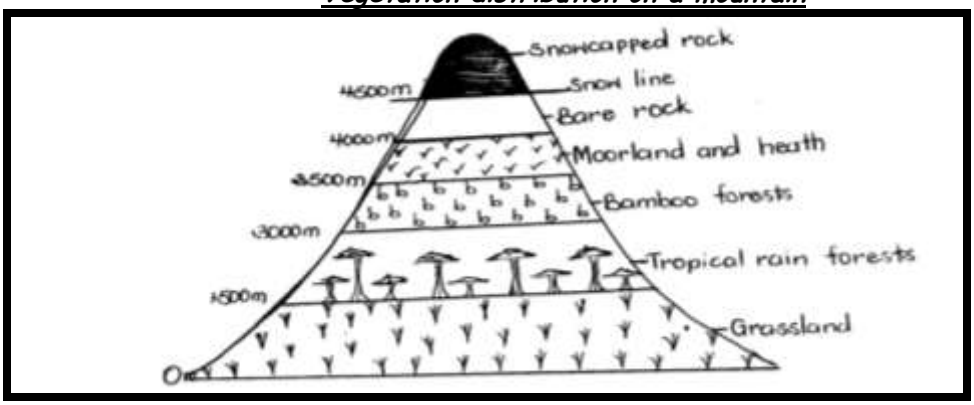
f) MOUNTAIN VEGETATION

- It is also called montane vegetation.
- It is found in mountainous areas.
- Vegetation changes with increase in altitude.
- In East Africa, montane vegetation is mainly found on slopes of mountain Rwenzori, mountain Kenya, mountain Elgon, mountain Kilimanjaro etc.

Factors that cause vegetation variation in mountainous areas.

- Altitude
- Temperature
- Rainfall distribution.

Vegetation distribution on a mountain



Note;-***Heath*** *is the low evergreen rough grass.*

-***Moorland*** *is an area of highland covered with heath.*

Areas where Mountain vegetation is found.

- Mountain Rwenzori in Uganda and DRC.
- Mountain Kilimanjaro in Tanzania.
- Drakensberg mountains in Lesotho.
- Ethiopian highlands in Ethiopia
- Mountain Kenya in Kenya
- Mountain Elgon in Uganda and Kenya.

Characteristics of Mountain vegetation

- ❖ The trees are ever green.
- ❖ Vegetation grows in zones according to altitude.
- ❖ The foothills have savannah grasslands.
- ❖ The trees grow very tall.
- ❖ There are few plants on top of the mountain due to low temperatures.

Economic activities commonly done in Mountain vegetation.

- Lumbering
- Charcoal making.
- Bee keeping.
- Fruit gathering
- Tourism
- Herbal medicine collection.

g) DESERT and SEMI-DESERT VEGETATION.

- ***A Desert*** is a large dry area of land with few plants growing on it.
- Desert vegetation is found in Desert climatic condition.
- Deserts in Africa include; Sahara desert, Namib desert and Kalahari desert.
- The land in deserts is usually covered with sand dunes and bare rocks.
- Crop growing and livestock farming is mostly done around oases.

- Plants that survive in very dry conditions grow in this region.
- Desert vegetation has few trees because it receives very little rainfall.
- Trees in desert vegetation have thick barks and thin leaves to reduce the rate of transpiration.
- *Cactus* is able to survive in desert conditions because it stores water in its stem.

Characteristics of Desert vegetation

- Trees have thick barks.
- Trees are scattered.
- Trees are short and thorny.
- Trees have long roots to tap underground water.
- Trees have thin leaves that reduce the rate of transpiration.
- Vegetation is scanty and resistant to drought.

Common plants in Desert vegetation.

- Cactus
- Baobab
- Poppies
- Acacia

African countries with Desert vegetation

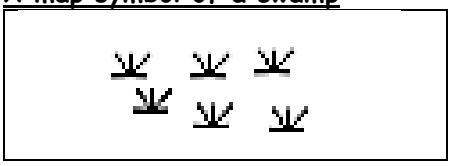
- Algeria
- Libya
- Morocco
- Namibia
- Egypt
- Angola

Note: -***Pastoralism*** *is the major economic activity carried out in Desert vegetation.*

SWAMP VEGETATION.

- A swamp is a water logged area with vegetation.
- Or. A swamp is an area that has vegetation and plenty of water.
- Swamps are sometimes referred to as wetlands.
- Swamps are found along rivers, lakes and valleys.

A map symbol of a swamp



Examples of swamp vegetation

- Papyrus
- Palm trees

Economic activities commonly carried out in swampy areas.

- Crop growing
- Fishing
- Mining
- Tourism
- Pottery
- Brick making .

Swamp resources/ craft raw materials got from swamps.

- ✓ Papyrus reeds-used for making baskets, mats, hats etc
- ✓ Palm leaves-used for making mats etc.
- ✓ Clay-used for making products like cups, plates, pots, flower vessels etc
- ✓ Sand-used for building.

Common crops grown in swamps

- Rice
- Yams
- Vegetables
- Sugarcane.

Importance of swamps.

- They are a source of water.
- They are a source of fish eg. Mud fish.
- They are a source of minerals eg. Sand
- They are habitats for aquatic animals eg. crocodiles, hippopotamuses, frogs etc.

- ❖ They help in formation of convectional rainfall.
- ❖ They help to filter water. (they have spongy-like roots which help to filter water)
- ❖ Swamps help to control floods.
- ❖ They are a source of raw materials for craft work eg. papyrus reeds, palm leaves etc.
- ❖ They attract tourists who bring in income.

Ways people misuse swamps.

- ❖ By dumping industrial wastes in swamps.
- ❖ Through uncontrolled harvesting of papyrus reeds.
- ❖ By burning swamp vegetation.
- ❖ Through swamp drainage.
  - ➢ Note:
    - ✓ ***Swamp drainage*** *is the removal of water from swamps.*
    - ✓ ***Swamp reclamation*** *is the act of changing a swamp from its natural state for other uses.*
    - ✓ *Swamp encroachment is the illegal settlement in swamps.*

How people drain swamps.

- ❖ By adding murram in swamps.
- ❖ By digging channels in swamps.

Reasons why people drain swamps.

- ❖ To get land for crop growing.
- ❖ To get land for constructing industries.
- ❖ To get land for settlement.
- ❖ To construct roads.

Dangers of draining swamps.

- ❖ It leads to drought/ desertification.
- ❖ It leads to death of aquatic animals.
- ❖ It leads to floods.
- ❖ It leads to displacement of aquatic animals.
- ❖ It leads to reduction in craft raw materials.

Problems faced by people living near swamps.

- ❖ Floods during the rainy season.
- ❖ Attacks from aquatic animals.
- ❖ Poor road transport.
- ❖ Attacks from disease vectors that live in swamps.

VEGETATION DISTRIBUTION IN AFRICA.

- ***Vegetation distribution*** is the way plant life is spread in an area.
- Some parts of Africa have thick vegetation while others have scanty/ scattered vegetation.

Factors that influence/ affect vegetation distribution in Africa.

- Altitude
- Human activities
- Drainage system
- Nature of soils
- Rainfall distribution / climate.

How the above factors affect the vegetation of Africa.

Climate / Rainfall distribution

- Areas which receive plenty of rainfall have thick vegetation while those that receive very little rainfall have scanty vegetation.

Drainage system

- **Areas near large water bodies have thick vegetation while those that are far away from large water bodies have scanty vegetation.**

Altitude.

- **Areas of low altitude have thick vegetation while those of high altitude have very little vegetation.**

Nature of soils / Soil fertility.

- **Areas with fertile soils have thick vegetation while those with infertile soils have scanty vegetation.**

Human activities

- **Some human activities promote the growth of vegetation while others destroy vegetation of an area.**

Human activities that destroy vegetation.

- **Deforestation**
- **Overcultivation**
- **Swamp drainage.**
- **Overgrazing**
- **Bush burning**

Note:

- *-Deforestation, bush burning and over grazing cause soil erosion.*
  Qn: *How does deforestation cause soil erosion?*
- *It leaves the land bare exposing it to agents of soil erosion.*

Human activities which promote the growth of vegetation.

- **Afforestation**
- **Reafforestation**
- **Agro-forestry**
- **Rotational grazing**

THE INFLUENCE OF VEGETATION ON ANIMALS.

ANIMAL DISTIBUTION IN DIFFERENT VEGETATION ZONES.

a) EQUATORIAL RAIN FORESTS.

- **There are tall trees that provide shelter to climbing animals.**
- **There are few herbivorous animals due to little grass.**
- **There are many climbing animals which feed on fruits in this zone.**

NB: *The bamboo shoots in some mountainous areas are eaten as food by the mountain gorillas.*

Common animals in Equatorial rain forests.

- **Baboons**
- **Monkeys**
- **Mountain gorillas**
- **Chimpanzees**

***Why climbing animals are common in Tropical rainforests*.**

- **They have many fruits which climbing animals feed on.**
- **There are many trees which provide a conducive habitat for climbing animals.**

b) SAVANNAH VEGETATION

- **Grass eating animals (herbivorous animals) are common in this region.**
- **Flesh eating animals (carnivorous animals) also live in savannah vegetation in order to feed on herbivorous animals.**
- **Animals that feed on both flesh and grass (omnivorous animals) are also common here due to the presence of plenty of food.**

Why most animals live in Savannah vegetation zone.

- **There is plenty of pasture for animals.**
- **Carnivorous animals live in savannah to hunt other animals.**

Common animals in Savannah vegetation.

- **Zebras**
- **Lions**
- **Hyenas**
- **Leopards**
- **Warthogs**
- **Buffaloes**

- Antelopes
- Kobs

c) SWAMP VEGETATION

❖ Animals that live both in water and on land are common in swamp vegetation.

Common animals in swamp vegetation

- Crocodiles
- Frogs
- Tortoises
- Hippopotamuses/Hippopotami
- Snakes

d) DESERT VEGETATION.

❖ There are few animals in desert vegetation due to limited grass and water for animals.
❖ Burrowing animals are common in this zone.
❖ Animals that can survive for so long without taking water are common.

Common animals in Desert vegetation.

- Squirrels
- Camels
- Ostriches
- Newts

e) TEMPERATE GRASSLANDS.

❖ There are many herbivorous animals in this zone due to the presence of pasture.
❖ Carnivorous and omnivorous animals are also common in this zone.

Why there are many animals in Temperate grasslands

❖ There is plenty of pasture for animals.
❖ Presence of many herbivorous animals which carnivorous animals feed on.

Common animal species in Temperate grasslands.

- Antelopes
- Gazelles
- Wolves
- Lions
- Kobs
- Leopards
- Zebras
- Rhinoceros

f) MOUNTAIN VEGETATION

❖ It has many animals with a lot of fur.
❖ It has many climbing animals that feed on fruits.
❖ It has many gorillas that feed on bamboo shoots.

Common animals in montane vegetation.

- Mountain gorillas
- Monkeys
- Chimpanzees
- Baboons

PLACES FOR WILDLIFE CONSERVATION.

- National parks
- Zoos
- Sanctuaries
- Game reserves
- Marine parks

NATIONAL PARKS IN AFRICA.

- *A game park* is a large area of land gazetted by the government for wildlife conservation.
- Wildlife refers to animals, birds, plants and insects that live on their own in the natural habitat.
- Most game parks in Africa are located in savannah grasslands because there is plenty of pasture for animals.

Examples of national parks in Africa (MK Standard SST, Pupil's book 7 pg 52)

- Ruaha national park in Tanzania
- Bwindi national park in Uganda
- Serengeti national park in Tanzania
- Mgahinga national park in Uganda
- Murchison falls national park in Uganda
- Lake Nakuru national park in Kenya
- Lake Mburo national park in Uganda
- Virunga national park in DRC
- Queen Elizabeth national park in Uganda
- Kruger national park in South Africa
- Kidepo valley national park in Uganda
- Garamba national park in DRC

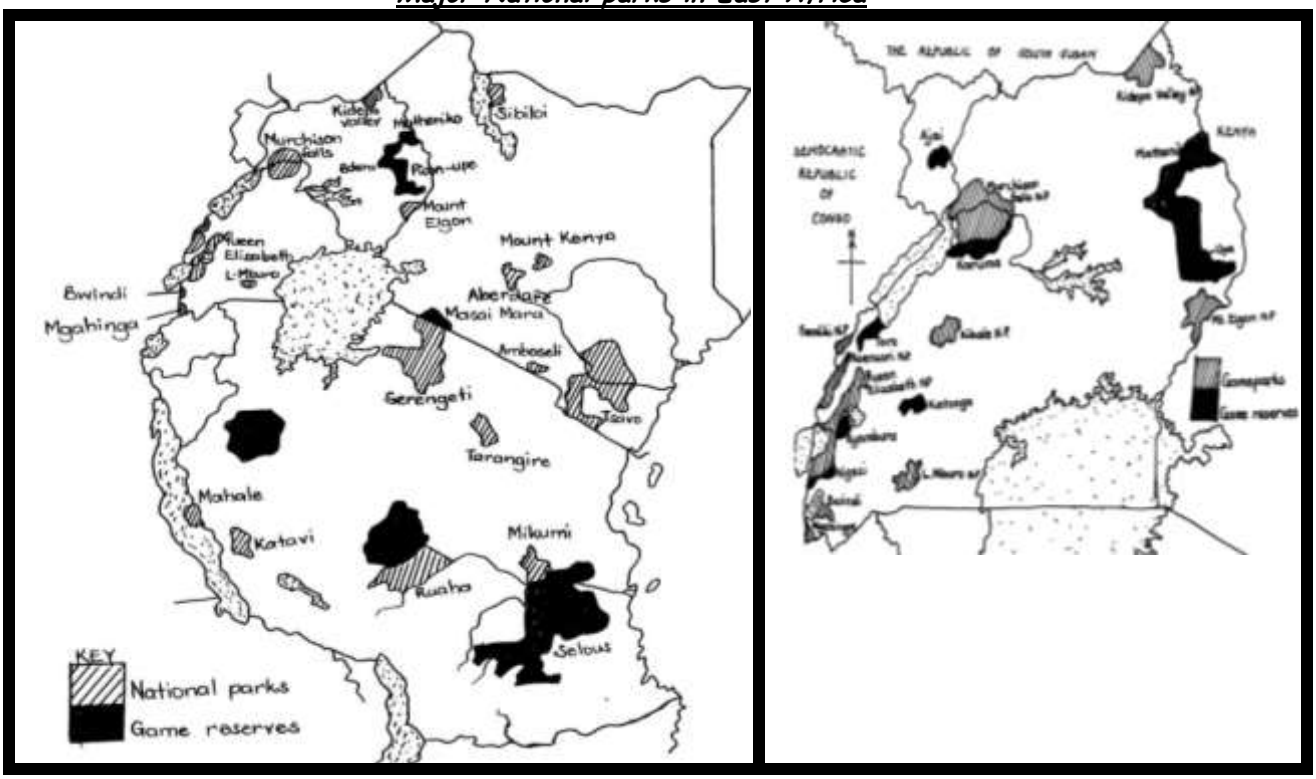
- Tsavo national park in Kenya
- Awash national park in Ethiopia
- Kouf national park in Libya
- Mudumu national park in Namibia
- Gemsbok national park in Botswana
- Karoo national park in south Africa

- A Game reserve is a large area of land gazetted by the government for future expansion of game parks.
- Controlled hunting can be allowed in a game reserve after seeking permission.

Examples of game reserves

- Pian-upe game reserve in Uganda.
- Selous game reserve in Tanzania (the largest in East Africa).
- Bokora game reserve in Uganda.
- Masai mara game reserve in Kenya.
- Ajai game reserve in Uganda.
- Kigezi game reserve in Uganda.
- Matheniko game reserve in Uganda.
- Karuma game reserve in Uganda.
- Katonga game reserve in Uganda.

Major National parks in East Africa

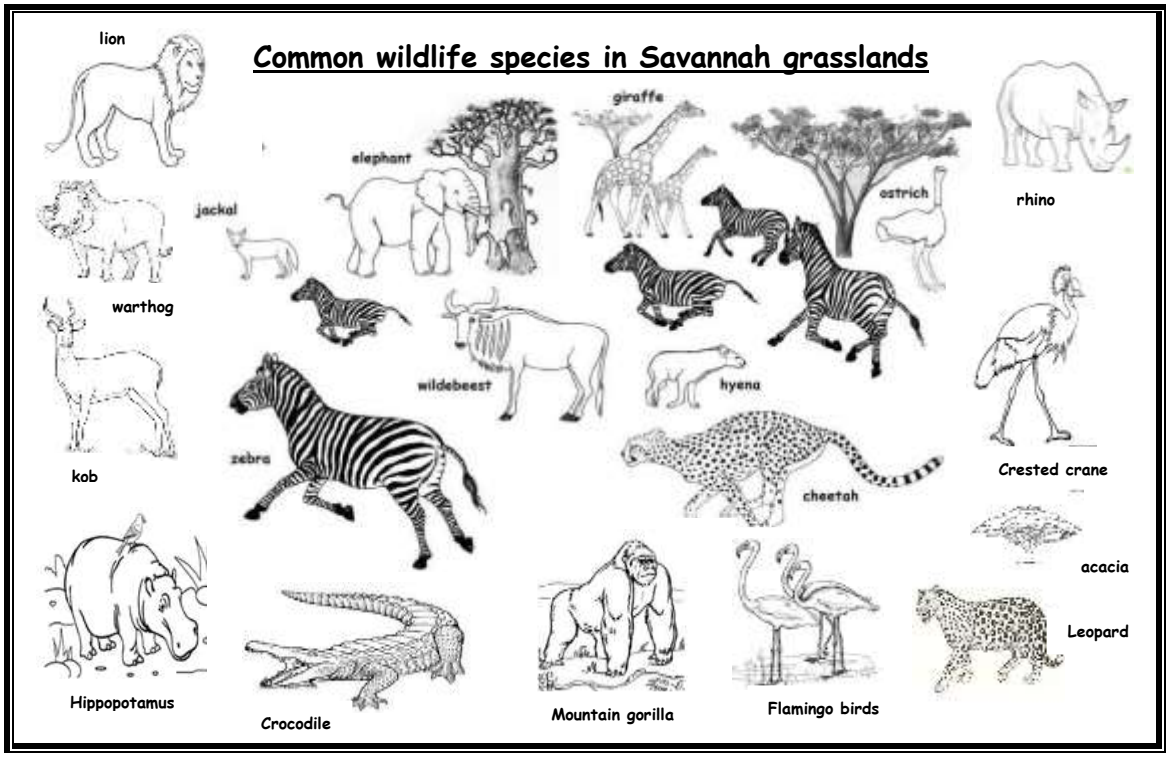


Note:

- ✓ ***Murchison falls national park*** *is the largest national park in Uganda*
- ✓ ***Ruaha national park*** *is the largest national park in East Africa.*
- ✓ ***Tsavo national park*** *is the largest national park in Kenya.*

Major tourist attractions in selected Africa's national parks.

National park	*Major tourist attraction*
Murchison falls national park	Crocodiles / Murchison falls
Kidepo valley national park	Ostriches
Queen Elizabeth national park	Hippopotamuses
Lake Mburo national park	Zebras
Lake Nakuru national park	Flamingo birds.
Bwindi and Mgahinga national park	Mountain gorillas
Tsavo national park	Lions
Serengeti national park	Wildebeests



Importance of national parks.

- ❖ They create job opportunities to people.eg.The game rangers
- ❖ They earn income through attracting tourists.
- ❖ They promote the development of infrastructure e.g. Hotels, roads.
- ❖ They are used for education and scientific research.
- ❖ They help to preserve wildlife for the future generation to see.
- ❖ They promote international relationships.

Activities that commonly take place in Africa's national parks.

- Animal tracking
- Game drives
- Nature walks
- Mountain climbing
- Boat rides
- Bird watching

Prohibited/ unauthorised activities in national parks.

- Animal grazing
- Hunting
- Crop cultivation
- Human settlement.

Problems facing national parks in Africa.

a) Poaching

- ❖ Poaching is the illegal hunting of animals in national parks.
- ❖ It leads to extinction of animal species in national parks.
- ❖ Poaching reduces the number of animals in national parks.

Why people carry out poaching.

- To get meat.
- To get horns and ivory from them.
- To get hides and skins.

b) Prolonged drought

- ❖ It dries pasture on which animals feed.
- ❖ It also destroys the natural habitat for animals.

c) Bush fires.

- ❖ They destroy habitats for animals.
- ❖ They destroy pasture for animals.
- ❖ They lead to death of animals.
- ❖ They lead to displacement of wild animals.

d) Outbreak of animal diseases.

- ❖ Diseases lead to death of animals in national parks.

e) Human encroachment on national parks.

- ❖ It leads to displacement of wild animals.

f) Political instability in some parts of Africa.

- ❖ It leads to death of animals in national parks.
- ❖ It leads to displacement of wild animals.
- ❖ It leads to destruction of the natural habitat for animals.

Possible solutions to the problems facing national parks in Africa.

- ❖ By enforcing laws against poaching.
- ❖ By sensitising people about the importance of wild animals
- ❖ By improving on security in areas near national parks.
- ❖ By extending veterinary services in national parks.
- ❖ By enforcing laws against human encroachment on national parks.

Ways of caring for animals.

- ❖ By protecting them.
- ❖ By feeding them on nutritious feeds.
- ❖ By treating sick animals.
- ❖ By treating sick animals.

Note:- *Game wardens protect wildlife in national parks, and also control fire from destroying plants and animals.*

Importance of caring for animals.

- ❖ It promotes tourism.
- ❖ It reduces death of animals.
- ❖ It promotes education and research.

TOURISM INDUSTRY IN AFRICA.

- ***Tourism*** is the movement of people to places of interest for pleasure, enjoyment or study purpose.
- ***A tourist*** is a person who travels to places of interest for pleasure, enjoyment and study purposes.

Tourism is called an industry because;

- It generates income.
- It creates job opportunities to people.
- Tourism is called ***an invisible trade*** because it generates income without exchanging physical goods.
- Tourism is called ***an invisible export*** because it generates foreign exchange without exporting physical goods.

Types of tourists.

- Local tourists
- International tourists.
- Local tourists move from one part of the country to another for tourism while international tourists move from one country to another for tourism.

Tourist attractions in Africa.

- Wildlife
- Historical sites
- Physical features
- Beautiful beaches
- Climate
- Culture

Importance of the Tourism industry.

- ❖ It creates job opportunities to people.
- ❖ It promotes the development of infrastructure like roads, lodges, hotels.
- ❖ It promotes international relationship.
- ❖ It creates market for locally manufactured goods.



Hotels provide accommodation to tourists.

- ❖ It is a source of revenue to the government.
- ❖ It promotes conservation of wildlife.

Problems facing the Tourism industry in Africa.

- ❖ Political instability in some parts of Africa.
- ❖ Poor transport and communication network.
- ❖ Poor accommodation facilities.
- ❖ Shortage of funds to promote the industry.
- ❖ Limited tourist attractions in some parts of Africa.
- ❖ Limited advertisement of tourist attractions on international media.

Possible solutions to the problems facing Africa's Tourism industry.

- ❖ By improving on security in Africa.
- ❖ By enforcing laws against poaching.
- ❖ By constructing better roads in all parts of Africa.
- ❖ By advertising Africa's tourist attractions on international media.
- ❖ By importing new species of wildlife in Africa.
- ❖ By training more game wardens.
- ❖ By building better accommodation facilities in Africa.
- ❖ By gazetting more wildlife conservation areas.



Modern roads promote tourism

Dangers of Tourism.

- ❖ Some tourists come as spies.
- ❖ Tourism can bring about spread of diseases in the country.
- ❖ Tourism can bring about change of culture.
- ❖ Some tourists teach people anti-social behaviours.

THE INFLUENCE OF VEGETATION ON POPULATION

- ***Population*** is the number of people living in an area at a given time.
- ***Population distribution*** is the way people are spread in an area.
- Some vegetation zones have sparse population while others have dense population.

Population distribution per zone.

Vegetation zone	*Population distribution*	*Reason for population distribution*
• Equatorial rain forests	• They are sparsely populated.	❖Presence of disease vectors. ❖Poor transport ❖Presence of many thick forests. ❖Presence of many wild animals. ❖Presence of soggy soils due to heavy rainfall.
• Desert areas	• They are sparsely populated.	❖They are hot and dry throughout the year. ❖They receive very little rainfall. ❖They have poor transport network.
• Savannah vegetation zone	• It is densely populated.	❖The areas receives reliable rainfall. ❖Presence of fertile soils which support cultivation. ❖It is not greatly affected by disease vectors.
• Mediterranean regions	• They are densely populated.	❖Presence of fertile soils which support cultivation.

		❖Presence of favourable cool climate for settlement.
• Mountain vegetation	• Slopes of mountains are densely populated.	❖Presence of fertile soils. ❖They receive reliable rainfall which favours crop growing.
	• The tops of mountains have very few people.	❖They experience very cold climate. ❖Some have rocks and snow.
• Swamp vegetation	• It is sparsely populated.	❖Presence of dangerous aquatic animals in swamps. ❖Swamps are greatly affected by floods. ❖There are many disease vectors in swampy areas.

Dangers of vegetation.

- ❖ It harbours dangerous animals to people.
- ❖ It harbours disease vectors.
- ❖ Thick vegetation hinders road and railway construction.
- ❖ Some vegetation is poisonous to people and animals.
- ❖ It creates hiding places for wrong doers.

Effects of population / people on vegetation.

- ❖ People clear vegetation to get land for settlement.
- ❖ People cut down trees in order to get wood fuel.
- ❖ People clear vegetation to construct industries.
- ❖ People clear vegetation to construct roads.

VEGETATION CONSERVATION

- This is the protection of plant life from being destroyed.
- It is the act caring for and protecting plants in the environment.

Human activities which destroy vegetation in an area.

- ❖ Deforestation
- ❖ Bush burning
- ❖ Swamp drainage.
- ❖ Over cultivation.
- ❖ Brick making
- ❖ Over grazing

Ways how man destroys vegetation in an area.

- ❖ Through bush burning
- ❖ Through deforestation.
- ❖ Through swamp drainage.
- ❖ Through uncontrolled wetland harvesting.
- ❖ Through overgrazing.
- ❖ Through overcultivation.

Ways of conserving vegetation.

- ❖ By afforestation.
- ❖ By reafforestation.
- ❖ Through agro-forestry.
- ❖ By establishing game parks and game reserves.
- ❖ By establishing forest reserves.
- ❖ Through rural electrification.
- ❖ By using energy saving cooking stoves.
- ❖ By enforcing laws against deforestation.
- ❖ By teaching people about the importance of vegetation.
- ❖ Through rotational grazing.
- ❖ Through controlled harvesting of plants in the environment.

Ways of caring for vegetation in the environment.

- By watering plants during the dry season.
- By adding manure to the soil.
- By weeding the crops.
- By thinning vegetation.
- By pruning plants.
- Through rotational grazing.

Ways of caring for vegetation.

- Through afforestation.
- Through reafforestation.
- By watering plants in the environment.
- By manuring plants.
- By pruning plants.
- Through rotational grazing.
- Through practising agro-forestry.

Note:

- ***National Environment Management Authority*** *(NEMA) is the body responsible for conservation of the environment in Uganda.*
- ***National Forestry Authority*** *(NFA) is the body responsible for conservation of forests in Uganda.*
- *NEMA is under the* ***Ministry of Water and Environment.***

How NEMA conserves the environment.

- It teaches people about the importance of forests and swamps.
- It evicts people settling in forest reserves.
- It creates forest reserves.
- It enforces laws against wetland degradation.

Importance of conserving vegetation.

- It controls global warming.
- It controls soil erosion.
- It controls drought.
- It promotes tourism.
- It conserves the natural habitat for animals.
- It ensures constant supply of wood fuel, crafts raw materials, herbal medicine.
- It conserves the natural beauty of the environment.



Testing Exercise.

1. Give the meaning of the term Vegetation.
2. Mention any two examples of each of the following types of vegetation
   (i) Natural vegetation
   (ii) Planted vegetation
3. State any two characteristics of planted forests.
4. Mention any three tree species that are common in planted forests.
5. Which type of wood is mostly obtained from planted forests?
6. Give one reason why people plant flowers in their compounds.
7. How does vegetation help to purify air in the environment?
8. Mention the four vegetation zones of Africa.
9. Why are tropical rain forests called the rain forests?
10. Name the largest natural forest in Uganda.
11. Which natural forest is found along Kampala-Jinja highway?
12. Why is Bwindi forest referred to as an impenetrable forest?
13. State any three characteristics of natural forests.
14. Why do most trees in planted forests grow very tall?
15. Mention any three tree species that commonly grow in natural forests.
16. What are Deciduous trees?

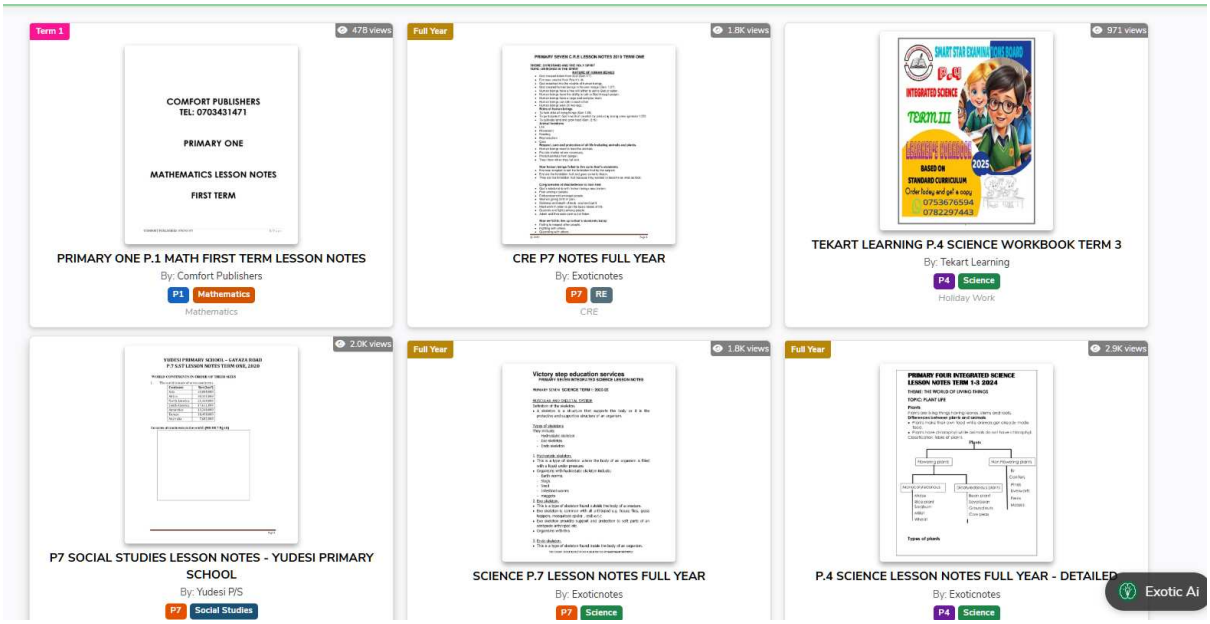
17. Mention any two economic activities that are commonly done in each of the following vegetation zones.
    (i) Equatorial rain forests.
    (ii) Montane vegetation
    (iii) Temperate vegetation.
    (iv) Desert vegetation.
18. Why do some trees in the tropical region shed their leaves during the dry season?
19. How do herbalists benefit from the natural forests in their locality?
20. Give any two ways forests are useful to wild animals.
21. State any two problems facing forests.
22. State any two ways the activity of deforestation is affects the natural environment.
23. Give any two reasons why people carry out deforestation.
24. Name one East African country where the mangrove forests are commonly found.
25. How have the mangrove forests promote the development of the fishing industry in East Africa?
26. Why is timber obtained from the mangrove forests suitable for ship building?
27. Write the following in full.
    (i) NFA
    (ii) NEMA
    (iii) UWA
28. Give any two ways NFA conserves forests in Uganda.
29. State any two characteristics of each of the following types of natural vegetation.
    (i) Desert vegetation.
    (ii) Savannah vegetation.
    (iii) Montane vegetation.
30. Name any two districts in Uganda that have Semi-desert vegetation.
31. Which type of natural vegetation covers the largest part of Uganda?
32. Why are most game parks in Uganda located in Savannah grasslands?
33. What are Deciduous trees?
34. Why is Miombo woodland of Central Tanzania sparsely populated?
35. State the major economic activity carried out in Miombo woodland.
36. Give any two ways oases are useful to the desert dwellers.
37. How do swamps promote the development of the crafts making industry in an area.
38. Give any two reasons why people drain swamps.
39. Which type of natural vegetation covers the North Western part of Africa and the extreme Southern tip of South Africa?
40. State any two problems that are commonly faced by people living in swampy areas.
41. State any one way swamp drainage is dangerous to the environment.
42. How does climate affect the distribution of vegetation in an area.
43. In which way does overgrazing cause soil erosion in an area?
44. Give one reason why there are many mountain gorillas in Mgahinga national park.
45. Mention any four factors that influence vegetation distribution in Africa.
46. What is a Game park?
47. Name the largest game park in East Africa.
48. Which game park in Uganda would you advise a foreign tourist who wants to see mountain gorillas to visit?
49. Name the game park in Uganda which is famous for crocodiles.

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50. Name the largest game reserve in East Africa.
51. Mention the commonest animal species at Serengeti national park in Tanzania.
52. Give any three ways game parks promote the development of a country.
53. Which problem did the Uganda railway builders face at Tsavo national park?
54. Mention any two man's activities that are prohibited in national parks.
55. State any three problems facing game parks in Uganda.
56. Why is tourism called an;
    (i) industry?
    (ii) Invisible trade?
57. Mention any three major tourist attractions in Africa.
58. Mention the government ministry that is responsible for conservation of the environment in Uganda.
59. Apart from tourism, mention any one other example of Uganda's invisible export.
60. State any three problems facing the tourism industry in Africa.
61. Name the major tourist attraction found in Queen Elizabeth national park.
62. How do good hotels promote tourism in a country?
63. Name the body that is responsible for conservation of the environment in Uganda.
64. How is poaching a threat to the tourism industry?
65. Which game park in Kenya is famous for flamingo birds?
66. Mention any two human activities that destroy vegetation in an area.
67. How does deforestation lead to soil erosion?
68. Give any two reasons why the tropical rain forests are always densely populated.
69. State any one reason why there are always no people living on slopes of most mountains in Africa.
70. Give any three ways the tourism industry in Uganda can be improved.

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