

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

LESSON

WORLD CONTINENTS IN ORDER OF THEIR SIZES

A continent is a large mass of land which is almost or fully surrounded by water.

Continents were formed by continental drifting.

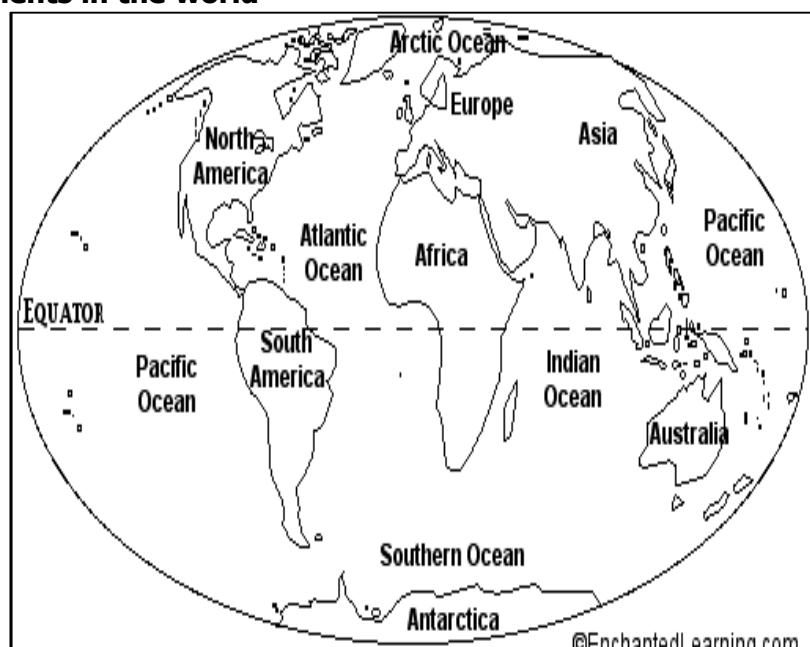
The world is made of seven continents namely:

Continent	Size (km ²)
Asia	43,608,000km ²
Africa	30,335,000 km ²
North America	25,349,000 km ²
South America	17,611,000km ²
Antarctica	13,340,000 km ²
Europe	10,498,000 km ²
Australia	8,923,000 km ²

Direction of other continents from Africa

- Europe in the North
- Asia in the North-East
- Australia in the South-East
- South America in the West
- Antarctica in South
- North America in the North-West

Location of continents in the world



POINTS TO NOTE

- ✓ Africa is regarded as a cradle land of man because the skull of Zinjanthropus was discovered there by Dr. LSB Leakey.
- ✓ Africa was regarded as a dark continent because little was known about it by the outside World.
- ✓ Antarctica continent is too cold to support human life.
- ✓ Animals that live there are called eskimos and they build snow blocked houses called igloos.
- ✓ Australia is the smallest continent while Asia is the largest continent.
- ✓ Continents were formed by continental drifting.

Guided Activity

1. Define the word **continent**?

2. By what process were the continents formed?

3. Name the smallest continent in the world.

4. Which continent is not good for human settlement?

5. State the reason for your answer mentioned above.

6. Name the continent in which Uganda is found.

7. State the reason why Africa is known as:

a) The cradle land of man.

b) The dark continent

SPELLING EXERCISE

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LESSON

AFRICA AS A CONTINENT

A continent is a large mass of land which is almost or fully surrounded by water.

Africa is located in the central region on the world map.

It is the second largest continent in the world.

The location of Africa on the world map is determined by:

- i) physical features
- ii) Latitudes and longitudes (Grid reference)
- iii) Neighbouring continents

Africa is wide in the North and thinner in the South.

Physical features that surround Africa

What is an Ocean?

An ocean is large area of salty water that covers most of the earth's surface.

Examples of oceans that surrounds Africa.

- Indian Ocean in the East.
- Atlantic Ocean in the West.

Africa is surrounded by the following seas

1. Mediterranean Sea in the North.
2. Red Sea in the Northeast.

Other oceans of the world

Other oceans surrounding world's continents are:

- | | |
|-------------------|----------------------------------|
| (i) Pacific Ocean | (iii) Antarctic / Southern Ocean |
| (ii) Arctic ocean | |

Map of Africa showing oceans and seas



Activity

Other features associated with the continent of Africa.

Cape

A cape is a piece of highland jutting out into the sea.

Examples of capes in Africa:

1. Cape Verde to the West.
2. Cape Guardafui to the East.
3. Cape Agulhas to the South.
4. Cape Ras Ben to the North.
5. Cape of Good Hope to the South.
6. Cape Blanc to the Northern Africa.

Gulf

A gulf is a large area of the sea that is partly enclosed by land.

Examples of gulf of Africa:

1. Gulf of Aden
2. Gulf of Sirte
3. Gulf of Aqaba
4. Gulf of Guinea
5. Gulf of Suez

Creative Printers

A strait

A strait is a narrow water passage between two land masses(continents)

Examples of straits

- | | |
|--|---|
| <input checked="" type="checkbox"/> Strait of Babel Mandeb | <input checked="" type="checkbox"/> The Strait of Gibraltar |
|--|---|

The Strait of Gibraltar

- ✓ This is the nearest point between Africa and Europe.
- ✓ The strait of Gibraltar separates the continent of Africa from Europe
- ✓ It joins Mediterranean sea to the Atlantic ocean.

Canals

This is a water channel dug through land connecting two larger water bodies.

Suez canal

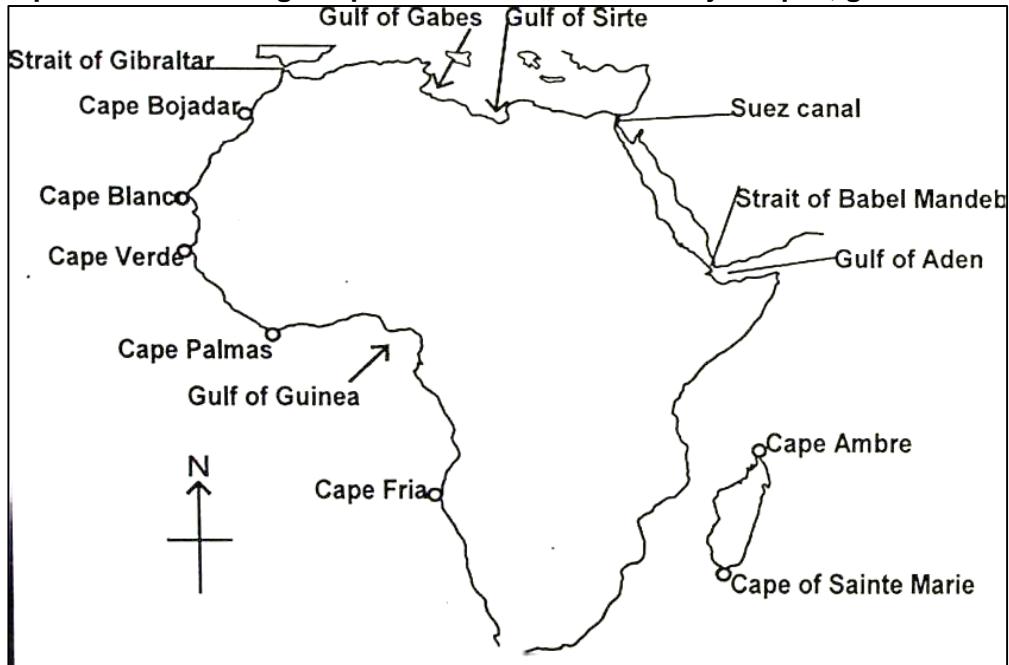
The Suez Canal was built by France and Britain in 1869 to promote trade between India and Europe.

President Gamal Abdel Nasser nationalized the Suez canal to increase income for Egypt and improve on her security.

Importance of Suez canal.

- Links Mediterranean sea to the Red sea.
- Connects Europe to Asia.
- Provides water for irrigation.
- Promotes tourism.
- Promotes military defence for Egypt.
- Promotes trade since goods move easily.

The sketch map of Africa showing the position of some of the major capes, gulfs and straits.



Lesson

Isthmus

An isthmus is narrow land connecting two land masses that could otherwise be separated by water.

Peninsula

A peninsula is a piece of land with three sides surrounded by water.

Or- A piece of land nearly surrounded by water with a section attached to the main land by an Isthmus.

Examples of peninsula in Africa.

- Sinai Peninsula of Egypt
- Arabian Peninsula

Guided Activity

1. Which continent is located in the central region on the world map?

2. Mention **two** factors that determined the location of Africa on the world map.

3. Africa is surrounded by:

- a) _____ sea in the North.
- b) Atlantic Ocean in the _____.
- c) _____ in the North East.
- d) _____ in the East.

4. Continents are surrounded by five major oceans. Name any three of them.

5. A cape is a piece of highland jutting out into the sea. Mention **two** examples of capes found in South Africa:

- (i) _____
- (ii) _____

3. Give **two** examples of peninsula in Africa.

4. Define the following terms:

- a) Gulf

b) A strait

.....

c) Island

.....

5. Name **two** Island countries of Africa.

(i) _____

(ii) _____

LESSON

Africa's uniqueness from the rest of the continents

1. It has the largest number of island countries
2. Africa is the second largest continent in the world
3. It has the hottest desert in the world: Sahara desert
4. It has the largest human made lake in the world i.e Lake Volta in Ghana
5. Africa has the shortest people in the world; Pygmies
6. Africa has the longest river in the world; River Nile
7. Africa has the longest canal in the world: Suez canal
8. It has the longest number of landlocked countries in the world
9. It is bigger in the north and smaller in the south
10. It is majorly occupied by the black people
11. It is the cradle land of man. This is because the oldest skull of the early man was discovered in Africa (Olduvai Gorge in Tanzania)
12. Africa is the most centrally located continent in the world
13. It is the only continent crossed by both the longitudes and the latitudes

ACTIVITY

1. State any **two** ways in which Africa is different from the rest of the world's continents

.....

2. Name the water body which lies in the north of Africa.

.....

3. Name the largest manmade lake in Africa.

.....

4. Name the longest river in the world.

.....

5. Why is the strait of Gibraltar politically important to Africa and Europe?

.....

6. Name the continent in which the hottest desert in the world is found.

.....

7. State the longest canal found in Africa.

.....

8. How is the canal stated above important to Africa?

SPELLING EXERCISE

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LOCATING AND POSITIONING OF AFRICA USING LATITUDES AND LONGITUDES

The method of locating places using latitudes and longitudes is called **Grid reference**.

Lines of latitudes are imaginary lines drawn on the map from East to West.

Lines of longitude/ Meridians are imaginary lines drawn on the map from North to South.

Longitude is the distance East or West of the Prime Meridian.

Latitude is the distance North or South of the Equator.

Africa is located between latitudes 37°N – 35°S and longitudes 17°W – 52°E .

Africa is crossed by three major latitudes namely:

1. Equator- 0°
2. Tropic of cancer- $23\frac{1}{2}^{\circ}\text{N}$.
3. Tropic of Capricorn- $23\frac{1}{2}^{\circ}\text{S}$.

Other major latitudes include:

1. Arctic circle- $66\frac{1}{2}^{\circ}\text{N}$
2. Antarctic circle- $66\frac{1}{2}^{\circ}\text{S}$

Sketch map of Africa showing lines of latitudes



African countries crossed by each of the major latitudes of the major latitudes

Equator

This is the imaginary line drawn on a map across the world dividing the world into two equal parts.

The biggest part of Africa lies within the tropics.

The Equator is marked 0 degrees.

Reasons why the Equator is marked 0° .

1. Equator is the starting point of measuring other lines of latitude.
2. Equator is the midpoint of the world.
3. Equator is the centre line on the globe.
4. Equator divides the world into two equal hemispheres.

A hemisphere is half of the world divided by either the Equator or Prime Meridian.

African countries crossed by Equator

1. Uganda
2. Kenya
3. Congo
4. Somalia
5. Democratic Republic of Congo
6. Gabon

Activity

1. Name the countries in Africa crossed by
a. Equator: _____, _____, _____,
_____, _____, _____, and _____
2. Name the major line of latitudes that cross Africa.

3. Name the coastal country in East Africa crossed by the Equator.

4. State the reason why most part of Africa receive tropical climate.

5. Why is the Equator marked 0° ?
6. Mention **two** lakes in East Africa crossed by the Equator.

7. Mention any **two** lakes in Uganda not crossed by the equator.

8. Name the country in the Horn of Africa crossed by the latitude 0° .

9. Name the mountain in Uganda crossed by the equator.

Lesson

MOVEMENT OF THE EARTH

The Earth makes two movements these are: Rotation and Revolution.

Rotation of the earth

Rotation of the earth is the movement(spinning) of the Earth on its axis.

An Axis is an imaginary line on which the Earth rotates.

The earth spins from East to West that is why the sun seems to be rising from the East.

The rotation of the earth is seen by rising and setting of the sun

The Earth takes 24 hours to make a complete rotation.

Effects of rotation of the earth

1. It causes ocean currents
2. It causes the formation of waves(tides)
3. It affects the direction of winds
4. It causes days and nights.

This is because the side of the Earth that faces the sun experiences day while the other side experiences night.

Revolution of the Earth

Revolution of the earth is the movement of the earth around the sun.

It takes $365\frac{1}{4}$ days to make a complete revolution.

The $\frac{1}{4}$ day makes a complete day after every 4 years.

This is known as a leap year. A leap year has no remainder when divided by four.

The month of February of a leap year has 29 days. The rest have 28 days.

Effect of revolution

It causes seasons of the year.

Note

i.) There are two types of year i.e.:

- ✓ **Leap year** is the fourth year of every four years, which has 366 days.
 - ✓ It has 29 days of February and has no remainder when divided by four.
 - ✓ **Ordinary year** is the year when the month of February has 28 days and the year has $365\frac{1}{4}$ days.
-
- ✓ The revolution of the earth also causes the sun to come directly overhead the equator twice and once over the two tropics, in a year.
 - ✓ On 21st March and 23rd September the sun is overhead the equator and these two days are called equinox meaning having equal days and nights.

Ways how the sun can help people to locate places.

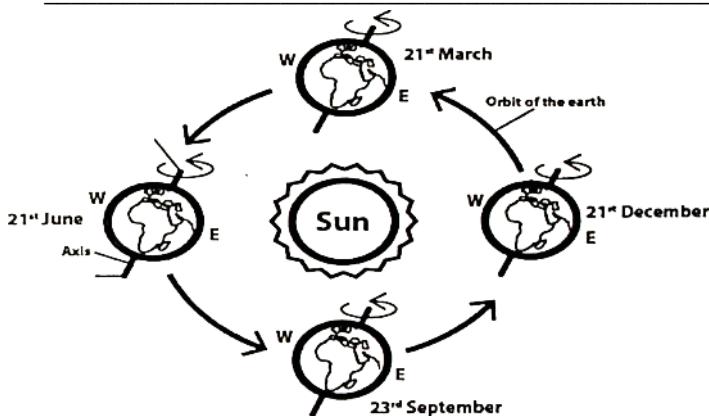
- By following the movement of the sun.
- By identifying where the sun rises and sets.
- By identifying the position of the sun at different times of the day.

Activity

1. State any **two** forms of movement made by the earth?

2. From which direction does the earth spin?

3. State any **one** indicator of the rotation of the earth.



4. Mention any **two** effects of the earth rotation.

5. What is earth revolution?

6. In which way are leap years different from the ordinary years?

7. How does the revolution of the earth affect farmers' activities?

8. Mention any **one** effect of the earth revolution.

9. How does rotation of the earth influence wind?

10. What causes day and night?

Creative Printers

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Lesson

Tropic of Cancer

On 21st June, the sun is overhead the tropic of cancer and in this period the Northern hemisphere receives more rainfall than the South.

Summer solstice is the period when the sun overheads the tropic of cancer.

African countries crossed by the tropic of cancer

- | | | |
|----------|---------------|-------------------|
| 1. Egypt | 4. Chad | 7. Western Sahara |
| 2. Libya | 5. Mali | 8. Madagascar |
| 3. Niger | 6. Mauritania | |

Tropic of Capricorn

Tropic of Capricorn is marked 23½°S.

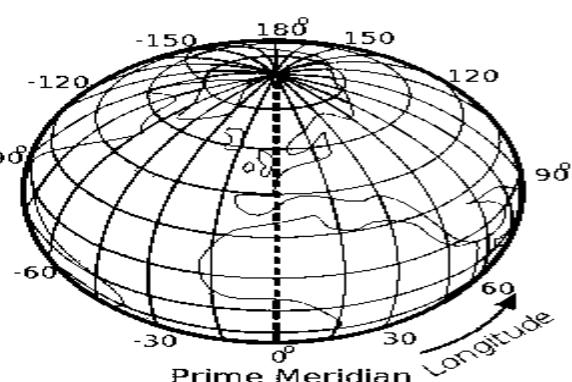
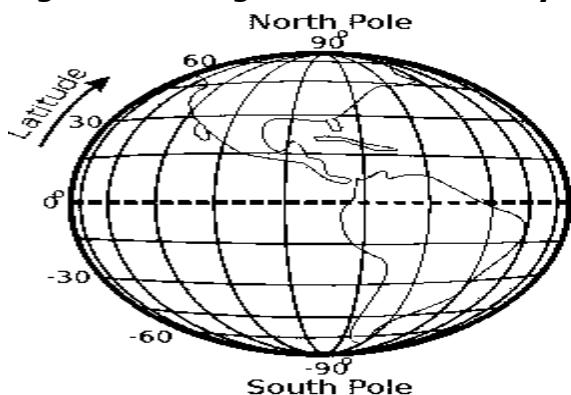
On 22nd December, the sun is overhead the tropic of Capricorn and in this period the Southern hemisphere receive more rainfall than the North.

Solstice is the period when the sun overheads the tropic of Capricorn.

African countries crossed by the tropic of Capricorn

- | | | |
|-------------|-----------------|---------------|
| 1. Namibia | 3. Zimbabwe | 5. Mozambique |
| 2. Botswana | 4. South Africa | 6. Madagascar |

A globe showing location of Africa by longitudes and latitudes



Guided Activity

1. Name any **two** countries in Africa crossed by Greenwich meridian

2. Name only city in Africa crossed by the Prime Meridian.

3. Name the line of latitude which is marked $23\frac{1}{2}^{\circ}\text{N}$.

4. What term is used to mean the period when the sun overheads the tropic of Capricorn?

5. Name the line of latitude which is marked $23\frac{1}{2}^{\circ}\text{S}$.

6. Mention **two** countries crossed by Tropic of Cancer in Africa

7. Name the Island country crossed by Tropic of Capricorn in Africa

8. Apart from the country mentioned above, name any **two** other countries crossed by Tropic of Capricorn in Africa

SPELLING EXERCISE

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LESSON

Lines of longitudes

Lines of longitude are also called Meridians

These are the are imaginary lines drawn on the map from North to South.

Longitude is the distance on a map East or West of the Prime Meridian.

Africa lies between lines of longitudes marked 17°E and 52°E .

Important lines of longitudes

1. The Greenwich
The Greenwich is used to determine international time.
2. The international dateline
The international dateline(IDL) is another major longitude (180°) which separates one day from another or determines the date.

The Prime Meridian is the major line of longitude that crosses Africa.

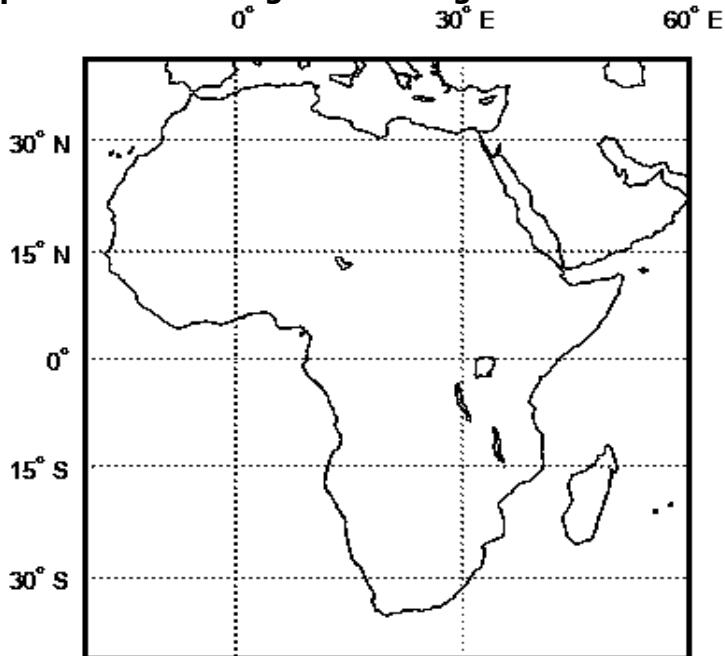
The Prime Meridian is also called the Greenwich meridian. This is because it crosses the city of Greenwich in England.

Accra is the only city in Africa crossed by the Prime Meridian

African countries crossed by the prime meridian are:

- | | |
|-----------------|------------|
| 1. Ghana | 3. Algeria |
| 2. Burkina Faso | 4. Mali |

Sketch map of Africa showing lines of longitudes



How are latitudes similar to longitudes?

1. Both locate places on a map
2. Both are imaginary lines.
3. Both are drawn on maps.

How are lines of latitude different from lines of longitude?

- Lines of longitude determine time unlike lines of latitude
- Lines of latitude determine the climate of an area unlike lines of longitude
- Lines of longitude meet at the North and South Poles while lines of latitude are parallel
- Lines of latitude measure from 0° to 90° while lines of longitude measure from 0° to 180°
- Lines of latitude cross from east to west while lines of longitude cross from the North Pole to the South Pole
- The major line of latitude is Equator while the major line of longitude is Prime Meridian/Greenwich Meridian

Guided Activity

1. What are lines of longitude?
2. What is longitude?
3. Name the major line of longitude.
4. Why Prime Meridian is also called Greenwich Meridian?
5. Apart from Greenwich Meridian, name another important line of longitude
6. Give one importance of International Date Line
7. Mention any two importance of lines of longitude.
8. Name the line of longitude which divides the world into Eastern and Western hemispheres.
9. Which line of longitude helps to determine time?
10. Name the countries crossed by the Greenwich Meridian in Africa
11. Name the town/city crossed by the Greenwich Meridian in West Africa.
12. Why lines of latitude and longitude are called imaginary?
13. How are latitudes similar to longitudes?
14. How are lines of latitude different from lines of longitude?

Lesson

TIME ZONES

What are time zones?

These are places on the globe with the same standard time.

These are areas with uniform standard time in a day.

Places around the world have different time zones; therefore, we do not have same time.

Examples of time zones

1. East African Standard Time(E.A.S.T)
2. Greenwich Mean Time(G.M.T)
3. C.A.T

Calculating time

- ✓ Time is calculated from the Greenwich meridian
- ✓ Every 15° make an hour, therefore $1^{\circ} = 4$ minutes.
- ✓ The world is divided into 24 divisions called Time Zone and each time zone is 15° apart.
- ✓ East of the Greenwich meridian, we add time while west of the Greenwich, we subtract time.
- ✓ East Africa's time zone is called East African standard time (**EAST**)

Calculating time using time zones

Every time zone (15°) Eastwards, we gain/ add an hour because the sun rises from the East while every time zone ($15^{\circ}W$) westward we lose (subtract) an hour.

Examples

1. If it is 5.00 a.m. at Greenwich what time is it in East Africa is 45° E of the Greenwich?

Working

$$\text{GMT} = 5.00 \text{ a.m.}$$

$$15^{\circ} = 1 \text{ hr.}$$

$$45^{\circ} E = \frac{45}{15} = 3 \text{ hrs}$$

$$5.00 \text{ a.m.}$$

$$+ \underline{3.00 \text{ hrs}}$$

$$\underline{8.00 \text{ a.m.}}$$

It is 8:00 a.m. in East Africa

2. If it is 7:00 a.m. at Greenwich meridian what time is it at place Y which is $60^{\circ}E$ at the Greenwich meridian?

$$\text{GMT} = 7:30 \text{ a.m.}$$

$$15^{\circ} = 1 \text{ hr (1:00hr)}$$

$$60^{\circ} E = \frac{60}{15} = 4:00 \text{ hrs}$$

$$7:30 \text{ a.m.}$$

$$+ \underline{4:00 \text{ hrs}}$$

$$\underline{11:30 \text{ a.m.}}$$

It is 11:30 a.m. at Place Y

3. If it is 9:00p.m. In London, what time is it at place X which is $45^{\circ}W$ of the Greenwich meridian?

$$\text{GMT} = 9:00 \text{ pm.}$$

$$15^{\circ} = 1 \text{ hr}$$

$$45^{\circ} = \frac{45}{15} = 3:00 \text{ hrs}$$

$$9:00 \text{ p.m.}$$

$$- \quad 3:00 \text{ hrs}$$

$$\underline{\underline{6:00 \text{ p.m.}}}$$

It is 6:00 p.m. at Place X

Guided Activity

1. What name is given to places on the globe with the same standard time?

2. Mention **two** examples of time zones

3. Name the time zone in East Africa.

4. Write the following in full

a. G.M.T: _____

b. I.D.L: _____

5. Why doesn't Rwanda experience the same time with Uganda yet they are neighbours.

6. It is 10:00a.m at the GMT. What time will it be if one moves 30° E?

7. The time in Nairobi Kenya is 12:30p.m. What time will it be if one moves 45° W of the prime meridian?

9. The time in Accra- Ghana is 9:00am. What time will it be in Somalia which is 30° E?

8. The time Dodoma is 11: 45 am. What time will it be in a place which is 60° W?

9. It is 6:00 p.m. in Accra Ghana. What time is it at a place X which is 30° N of the Greenwich?

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LESSON

Countries in different regions of Africa

Africa has a total of 55 countries. South Sudan is the newest Country of all.

Africa is divided into six regions;

1. Northern Africa
2. Central Africa
3. Southern Africa
4. East Africa
5. Horn of Africa.
6. West Africa.

Political map of Africa showing countries in their regions



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Countries in West Africa

Country	Capital City	Country	Capital City
Ghana	Accra	Liberia	Monrovia
Burkina Faso	Ouagadougou	Mali	Bamako
Cape Verde	Cape Verde	Mauritania	Nouakchott
Ivory Coast(Cote d'Ivoire)	Yamoussoukro	Niger	Niamey
Togo	Lome	Sierra Leone	Freetown
Guinea Bissau	Bissau	Nigeria	Abuja
Gambia	Banjul	Senegal	Dakar
Guinea	Conakry	Benin	Porto Novo

Countries in East Africa

Country	Capital City	Country	Capital City
Uganda	Kampala	Tanzania	Dodoma
		Kenya	Nairobi

Countries in central Africa

Country	Capital City	Country	Capital City
Central African Republic	Bangui	Chad	N'Djamena
Congo	Brazzaville	Gabon	Libreville
Equatorial Guinea	Malabo	Democratic Republic of Congo	Kinshasa
Sao Tomé and Principe	Sao Tomé	Rwanda	Kigali
Burundi	Gitega		

Burundi changed its capital city from Bujumbura to Gitega.

Countries in Northern Africa

Country	Capital City	Country	Capital City
Algeria	Algiers	Libya	Tripoli
Morocco	Rabat	Tunisia	Tunis
Egypt	Cairo	Sudan	Khartoum
South Sudan	Juba	Western Sahara	El Aaiun

South Sudan is the newest state in Africa

Countries in Southern Africa

Country	Capital City	Country	Capital City
South Africa	Pretoria	Angola	Luanda
Botswana	Gaborone	Eswatini	Mbabane
Lesotho	Maseru	Malawi	Lilongwe
Madagascar	Antananarivo	Mauritius	Port Louise
Seychelles	Victoria	Mozambique	Maputo
Zimbabwe	Harare	Zambia	Lusaka
Namibia	Windhoek	Comoros	Moroni
Reunion	Reunion		

Horn of Africa

Why Horn of Africa is called so?

- It has a horn like shape.
- **Note:** Horn of Africa is also called **North East Africa**

Country	Capital City	Country	Capital City
Ethiopia	Addis Ababa	Djibouti	Djibouti
Somalia	Mogadishu	Eritrea	Asmara

Activity

1. State any **two** countries found in the following regions of Africa.

a) Horn of Africa: _____

b) West Africa: _____

2. Name the smallest country in Africa

3. Name the political region in which the following countries are located

Rwanda _____

Lesotho _____

South Sudan _____

Niger _____

4. State the capital cities of these countries

a) Rwanda _____

b) Burundi _____

c) Democratic Republic of Congo _____

d) Ethiopia _____

10. Name the country which changed its capital city from Bujumbura to Gitega.

11. Mention any **two** island countries found in West Africa.

Lesson

Land locked countries of Africa.

- Land locked countries are countries which do not have their own sea ports.
- A landlocked country is a country which has no coastline.
- A landlocked country is a country completely surrounded by land
- Land locked countries are countries which do not have direct access to their seaports.

There are 16 landlocked countries in Africa

Examples of landlock countries in Africa

- | | | |
|----------------------------|----------------|------------|
| ✓ Uganda | ✓ Lesotho | ✓ Chad |
| ✓ Eswatini | ✓ Zambia | ✓ Niger |
| ✓ Zimbabwe | ✓ Burkina Faso | ✓ Burundi |
| ✓ Central African Republic | ✓ Rwanda | ✓ Ethiopia |
| ✓ South Sudan | ✓ Botswana | ✓ Eswatini |

Ethiopia became a landlocked County in 1993 when Eritrea was curved out of it.

South Sudan became a landlocked country in 2011 after breaking away from the republic of Sudan.

Problems faced by land locked countries

1. High taxes are charged on goods (Imports and exports).
2. High tariffs
3. Delays of goods in transit.
4. High transport cost.
5. Goods lack privacy due to thorough checking.
6. There may be damage of goods on transit.
7. There is limited trade with the rest of the world.
8. High prices for imported goods.

Ways how landlocked countries overcome the problems they face

1. By using air transport when importing goods.
2. By promoting railway transport
3. By using various sea ports when importing goods.
4. By promoting domestic industrial production.
5. By joining common markets in the region. e.g. East African Community (EAC)
6. By improving security along the highways.
7. By maintaining good relationships with neighbour's that have seaports

Why landlocked countries should have good relationship with neighbours.

1. To promote trade.
2. To get goods she doesn't have.
3. To widen market for her goods.
4. To use the neighbours seaport.
5. To promote friendship and cooperation in the country.

How a land locked country can promote international trade

- (i) By developing railway transport.
- (ii) By using air transport.
- (iii) By promoting friendship and co-operation with her neighbours.

Lesson

A non-land locked country

A non-land locked country is a country which has a coastline.

A non-land locked country is a country which is located along the coast.

It is also called **a coastal country**.

Non-landlocked countries have own sea ports that handle their imports and exports.

Non-landlocked countries in Africa

Country	Sea port	Country	Sea port
Kenya	Mombasa	DRC	Matadi
Tanzania	Dar es Salaam	Egypt	Alexandria
Sudan	port Sudan	Ghana	Accra, Takoradi
Libya	Tripoli	Mozambique	Maputo
South Africa	Cape Town, Durban	Nigeria	Harcourt

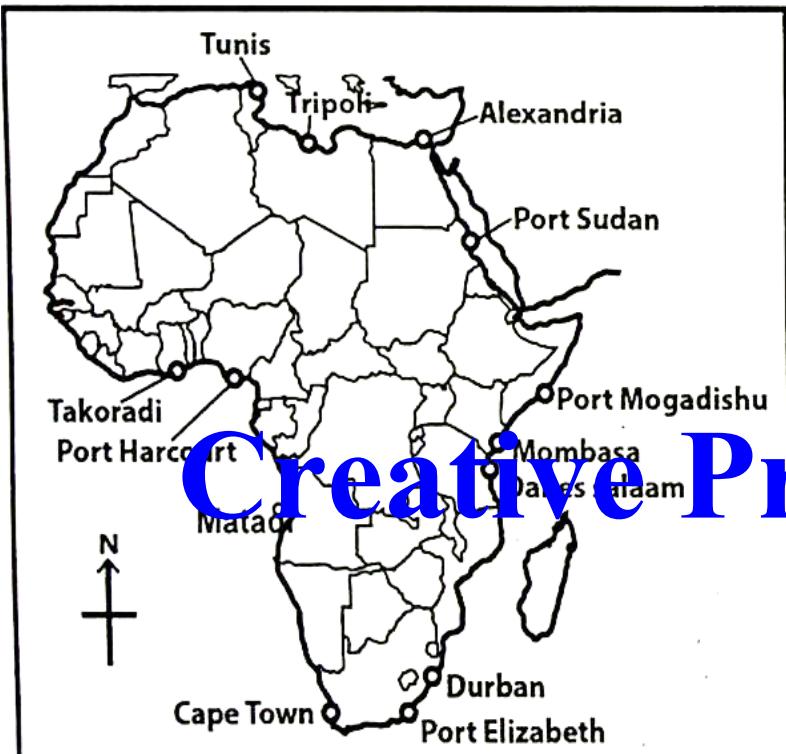
Lesotho is both a landlocked and an enclave country of Africa.

An enclave is an independent country existing in another independent country.

An enclave has only one neighbor.

Lesotho is located within another country that is South Africa.

African map showing seaports



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Benefits enjoyed by coastal countries of Africa

1. They pay fewer taxes on their imported goods.
2. They earn income through taxing goods for land locked countries that pass through them.
3. They can easily trade with other countries.
4. They handle overseas imports and exports
5. They promote fishing

Problems faced by seaports

- | | |
|--|---|
| <input checked="" type="checkbox"/> Over congestions | <input checked="" type="checkbox"/> Communication barriers |
| <input checked="" type="checkbox"/> Insecurity and piracy | <input checked="" type="checkbox"/> Inadequate storage facilities |
| <input checked="" type="checkbox"/> Unreliable transport network | <input checked="" type="checkbox"/> Smuggling of goods |

Activity

1. Name any **two** countries in the Horn of Africa that have seaports.
2. How does port Sudan contribute to the economic development of Sudan?
3. Give one reason why Rwanda is not a coastal country
4. State any **one** advantage of Ghana over Uganda in terms of geographical location
5. Write any **one** benefit of having many seaports in a country

Lesson

Smuggling of goods

This is illegal importation and exportation of goods.

Causes of smuggling of goods

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> High taxes | <input checked="" type="checkbox"/> Insecurity | <input checked="" type="checkbox"/> Price fluctuation |
| <input checked="" type="checkbox"/> Ignorance about importance of taxes | | |
| <input checked="" type="checkbox"/> Looking for markets of stolen goods | | |
| <input checked="" type="checkbox"/> Need for markets of illegal goods | | |

Dangers of smuggling of goods

- It reduces market for locally made goods.
- It reduces revenue for the government.
- It leads to importation of expired goods.
- It leads to importation of substandard goods.

Ways of controlling smuggling

- By strengthening border security.
- By educating people about the dangers of smuggling.

- By enforcing strict laws on smuggling.

Ways in which smuggling affects the health sector of a country.

- Smuggling leads to importation of expired drugs.
- Smuggling leads to illegal exportation of drugs.
- Smuggling reduces taxes which could increase revenue to buy drugs.

ACTIVITY

1. What is smuggling of goods?

2. State any **two** causes of smuggling of goods.

3. Mention any **two** dangers of smuggling of goods to Rwanda.

4. State any **two** ways in which Uganda government has managed to control smuggling

5. State **one** effect of smuggling to the security sector.

6. Give **one** way smuggling affects the health sector of a country.

Lesson

Commonly smuggled goods in Africa

Imports and exports

Imports are goods which enter the country

major imports of Africa

- | | |
|---|--|
| <input checked="" type="checkbox"/> Expertise | <input checked="" type="checkbox"/> Vehicles |
| <input checked="" type="checkbox"/> Medicine | <input checked="" type="checkbox"/> Machines |

Customs duty is the tax imposed on imports

Exports

Exports are goods which leave a country.

Agricultural products are the major export of African countries.

What do we call the tax charged on locally manufactured goods?

Excise duty

Reasons why most African countries export more raw materials than finished goods.

- Due to shortage of skilled labour used in production of finished goods.
- Due to poor technology to process raw materials into finished goods.

Activity

1. What are imports?

2. Mention **two** major imports of Africa

3. What name is given to the tax imposed on imports?

4. What are exports?

5. Name the major export of African countries.
6. What do we call the tax charged on locally manufactured goods?
7. Give any **two** reasons why most African countries export more raw materials than finished goods.

Island states of Africa

An island is a small piece of land that is completely surrounded by a large water body.
An island state is a country completely surrounded by water.

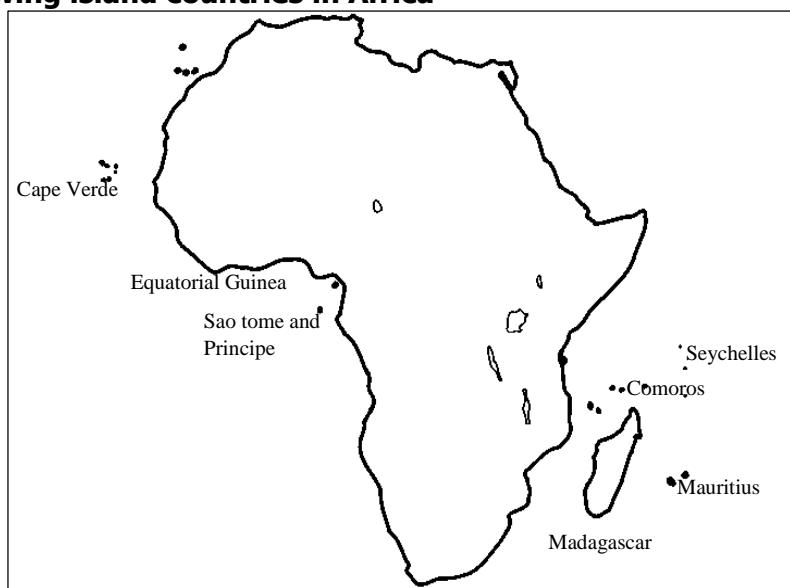
Examples of Island countries found in Indian Ocean in Africa

1. Madagascar (Indian Ocean) - the largest island in Africa
2. Seychelles (Indian Ocean) - smallest country in Africa
3. Mauritius (Indian Ocean)
4. Comoros (Indian Ocean)

Examples of Island countries found in Atlantic Ocean in Africa

1. Equatorial Guinea (Atlantic Ocean)
2. Cape Verde (Atlantic Ocean)
3. Sao Tome and Principe (Atlantic Ocean)

A sketch map showing island countries in Africa



Note: -There is no hydro electricity in Kalangala and because it is very expensive to fix electric poles in water of Lake Victoria to these districts.

Economic activities commonly carried out in Island countries.

- | | | |
|---------------------|--------------|------------|
| a) Fishing. | c) Lumbering | e) Tourism |
| b) Crop cultivation | d) Trading. | |

Benefits enjoyed by Island countries.

1. They get easy access to water transport.
2. They have fertile soils.
3. They have favorable climate
4. They receive plenty of rainfall.
5. They have their own seaports
6. They are easily connected to other continents

Problems facing people living in Island countries of Africa

- | | |
|--|--|
| 1. Poor transport network. | 4. Floods |
| 2. Attacks from aquatic animals e.g. crocodiles. | 5. Easy spread of water borne diseases |
| 3. Lack of hydro electricity | 6. Poor social service delivery. |

Solutions to the problems facing Island countries in Africa

1. By using other sources of energy e.g. solar energy
2. By employing more social service providers.
3. By providing better means of water transport.
4. By building better social service centres in island districts.
5. By paying attractive salaries to people who provide social services in island districts.

Guided Activity

1. What are island states of Africa?

2. State any **two** examples of Island countries found in Indian Ocean in Africa.

3. Name the largest island in Africa

4. Name the smallest island country in Africa

5. Mention any **two** examples of Island countries found in Atlantic Ocean in Africa

6. Give any **two** economic activities commonly carried out in Island countries.

7. Mention any **two** benefits enjoyed by Island countries.

8. How are the island countries similar to the coastal countries of Africa?

9. Suggest any **two** problems facing people living in Island countries of Africa

10. In which way is Lesotho different from the rest of African countries?

11. Give any **two** common aquatic animals which affect people in island countries.

SPELLING EXERCISE

1 2

3 4

5 6

7 8

TOPIC 2: PHYSICAL FEATURES OF AFRICA

LESSON

Physical features are the natural land forms that give the shape of the earth.
Landforms is another name given to the physical features.

Types of physical features

1. Relief features
2. Drainage features

Two forces that led to the formation of physical features.

- Tensional force
- Compressional force

Relief features

Relief is the physical appearance of the land surface.

Relief features are the highlands and lowlands of an area.

Examples of relief features found in Africa

- | | | |
|--------------|-------------------|------------|
| 1. Mountains | 4. Lowlands | 7. Valleys |
| 2. Highlands | 5. Rift Valleys | 8. Hills |
| 3. Plateaus | 6. Coastal plains | 9. Basins |

Drainage features

Drainage features are the natural landforms which contain water in them.

They are the water bodies on the earth's surface.

Examples of drainage features found in Africa

- | | | |
|-----------|-----------|-----------|
| 1. Lakes | 3. Rivers | 5. Oceans |
| 2. Swamps | 4. Seas | |

Some physical features are located along the coastal regions.

They form natural boundaries while others are found in the interior of countries.

Physical features are natural resources because they make up the physical environment which people depend on to earn a living.

Guided Activity

1. What are physical features?

2. What name is given to the natural landforms of an area?

3. Apart from drainage feature, mention any **one** other type of physical features.

4. What term is used to mean the physical appearance of an area?

5. In which way is the relief different from the relief features?

6. Mention **two** examples of relief features found in Africa.

(i) _____

(ii) _____

7. Why is a lake considered as a drainage feature?

8. Apart from lakes, state other **two** examples of drainage features found in Africa.

(i) _____

(ii) _____

9. Physical features are natural resources. State a reason to support this statement.

10. Mention **two** examples of physical environment

(i) _____

(ii) _____

LESSON

Physical features in Africa

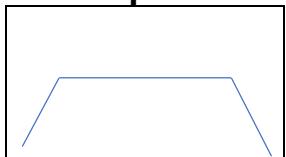
Africa has a continent has a number of both relief and drainage features.

PLATEAU

- ✓ A plateau is a raised flat-topped piece of land.
- ✓ A plateau is an area of high flat land.

Other features found on plateaus includes: hills, lakes, valleys, rivers, streams, Lowlands
A plateau covers the largest part of Africa.

A map symbol of a plateau.



Rocks which made the plateau

1. Sedimentary rocks.
2. Metamorphic rocks.
3. Igneous rocks.

Examples of plateaus in Africa

1. Fouta Djallon/Guinea plateau in Guinea
2. Ahaggar plateau in Algeria.
3. Jos plateau in Nigeria
4. Bie plateau in Angola
5. Nyikka plateau in Kenya
6. Yatta plateau in Kenya
7. Tibesti plateau in Chad

Economic activities carried out on the plateau

1. Farming
2. Mining
3. Tourism
4. Nomadic pastoralism
5. Settlement
6. Fishing
7. Industrialisation
8. Trade
9. Lumbering

Pastoral tribes which lives on the plateaus in Africa

- Fulani
- Bahima
- The Dodoth
- The San.
- Sotho
- Karamojong
- Hausa
- Masai

The Masai live in the Nyikka plateau of East Africa.

The word **Nyikka** means barren/dry land.

Guided Activity

1. Why is plateau referred to as a flat-topped piece of land?

2. Name the pastoral tribe which live in the in the Nyikka plateau of East Africa

3. State **one** economic importance of Jos plateau to the Fulani pastoralists in Nigeria.

4. In which country in Africa is Yatta plateau found?

5. State any **two** physical features found on the plateau in Africa.

6. Name the physical feature that covers the largest part of Africa.

7. Mention any **two** economic activities carried out in plateau.

8. Write down **two** rocks which made up the plateau.

LESSON

Reasons why a plateau is good for human settlement

1. It has fertile soils for farming.
2. It is easy to construct houses on a plateau.
3. There is easy transport on plateau.

4. It has pasture for cattle keeping.



The sketch map of Africa shows major plateaus in Africa.

Importance of plateaus

1. They have fertile soils for crop growing.
2. They promote wildlife conservation.
3. They have plenty of pasture for animal rearing.
4. They promote tourism.
5. They contain water for fishing
6. They help in formation of cyclonic rainfall.

Problems faced by people who live on plateau

- | | |
|--|---|
| 1. There is soil erosion. | 4. Landslides are common in hilly area. |
| 2. Poor transport system in hilly areas. | 5. Droughts |
| 3. Crop pests and diseases. | 6. Pollution due to heavy industrialisation |

Activity

1. What process led to the formation of plateaus?

2. What is a plateau?

3. Give any **two** features found on Africa's plateau

4. What type of rainfall is common in plateau areas of Africa?

5. State **two** examples of plateaus in Kenya

6. State any **two** factors which attract nomads on the plateau areas in Kenya.

7. State **two** economic activities carried out on a plateau.

8. State **two** reasons why a plateau is good for human settlement.

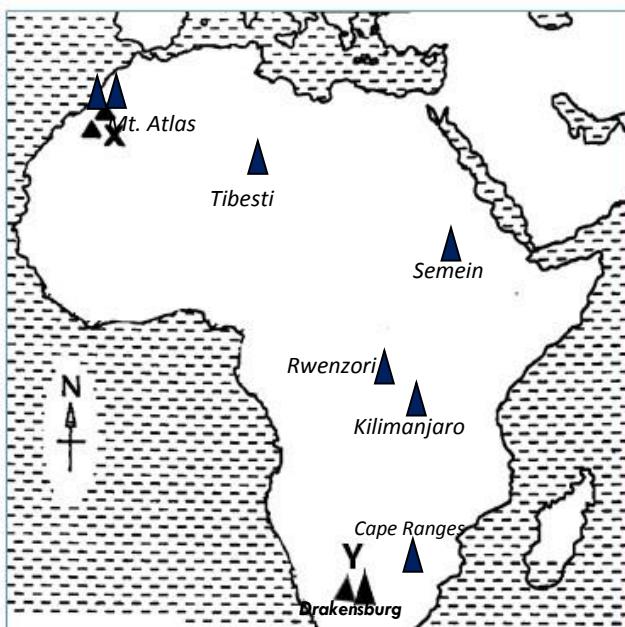
9. State any **two** importance of plateau to the people of Africa.

10. Name the pastoral tribe found in Nyikka plateau of East Africa.

Highlands and Mountains

A mountain is a large piece of land raising above 2000m above the sea level.

A map of Africa showing major highlands, mountains and plateaus



There are three types of mountains in Africa namely;

1. Fold mountains
2. Volcanic mountains
3. Block mountains

Volcanic Mountains

These are formed as a result of volcanic eruption or volcanicity.

Volcanicity

Volcanicity is the process through which magma (molten rocks) is forced out of the earth's interior.

Volcanic mountains were formed when molten rocks known as magma forced their way on the surface of the earth.

- ✓ A vent is an opening / a feature through which hot molten rocks, water, steam or ash passes to reach the earth's surface.
- ✓ Magma is molten rocks found under the surface of the earth.
- ✓ Lava is the solidified magma that has cooled and it is found on the earth's surface.
- ✓ Crater is a depression on a volcanic mountain.
- ✓ Lava may flow over a large area forming plateaus or cones (domes).

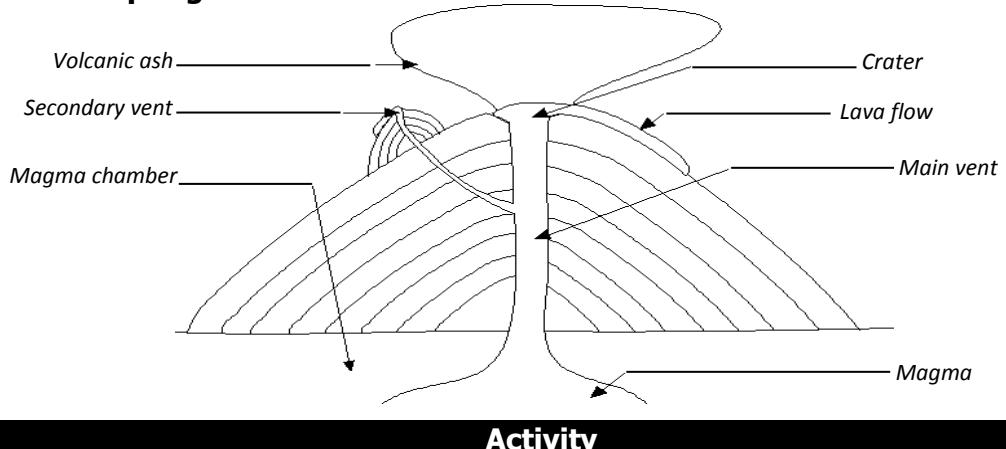
Materials that come out during volcanic eruption

- Magma
 Ash

- Cinders
 Gases

- Rocks

Illustration of erupting volcano



Activity

- What are volcanic mountains?

- What is meant by the term **volcanicity**?

- Why is it not advisable for people to stay near an active volcano?

- What is magma?

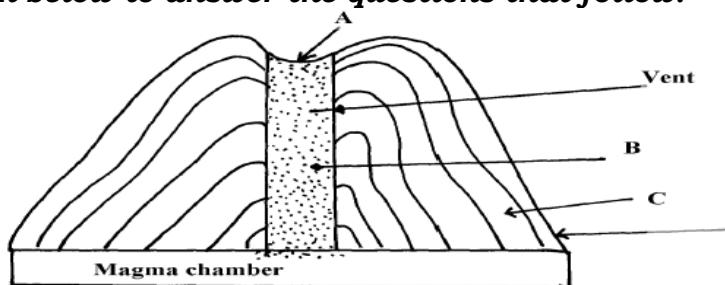
- Give any **two** types of volcanic mountains in Africa.

- Why is Mt. Kenya grouped under dead volcanic mountains?

- What mountain top in Uganda is covered with snow throughout the year?

- Why is the top of the mountain mention above covered with snow throughout the year?

Use the diagram below to answer the questions that follow.



- What type of volcanic mountain is formed at A?

b) Name the structure marked with letter

(i) A _____

C _____

Lesson

Types of volcanic mountains

1. Active volcanoes.
2. Dormant volcanoes.
3. Extinct volcanoes

Active volcanoes:

These are volcanoes that erupt frequently.

Examples of active volcanoes

1. Mt. Nyiragongo in DRC
2. Mt. Nyamulagira in DRC
3. Mt. Oldoinyo Lengai in Kenya
4. Mt. Cameroon in Cameroon
5. Mt. Mufumbiro in Uganda

Dormant/sleepy volcanoes:

These are volcanoes that have taken long without erupting but are likely to erupt later.

Examples of dormant/sleepy volcanoes

1. Mt. Longonot in Kenya
2. Mt. Kilimanjaro in Tanzania
3. Mt. Muhavura in Uganda
4. Mt. Moroto in Uganda

Extinct/dead volcanoes:

These are volcanoes that will not erupt again.

Examples of dead volcanoes

1. Mt. Elgon in Uganda
2. Mt. Kenya in Kenya
3. Mt. Drakensberg in South Africa
4. Mt. Kilimanjaro in Tanzania
5. Ethiopian highlands in Ethiopia
6. Tibesti mountains in Chad

Economic activities carried out around volcanic mountains

1. Crop farming
2. Lumbering
3. Tourism
4. Animal rearing
5. Mining

Guided Activity

1. Name the type of volcanic mountain in Africa which frequently erupt.

2. Mention any **two** examples of such mountains which frequently erupt.

3. What are dormant volcanoes?

4. Mention any **two** examples of dormant volcanoes in Africa.

5. Name the largest block mountain in central Sahara.

6. What are extinct volcanoes?

7. Mention **two** examples of extinct volcanoes in Africa.

Importance of volcanic mountains

1. They are fertile; favors crop growths
2. For tourism
3. They have favorable climates

Importance of volcanicity

- (i) It leads to formation of fertile volcanic soils which are favorable for crop growing.
- (ii) Volcanic mountains attract tourists who bring in income.

Dangers of volcanicity

These are some of the challenges caused by the volcanic mountains.

- (i) It leads to death of people and animals.
- (ii) It leads to destruction of property.
- (iii) It leads to displacement of people.
- (iv) It leads to air pollution.
- (v) Soil erosion

Other physical features that were formed by volcanicity.

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Crater lakes | <input checked="" type="checkbox"/> Inselbergs | <input checked="" type="checkbox"/> Volcanic plug |
| <input checked="" type="checkbox"/> Volcanic lakes | <input checked="" type="checkbox"/> Lava dammed lakes | |
| <input checked="" type="checkbox"/> Caldera | <input checked="" type="checkbox"/> Hot springs | |

Activity

1. State any **two** importance of volcanic mountains

2. How do volcanicity a source of income to the government?

3. In which way is volcanicity important to the farmers?

4. State any **two** dangers of volcanicity to the environment.

5. Mention any **two** challenges caused by the volcanic mountains in Africa.

8. Apart from volcanoes, name other **two** physical features that were formed by volcanicity.

Lesson

Crater lakes

A crater is a hole on top of a volcano.

It is formed by violent eruption that blow off the top of the volcano.

These craters from lakes after bring filled with water.

A crater lake is a hollow or depression filled with water on top of an extinct volcano.

Crater lakes in Uganda

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Lake Katwe | <input checked="" type="checkbox"/> Lake Nyamunuka | <input checked="" type="checkbox"/> Lake Saka |
| <input checked="" type="checkbox"/> Lake Bunyonyi | <input checked="" type="checkbox"/> Lake Nyakasura | <input checked="" type="checkbox"/> Lake Munyanyange |

An inselberg

An inselberg is an isolated hill that stands above the general level of the surrounding land e.g. 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 e.g. The Osukuru hills which provide limestone used for making cement.

Lava dammed lakes

Hot springs /geysers

These are places with natural hot water.

Examples are: Kitagata hot springs in Bushenyi, Sempaya hot springs in Bundibugyo, Kananarok in Kidepo Valley all in Uganda, Maji Moto in Tanzania, pharaoh's Bath in Egypt, Dallon in Egypt

Importance of hot springs

1. They attract tourists who bring income
2. Hot springs help in generation of geo-thermal energy.

LESSON

Block Mountains

Block Mountains are mountains formed as a result of faulting.

Faulting is the breaking of the earth's crust.

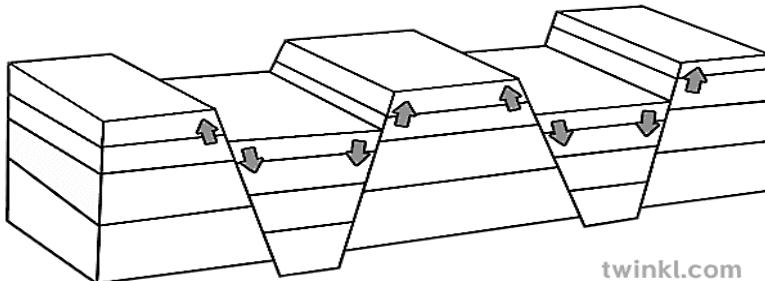
Faulting occurs as a result of compressional or tensional force.

They are also known as **horst** mountains.

These are formed when the block between faults is lifted up by forces coming from the centre of the earth.

The middle block is forced to sink.

The raised blocks are known as **horst** or **block** mountains.



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Examples of Block Mountains in Africa

Mountain	Country
Rwenzori	Uganda and DRC
Usambara , Ufipa, Pare, Uluguru, Umatengo	Tanzania
Matthew's range, mt. Ndoto	Kenya
Danakil	Ethiopia
Great Karas mountains	Namibia

Importance of faulting.

1. It led to formation of block Mountains.
2. It led formation of escarpments.
3. It led to formation of rift valley.

Activity

1. Name the type of mountains not found in Uganda.

2. Give another name for host mountains

3. What are Block Mountains?

4. How was Mountain Rwenzori formed?

5. What is faulting?

6. Name the highest block mountain in Africa.

7. Give **two** forces that led to the formation of Block Mountains.

8. Apart from Block Mountains, name other **two** physical features that were formed by faulting.

9. State any **two** importance of faulting.

10. Why do tourists like to visit mountainous areas of Uganda?

11. Soil erosion is a problem in mountainous areas.

a) What causes soil erosion on mountainous areas?

b) State any **two** problems caused by soil erosion on the mountainous areas of Africa.

c) Give any **two** ways a farmer can solve this problem.

SPELLING EXERCISE

1 2

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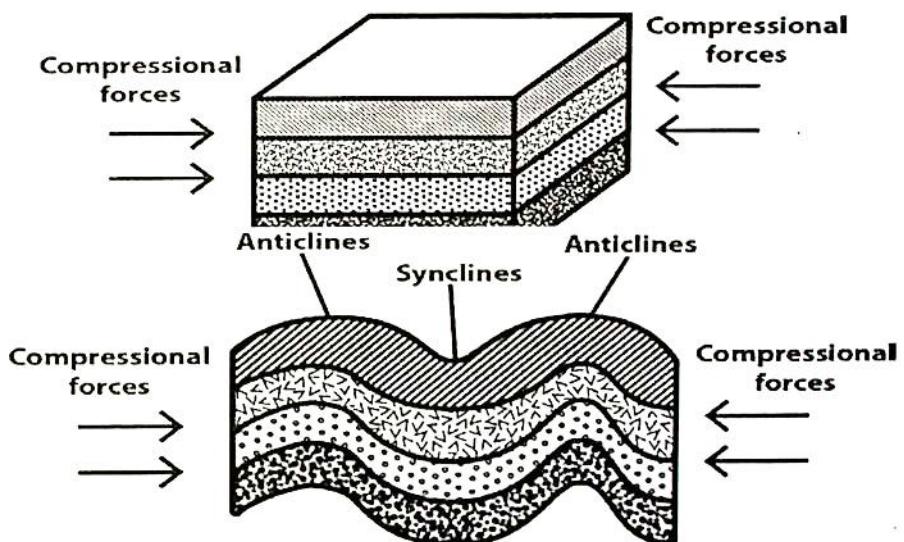
Lesson

Fold Mountains

- Fold Mountains are found near the edges of continents.
- They were formed as a result of folding/earth's rifting.
- This happened when two forces moving against each other made the young sedimentary rocks to fold upwards.
- The rocks that were very old would break
- The lifted parts are called **anticlines** and sunken parts are called **synclines**
- Forces that caused folding are called compressional forces.

Examples of Fold Mountains in Africa:

1. Atlas Mountains in Morocco (North West Africa)
2. Cape ranges in South Africa



The raised parts of a fold mountain is called anticlines.

The sunken parts of a fold mountain is called the synclines.

Guided Activity

- What are Fold Mountains?

- How were Fold Mountains formed?

- Name the forces that led to the formation of Fold Mountains.

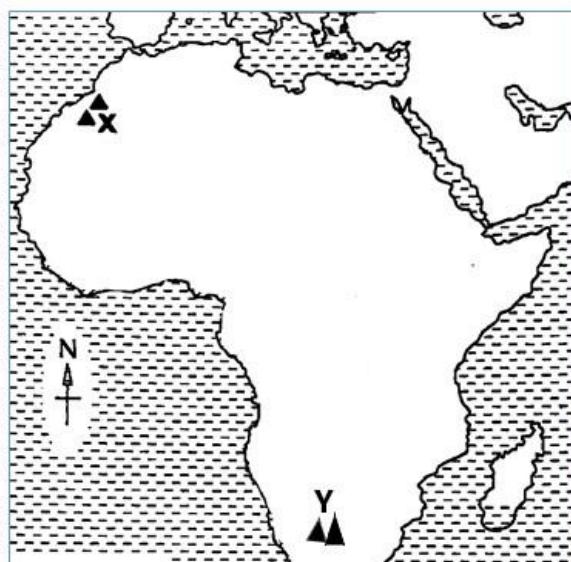
- What name is given to the sunken part of a fold mountain?

- What do we call the uplifted part of a fold mountain?

- Name **two** examples of fold Mountains in Africa.

- How are Drakensberg Mountains different from Atlas Mountains in terms of formation?

Use the map below to answer the questions that follow.



8. What process led to the formation of feature marked with letter **X**?

9. State **two** economic importance of features **X** and **Y** to people.

10. Give the similarity between feature **X** and **Y** in term of their formation.

11. Describe the climate around the feature **X**.

12. Apart from mountains, highlands, rift valleys, give any **two** other physical features found in Uganda.

Lesson

Importance of mountains and highlands

economic importance of mountains

1. They attract tourists who bring income.
2. They have fertile soils for crop growing.
3. They help in rail formation.
4. They create employment to people.
5. They are sources of mineral deposits.
6. Some mountains are source of some rivers which attract tourists.

Social importance of mountains.

1. They are used for study research.
2. They provide shelter to wild animals.
3. They provide rocks for building.

Political important of mountains to African countries

They form natural borders between countries.

Disadvantages of mountains

1. Mountains make construction of roads and railways difficult.
2. When some volcanic mountains erupt, they kill people and destroy crops.
3. They harbour dangerous animals.
4. They are barriers to rain bearing winds.
5. They promote severe soil erosion

Activity

1. Mention any **two** economic importance of mountains.

2. State any **two** tribes which settled at the slopes of mountains in Uganda.

3. Mention any **two** social importance of mountains.

4. How are mountains politically important to African countries?

5. How do Mountains influence or affect climate?

6. How do mountains help in rain formation?

7. Mention any **two** economic activities carried around highlands and mountains

Lesson

Problems facing people who live in mountainous areas

1. Cold nights
2. Poor transport and communication
3. Landslides
4. Land shortage due to high population.
5. There is a problem of land fragmentation.
6. Poor sanitation.
7. Poor agricultural mechanization
8. Limited construction spaces
9. Hiding places for dangerous people and wild animals
10. Soil erosion

Solutions to problems faced by the people in mountainous areas

1. Planting trees to avoid landslides
2. They construct winding roads.
3. Use of ox-ploughing where tractors cannot work
4. Avoid deforestation on mountain slopes
5. The farmers terrace their land to control soil erosion.
6. Use of animal transport to simplify transport.

Animals used for transport are called pack animals. Examples are horses, donkeys, camels.

Donkeys are commonly used in mountainous areas; camels are widely used in desert areas of Africa.

Activity

1. Give any **two** disadvantages of mountains.

2. What causes land fragmentation in mountainous areas?

3. What is a rain shadow?

4. Mention any **two** challenges faced by people living near mountainous areas.

5. Give any **two** possible solutions to the above problems.

6. What are pack animals?

7. Mention any **one** pack animal commonly kept in:

Desert areas of Africa: _____

Mountainous areas of Uganda: _____

8. Give any **two** ways of controlling soil erosion in mountainous areas

Lesson

Ways mountains and highlands hinder the economic development of an area.

- They cause poor transport.
- They cause landslides which destroy property.
- They erupt and destroy people's property.
- They act as hideout of rebels.
- They experience soil erosion which affects agriculture.

Ways mountains and highlands affect transport network

- They make the construction of transport routes difficult.
- It is expensive to construct roads
- They experience landslides which destroy transport routes.

ways of solving the problem of poor transport network in mountainous areas

- By constructing winding roads.
- By encouraging people to keep donkeys.
- Heavy rainfall is the major cause of landslides in highland areas.
- Landslides and mudslides can be controlled in highland areas by planting more trees.

Effects of landslides

1. It leads to death
2. It displaces people
3. Destroy property

Activity

1. How is landslides different from mudslides?

2. Mention any **two** disadvantages of mountains.

3. State **two** problems facing people who live in mountainous areas.

4. Mention any **two** ways mountains and highlands hinder the economic development of an area.

5. State any **two** ways mountains and highlands affect transport network?

6. Give any **two** ways of solving the problem of poor transport network in mountainous areas.

7. Give **one** reason why mechanization is difficult in highland areas

8. Give any **two** reasons why people settle in highland and mountainous areas

9. Why there are few people living in higher parts of mountains?

LESSON

Basins

A basin is a large low-lying land found within the earth's surface.

It can be between a plateau and a plateau or highlands.

Africa has the basins below;

- | | | |
|-------------------|-----------------|-------------------|
| 1. Congo basin | 4. Niger basin | 7. Limpopo basin |
| 2. Chad basin | 5. Nile basin | 8. Victoria basin |
| 3. Okavango basin | 6. Orange basin | 9. Zambezi basin |

Human activities in basins

1. Farming
2. Sand mining
3. Fishing
4. Brick making
5. Tourism

LESSON

1. What is a basin?

2. How were basins formed?

3. State any **two** factors which make farming attractive in the basins.

4. Mention any **two** fishing grounds found in the basins of Africa.

5. Of what importance are the sand mined from the basins of Africa.

6. State any **two** examples of basins in Africa.

7. State any **two** economic importance of basins to the people of Africa.

8. Suggest any **two** problems faced by people living in the basin areas of Africa.

THE COASTAL PLAINS

The coastal plain is a low-lying region near the coasts of Africa.

A coastal plain is a narrow strip of land which borders an ocean or sea.

Tourist attractions found at the coast.

- Rivers
 - Seaports
 - Coral reefs
 - Oil refineries
 - Beaches
 - Coastal harbours
- ✓ The coast is a narrow strip of land between the ocean and the land.
 - ✓ Some parts of coastal plain have an altitude of 250m above the sea level.
 - ✓ Some plains are wide especially in Eastern Africa and West Africa.
 - ✓ The coastline of Africa is generally regular and narrow.
 - ✓ The African coasts have few natural harbours because the land slopes up gently to the shore.
 - ✓ Or because it is regular and narrow.
 - ✓ Natural harbours occur in where there are inlets into the land which form bays.
 - ✓ A bay is part of the sea partly surrounded by a curve of land.
 - ✓ The West African coast has many lagoons because it is indented/irregular.
 - ✓ A lagoon is a lake formed when sea water is separated by sand or mud.
 - ✓ **Cities** like Lagos in Nigeria, Abidjan in Cote d'Ivoire and Durban in South Africa were built on islands near lagoons.
 - ✓ Lagoons are also found in the Nile delta. The coasts of Africa have coral reefs.

The economic activities done in the coastal plains

1. Farming-crops like cloves, oil palm, rubber, sugarcane, vines which produce grapes for making wine.
2. Mining
3. Fishing especially marine fish.
4. Shipping services.
5. Trading.
6. Oil refining and drilling.

Importance of coastal plains

1. Helps in the construction of seaports
2. There is fertile soil for growing crops
3. It promotes tourism

Activity

1. State the reason why the coast of Africa have many lagoons.

2. Mention any **two** importance of lagoons

3. Name any **two** cities in Africa built on lagoon islands

4. What is a coastal plain?

5. State any **one** examples of crops grown in the coastal plains

6. State any **two** economic activities carried out by people living along the coastal plains.

Lesson

Coral reefs

Coral reefs are hard rocks formed as a result of decomposition of sea animals called polyps.

Coral reefs protect coastlines from being damaged by strong waves and storms.

Importance of coral reefs

1. Coral reefs are used to make cement
2. Coral reefs attract tourists.
3. They are used to make jewellery
4. They are homes of wild animals

Disadvantages of coral reefs

1. They are dangerous to water transport because they damage ships
2. They also make it difficult for ships to enter the harbour easily
3. They harden fishing activities
4. They breakdown to form infertile soils
5. They make water transport impossible

Problems facing coral reefs

1. Silting: decomposition of sand into water bodies.
2. Contamination of water
3. Climate change

Guided Activity

1. What are coral reefs?

2. State any **two** importance of coral reefs.

3. State any **two** dangers of coral reefs.

4. Give any **two** ways coral reefs hinder water transport.

5. How are coral reefs economically important to coastal countries?

6. Why do you think that there is no coral reefs in Uganda?

The Great Rift Valley of Africa

A rift valley is a long wide depression on the earth's surface.

The steep sides of a rift valley are called escarpments.

- ✓ The great rift valley of Africa starts from Syria and runs through Jordan valley in the Middle East, the gulf of Aqaba, Red sea, Ethiopia, Kenya , Uganda, Tanzania and ends at Beira in Mozambique.
- ✓ The Rift Valley was formed by the process of faulting and by the help of either Tensional or compressional forces.
- ✓ The faults occurred as a result of disturbances in the earth's crust.
- ✓ The highest floor of the rift valley is found around **Lake Kivu** and the lowest is around Lake **Tanganyika**.
- ✓ Scarps/escarpments are steep sides of the rift valley.
- ✓ Scarps are a problem to people who live in a rift valley because they make it difficult to build roads.

The four arms of the great rift valley of Africa:

a) The Ethiopian Rift Valley

It enters Ethiopia from Red Sea.

It has Lake Abaya and Danakil depression.

b) The Western Rift Valley

It runs through Uganda, Rwanda, Burundi and Tanzania.

It has lakes like; Lake George, Lake Albert, Lake Edward, Lake Kivu and Tanganyika and Lake Rukwa.

c) The Eastern Rift Valley

It runs through Kenya and Tanzania.

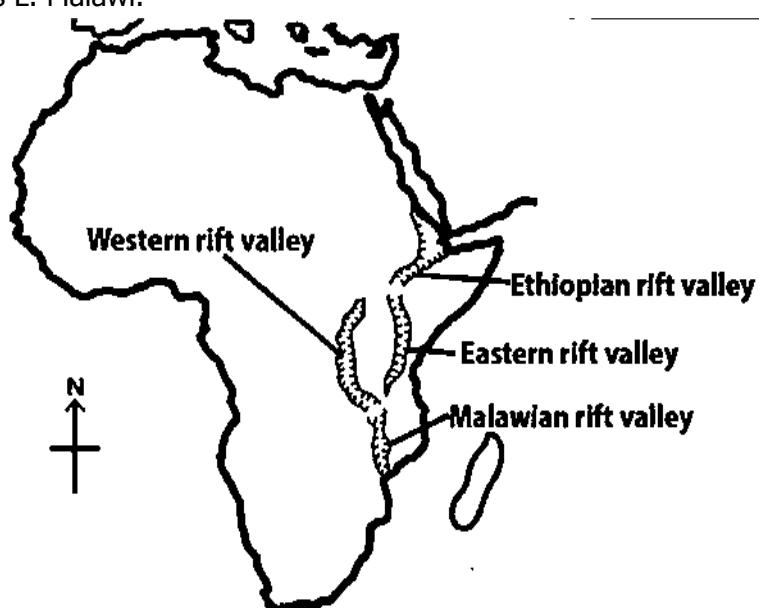
It has lakes like Turkana, Nakuru, Natron, Manyara, Magadi, Eyasi, Lake Naivasha, and Lake Baringo

It is the longest section of rift Valley in Africa.

d) The Malawian Rift Valley

It runs through Malawi to Mozambique.

The lake in this arm is L. Malawi.



Human activities carried in the Rift valley:

- | | | |
|------------|------------|-------------------|
| 1. Farming | 3. Tourism | 5. Crop growing |
| 2. Fishing | 4. Mining | 6. Animal rearing |

Problems experienced in Rift Valleys

1. High temperatures due to low altitude
2. They hinder road and railway construction.
3. Soil erosion
4. Many vectors
5. Land slides

Activity

1. Give **one** reason why the floor of the rift valley has high temperature.

2. Give any **two** characteristic of rift valleys.

3. Name any **two** lakes in Uganda found in the Western rift valley arm.

4. Give any **two** characteristics of a rift valley lakes

5. How did the Rift Valley affect the construction of Uganda railway?

6. Which lake in East Africa lies within the Eastern Rift Valley?

7. State any **two** economic activities carried out in rift valleys.

8. Mention any **two** types of transport hindered by rift valleys.

SPELLING EXERCISE

1 2

3 4

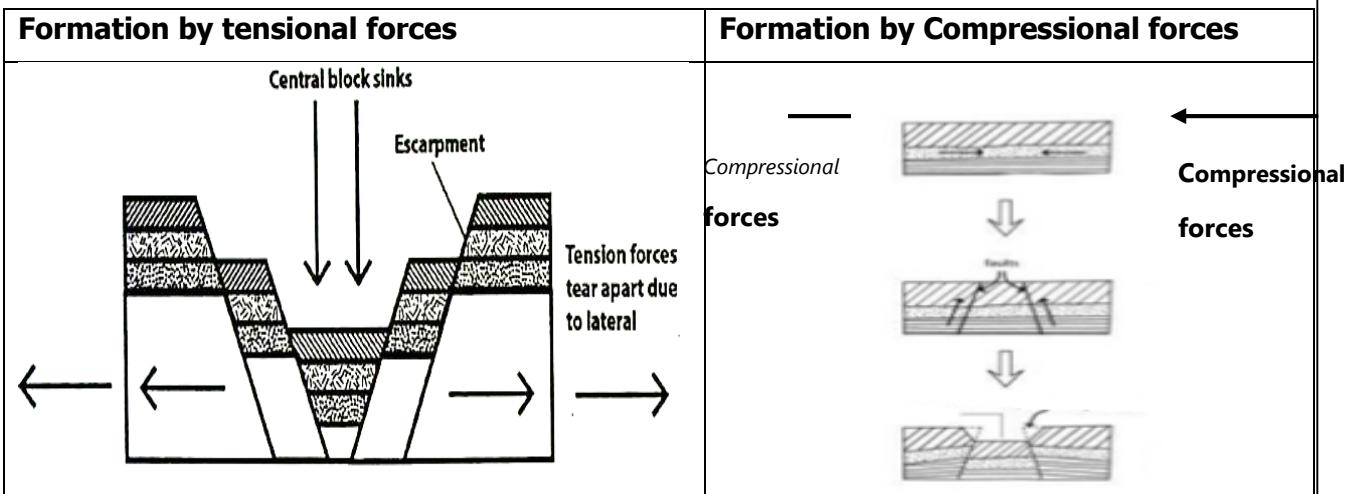
5 6

7 8

LESSON

How was a Rift Valley formed? →

1. It was formed by faulting process helped by compressional or tensional forces.
2. The central block sinks and forms a valley called rift valley.
Tensional forces



Problems faced by people living in a rift valley.

1. Landslides
2. High temperatures
3. Soil erosion
4. Poor transport

Importance of Rift Valley

1. It is a tourist attraction centre.

2. Rift valley lakes have minerals e.g. salt and soda ash.
3. Pastoralism is carried out in Rift valleys
4. It has a large space where wild animals are kept in game parks.
5. It has lakes where fishing is carried out.
6. It promotes wild life conservation.
7. It has plenty of pasture for animal rearing.
8. It forms natural boundaries between countries

Disadvantages of rift valleys

1. Poor transport system around rift valley areas.
2. Landslides are common.
3. It is affected by soil erosion
4. Floods are common
5. It experiences very high temperatures due to low altitude.

LESSON

1. How was the rift Valley formed?

2. Suggest any **two** common tourist attractions found in the rift valley.

3. Why are the steep sides of rift valleys dangerous to transport?

4. What causes landslides in rift Valley areas?

5. Mention any **two** areas of the great rift valley in East Africa.

6. State any **two** economic activities carried out in the rift valleys.

7. Name the major escarpment of the Ethiopian arm of rift valley.

8. Name the major economic activity carried out in rift valley.

9. Give any **two** problems faced by people living in a rift valley.

THE DRAINAGE SYSTEM OF AFRICA

Drainage is the water ground system of an area.

The following are the main features of drainage features:

- | | |
|--------------------|-----------|
| 1. Drainage basins | 3. Rivers |
| 2. Lakes | 4. Swamps |

RIVERS IN Africa

❖ **A river** is a mass of flowing water on the earth's surface.

Africa is drained by many rivers.

The rivers are grouped in to two types.

1. Perennial or permanent rivers
2. Seasonal rivers

Most of the rivers have their sources in highland areas **because** these areas receive reliable rainfall.

Seasonal rivers

These are rivers that flow mainly during the rainy season and dries up during dry season.

Examples of seasonal rivers:

- i) R. Agago – Uganda
- ii) R. Turkwel – Kenya

Permanent rivers

Permanent rivers are rivers which flow season to season throughout the year.

Examples

- a) R. Katonga, Nile, Kafu, SezibwaNkusi in Uganda
R. Tana and Gana in Kenya
R. Pangani, Ruvuma and Rufiji in Tanzania.

Major rivers in Africa:

Rivers	Length	Main tributary (ies)	Source	Mouth	Nature of mouth
R. Nile	6500km	Atbara, Blue Nile, White Nile R. Bahr-el-Ghazel, Achwa, Kafu	Lake Victoria	Mediterranean Sea	Delta
Congo	4800km	Ubangi, Kasai, Lukaga, Lualaba, Luapula	Southern rift valley and Angola plateau	Atlantic Ocean	Estuary
Niger	4000km	Benue	Futa Djallon	Atlantic Ocean	Delta
Zambezi	3000km	Linyonti, R. Kafue	Angola plateau	Indian Ocean	Delta
Orange	2100km	Korocodile, Enruvuhu, Magalawena, Suna, Singuendeze	High veld	Atlantic Ocean	Estuary
Limpopo	1700km		Fouta Djallon	Indian Ocean	Estuary
Senegal	1700km	White, black Volta, Oti	Burkina Faso	Atlantic Ocean	
Volta	1100km	Vaal, Modder, Caledon	Drakensberg Mts.	Atlantic Ocean	Estuary

Rivers that pour their water into Lake Victoria.

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> River katonga | <input checked="" type="checkbox"/> River kagera | <input checked="" type="checkbox"/> River Nzoia |
| <input checked="" type="checkbox"/> River Yala | <input checked="" type="checkbox"/> River Mara | <input checked="" type="checkbox"/> River Sio |

Rivers in Africa that pour their water into Atlantic Ocean.

- | | | |
|--|--|---|
| <input checked="" type="checkbox"/> River Orange | <input checked="" type="checkbox"/> River Volta | <input checked="" type="checkbox"/> River Senegal |
| <input checked="" type="checkbox"/> River Niger | <input checked="" type="checkbox"/> River Gambia | <input checked="" type="checkbox"/> River Cuanza |

Rivers in Africa that pour their water into Indian Ocean.

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> River Ruvuma | <input checked="" type="checkbox"/> River Tana | <input checked="" type="checkbox"/> River Juba |
| <input checked="" type="checkbox"/> River Rufiji | <input checked="" type="checkbox"/> River Limpopo | <input checked="" type="checkbox"/> River Zambezi |

Rivers in Africa that end in delta.

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> River Nile | <input checked="" type="checkbox"/> River Zambezi | <input checked="" type="checkbox"/> River Rufiji |
| <input checked="" type="checkbox"/> River Niger | <input checked="" type="checkbox"/> River Tana | <input checked="" type="checkbox"/> River Semliki |

Mention the rivers in Africa that end with an estuary.

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> River Congo | <input checked="" type="checkbox"/> River Senegal | <input checked="" type="checkbox"/> River Volta |
| <input checked="" type="checkbox"/> River Limpopo | <input checked="" type="checkbox"/> River orange | |

Rivers originate from the following features;

1. Lakes
2. Highlands
3. Melting snow / Glaciers
4. Springs

Guided Activity

1. Name the river which influenced the coming of the most explorers in Africa.

2. State any **one** reason why the colonialists were interested in finding out the source of River Nile.

3. How was River Nile responsible for the coming of the first Europeans to Uganda?

4. How does Sudan benefit from River Nile?

5. Name the rapids along river Niger where Mungo Park drowned.

6. State any **one** economic importance of River Tana to Kenya

7. Into which Sea does River Nile flow?

8. State **two** advantages of River Nile to the people who live along it

9. Give any **one** problem that people who live along River Nile experience

10. State any **one** reason why the delta of River Nile is densely populated

11. Explain the meaning of these words

a) Tributary of a river

b) Mouth of a river

c) Distributary of a river

12. Libya has **one** of the largest man-made rivers in the world.

a) Name the river.

b) Suggest **one** reason why this river was constructed

SPELLING EXERCISE

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LESSON Stages of a river

A river has three stages / courses

1. Upper course / Youthful stage
2. Middle course
3. Lower course / old stage

Upper course (youthful stage)

This is the stage where a river starts from and normally located on a higher altitude.

Characteristics of Upper/ youthful/ torrent course:

1. Waterfalls and rapids are formed.
2. The river is narrow.
3. The river is so destructive with gorges formed.
4. The river forms steep slopes.
5. Water flows on a fast speed in a V-shape
6. There is much erosion due to fast flow of water.
7. The river is used in generating hydro electricity

Importance of the upper stage of a river.

1. It has waterfalls which help to generate HEP.
2. It has Waterfalls and rapids which attract tourists.
3. It favours water sporting games e.g. rafting.

Guided activity

1. Give any **two** reasons why many rivers in east Africa are not navigable.

(i) _____

(ii) _____

2. What stage of a river are deltas or estuaries common?

3. Which stage of river is suitable for the generation of hydro electricity?

Middle course (mature/ food stage)

This is the second stage of a river

A river changes its shape from V to U shape.

The water begins to reduce its speed due to the increased width in the river.

Characteristics of the middle course:

1. The river is wide.
2. The rivers flow gently
3. It begins to meander
4. It forms a U shaped valley
5. It begins to form meanders.
6. It has large amount of water.

Importance of the middle stage of a river.

1. It is most suitable for navigation.
2. It is used for fishing.

Lower course (old stage)

- ✓ It also called the **senile stage** or **plain stage**.
- ✓ This refers to the old or weak stage of a river on its course.
- ✓ It opens as the river is almost ending its journey to the lake, sea or ocean.

Characteristics of the lower stage of a river

- ❖ Ox-bow lakes and meanders are formed.
- ❖ The rivers form deltas and estuaries
- ❖ The river flows slowly
- ❖ River meandering causes flood plains due to deposition at the old stage of a river.

Features formed at the lower stage of a river.

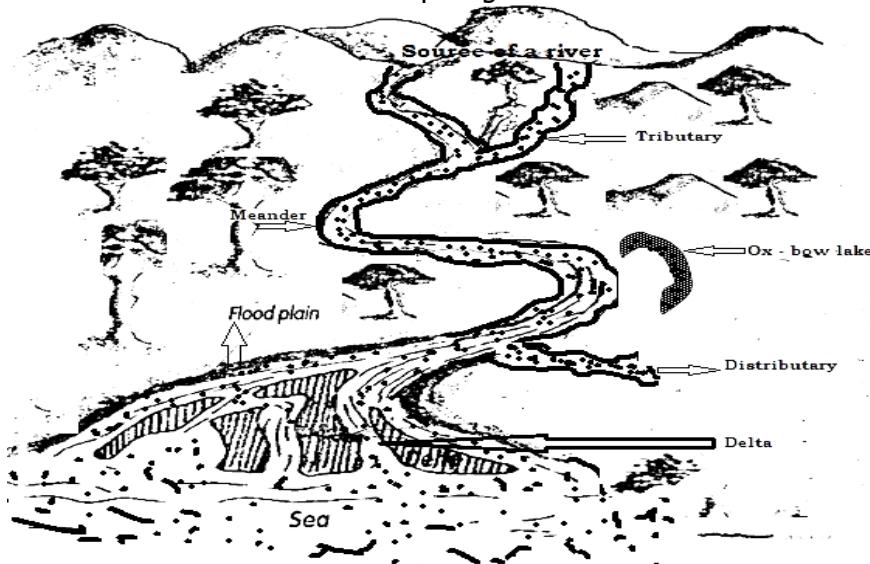
- Delta
- Ox – bow lakes

Importance of the lower stage of a river.

- It has fertile soils which favour crop growing.
- It has an ox – Bow Lake which attracts tourists.
- It forms a delta which attracts tourists.
- It favours fishing

reason why there is no generation of HEP at the lower stage of a river

There are no features which help to generate HEP.



Terms related to the rivers

- ❖ **Tributary** is a small river that flows into the main river.
- ❖ **Distributary** is a small river that flows away from the main river.
- ❖ **Source of a river** is a point where a river starts flowing.
- ❖ **Mouth of a river** is a point where a river pours its water.
- ❖ **Confluence** is a place where two or more rivers meet.
- ❖ **Course** is the direction a river moves in.
- ❖ **Watershed** is a line of highland separating two streams which flow into different rivers.
- ❖ **Riverbank** is a side of a river.
- ❖ **Estuary** is where a river widens as it reaches its mouth.
Estuary is a large mouth of a river.

Africa's rivers that end in estuaries are: Congo, Ruvuma, Pangani, Gambia, Orange and Senegal

Importance of estuaries

1. Used for water transport
 2. Attract tourists
- ❖ **Delta** is where a river forms several streams as it ends its course.
Deltas are formed as a result of deposition

Examples of rivers with deltas

River Nile, Niger, Zambezi, Semliki, Tana and Rufiji.

Importance of deltas

1. They have fertile soil for agriculture
2. Favourable climate for settlement
3. Attract tourists

Waterfalls:

- ✓ Waterfall is a point where flowing water in a river falls from high altitude to low altitude.
- ✓ Waterfalls are formed when water flows over a cliff (steep slope) or hard rock.

A cataract: Is a large waterfall.

A rapid: is a small waterfall.

the features on a river that help in generating HEP.

- | | |
|----------------|-------------|
| ✓ Waterfall | ✓ Gorge |
| ✓ Water rapids | ✓ Cataracts |

Importance of waterfalls:

1. They are used to generate hydro electricity.
2. They attract tourists who bring income
3. They are used for rafting

Economic importance of rivers

1. They attract tourist for income.
2. They help to generate hydroelectric power.
3. They provide fish to people.
4. They provide water for industrial use.
5. They provide water for irrigation.
6. Some rivers are used for transport.

Creative Printers

Other uses of rivers

1. They help in the formation of rainfall.
2. They are used for recreation.
3. They provide materials for craft work.
4. They have fertile soils for farming.
5. They provide water for domestic use.

Problems caused by rivers

- | | |
|-------------------------------------|---|
| a) Soil erosion | d) They keep dangerous water animals. |
| b) Floods | e) They hinder road and railway construction. |
| c) Water borne diseases and vectors | |

Problems facing rivers

- | | |
|----------------------|------------------------|
| a) Dumping of wastes | c) prolonged drought |
| b) silting | d) bad fishing methods |

Guided Activity

1. Why do many rivers in East Africa flow towards Indian Ocean?

2. Give **two** reasons why most rivers have their source in mountain areas.

(i) _____

(ii) _____

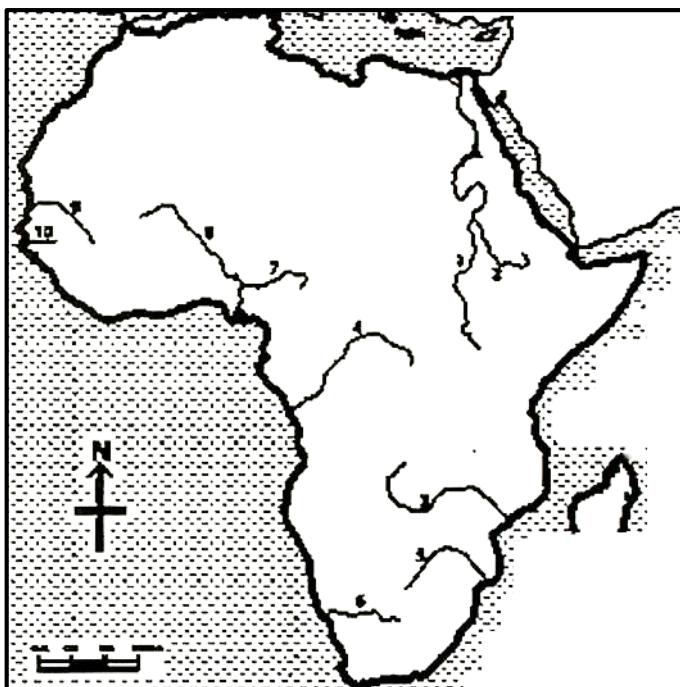
3. In which way do rivers influence human settlement?

4. Give **two** reasons why River Congo drains a lot of water into Atlantic Ocean.

(i) _____

- (ii) _____
5. In which **two** ways can rivers be a disadvantage to people?
(i) _____
(ii) _____
6. Give **two** reasons why some rivers are not used for transport?
(i) _____
(ii) _____
7. Give **two** reasons why it is believed that early civilization started along river valleys.
(i) _____
(ii) _____
8. Mention **two** problems faced by rivers in Africa.
(i) _____

Creative Printers



- (ii) _____
9. In which way do rivers influence the way of living of:
(a) Animals

- (b) Plants

10. **Below is a map of Africa. Use it to answer the questions that follow.**
11. Name the lake marked 1 to 10
12.
13. How do rivers promote industrial development?

SPELLING EXERCISE

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Some of the African rivers

River Nile

River Nile is the longest river in Africa

It has its source in Lake Victoria which is found in Jinja district in Uganda

Upper Nile is found in Uganda. Mediterranean Sea is the mouth of river Nile.

Note: River Nile forms a delta as it pours its water in the Mediterranean Sea.

River Nile is the only river in Africa that flows northwards.

Most rivers in east Africa flow northwards.

Reasons why River Nile flows northwards.

- Uganda's plateau tilts northwards.
- Its source is on a higher altitude than northwards.

Lakes drained by river Nile in Uganda.

- Lake Kyoga
- Lake Albert

Parts/sections of river Nile.

- Victoria Nile (from Lake Victoria to Lake Albert)
- Albert Nile (from Lake Albert to Nimule town)
- White Nile (from Nimule town to Mediterranean Sea)

Blue Nile River joins the White Nile River at Khartoum in Sudan

River Achwa is the biggest main tributary of River Nile.

Lake Tana in Ethiopia was formed by faulting. It is **the source of the Blue Nile**

Activity

1. Name the longest river in Africa.

2. Name the source of river Nile.

3. In which country do we find upper Nile?

4. In which district do we find the source of river Nile?

5. Name the mouth of river Nile.

6. Name two lakes drained by river Nile in Uganda.

7. Name **three** parts/sections of river Nile.

8. Give **two** reasons why River Nile flows northwards.

9. Name the place where the Blue Nile River joins the White Nile River.

10. Name the biggest main tributary of River Nile.

The Nile Valley

This is the area drained by river Nile, its tributaries and distributaries.

Nile valley countries

African countries crossed by river Nile are called Nile Valley Countries

These are countries drained by river Nile, its tributaries and distributaries.

Examples of Nile valley countries.

1. Uganda
2. Ethiopia
3. Sudan
4. The Republic of South Sudan
5. Egypt

Hydroelectricity Dams on River Nile.

- Nalubaale and Kiira dams in Uganda.
- Bujagali dam in Uganda.
- Rosseires dam in Sudan.
- Aswan High Dam in Egypt.

Importance of River Nile to Nile valley countries

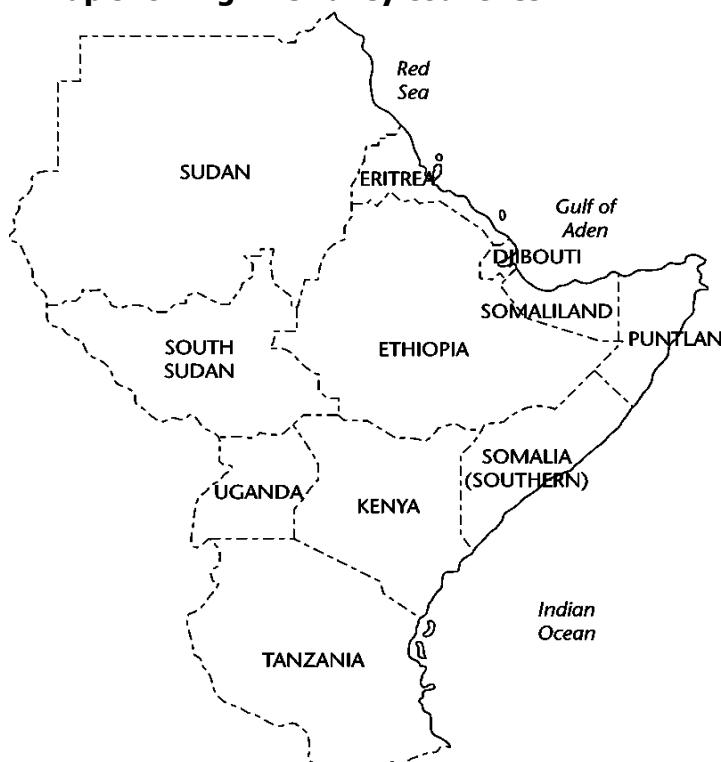
1. It is used for water transport.
2. It provides water for irrigation.
3. It provides water for domestic use.
4. It provides water for industrial use.
5. It helps to generates Hydroelectric Power.
6. It acts as a fishing ground.

Some parts of river Nile is not navigable(used for transport)

Reasons why some parts of River Nile are not used for water transport

- Some parts of River Nile have waterfalls.
- Some parts of River Nile have water rapids.
- Some parts of River Nile have sudds.
- Dangerous wild animals

A map showing Nile valley countries



Activity

1. Name the source of the Blue Nile?

2. In which country is Lake Tana found?

3. How was Lake Tana formed?

4. What are Nile valley countries?

5. Name four examples of Nile valley countries in Africa.

6. How is River Nile economically important to Nile valley countries?

7. Why are some parts of River Nile not used for water transport?

SPELLING EXERCISE

1 2

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Lesson

River Congo

River Congo is found in the equatorial rainforests of DRC.

It pours its water into **Atlantic Ocean**.

River Congo carries the largest volume of water than other rivers in Africa

Reasons why river Congo carries largest volume of water.

- It has many river tributaries.
- Its source is in the region which receives heavy rainfall.
- It flows through the equatorial rainforests which receive heavy rainfall.

Tributaries of river Congo include Kasai, Lualaba, Ubangi, Luapula

Some dams found on river Congo are: Nziro dam, Inga dams

River Niger

River Niger pours its water into Atlantic Ocean.

River Niger is the only river in Africa that flows gradually to the Sea.

River Benue is the main tributary of River Niger.

River Niger forms a delta at its mouth.

How river Niger delta is economically important to Nigeria

- It attracts tourists who bring foreign currency.
- It has many oil wells.

River Niger delta is one of the most populated areas in Nigeria.

Reasons why Niger delta is densely populated

- It has fertile soils for crop growing.
- It provides water for irrigation.
- It has many job opportunities.
- It has many oil wells.

- It attracts tourists which bring in foreign exchange
- It has favourable climate.

River Zambezi

River Zambezi is the fourth longest river in Africa.

Lake Kariba was formed as a reservoir along Zambia and Zimbabwe border.

River Zambezi flows through Zambia, Mozambique and Zimbabwe. It pours its water in the Indian Ocean.

Kafue dams in Zambia, Kariba dam at the border of Zambia – Zimbabwe and Carabora Bossa dams are the HEP dams found on river Zambezi.

River Volta

River Volta rises from Burkina Faso and flows southwards through Ghana and drains its water into the Atlantic Ocean. It has the biggest manmade lake in Africa: Lake Volta. Black Volta, White Volta and Oti are the main tributaries of river Volta.

River Ruvuma

It flows along Tanzania and Mozambique border.

River Ruvuma pours its water into Indian Ocean.

How is river Ruvuma politically important to Tanzania and Mozambique?

It forms a natural border between Tanzania and Mozambique.

River Orange

- It has its source in Drakensberg Mountains in South Africa.
- It pours its water into the Atlantic Ocean. River Vaal, Modder and river Caledon are tributaries of river Orange.
- H.E.P dams constructed along river Orange include: Vaal dam and Verwoerd dam.

Give two reasons why river orange flows westwards.

- It is due to low altitude towards west
- South Africa's land tilts westwards

Activity

1. Name the main tributary of River Niger.

2. How does river Niger delta economically important to Nigeria?

3. Why Niger delta is densely populated?

4. Name the lake in Ethiopia which supplies water to the blue Nile.

5. Mention any **two** tributaries of River Nile.

6. Name the river that borders Tanzania and Mozambique.

7. Name the river in Africa that carries the largest volume of water

8. State any **two** reasons why river Congo carries largest volume of water.

9. Name the river in Africa that flows gradually to the Sea

10. Name the main tributary of River Niger

11. State any **two** reasons why Niger delta is densely populated

LESSON

Dams found on different rivers in Africa

Country	River	Dams
Uganda	R. Nile	Nalubaale dam, Kiira dam, murchision falls dams
Sudan	R. Nile	Sennar dam, Jabel rainfa Aulia dam
Egypt	R. Nile	Aswan High Dam
Zambia	R. Zambezi	Kariba dam, Kafue dam
Kenya	R. Tana	Seven folks dam
Ghana	R. Volta	Akasombo dam, Kpong dam
DRC	R. Congo	Inga dam, Nziro dam
South Africa	R. Orange	Henrik dam, Verwoerd dam
Nigeria	R. Niger	Kainji dam
Mozambique	R. Zambezi	Cabora bossa dam

MULTIPURPOSE RIVER PROJECTS

These are projects set up on a river to serve more than one purpose.

These are dams constructed on major rivers to serve more than one purpose of development.

Examples of multipurpose river projects in Africa

River	Project	Country	Use
Nile	✓ Nalubaale Dam ✓ Kiira dam ✓ Aswan High dam ✓ El Rossiers ✓ Sennar dam ✓ Gezira Irrigation Scheme	Uganda Uganda Egypt Sudan Sudan Sudan	Generation of HEP HEP HEP HEP HEP HEP & Irrigation
Congo	✓ Nziro dam ✓ Inga dam	DRC DRC	HEP HEP
Niger	✓ Kainji dam	Nigeria	HEP
Zambezi	✓ Kariba dam ✓ Kafue dam ✓ Cabora Bossa	Zambia Zambia Mozambique	HEP HEP HEP & Irrigation
Volta	✓ The Volta Scheme ✓ Akasombo dam ✓ Kpong dam	Ghana Ghana Ghana	HEP & fishing / irrigation & transport HEP HEP
Tana	✓ Seven folks scheme ✓ Grand falls dam ✓ Kamburu dam ✓ Mutonga dam ✓ masinga dam ✓ Gitaru dam ✓ Kindaruma dam ✓ Kiambere dam	Kenya Kenya Kenya Kenya Kenya Kenya Kenya Kenya	HEP Irrigation & HEP Irrigation & HEP Irrigation & HEP Irrigation & HEP Irrigation & HEP HEP Irrigation
Orange river	✓ Vaal dam ✓ Verwoed dam	S. Africa S. Africa	HEP HEP
Pangani	✓ Pangani dam	Tanzania	HEP
Rifigi	✓ Mtera dam ✓ Kilombero valley	Tanzania Tanzania	Irrigation Irrigation

Factors considered before setting up a multipurpose river project

- Presence of constant flow of water.
- Presence of strong rocks.
- Presence of reliable market.
- Presence of labour.
- Presence of narrow steep sided gorge (**deep valley**)

Benefits from Multipurpose River projects

1. Generation of Hydro electric power.
2. Floods on rivers are controlled.
3. A lake formed is used for fishing.
4. A lake formed provides water for irrigation.
5. The project attracts tourists.
6. The lake is used for transport.
7. Multi-purpose projects help to control floods.
8. Some are sources of water transport e.g. River Volta in Ghana
9. They are a source of employment.
10. They promote industrial growth

Disadvantages of multipurpose river projects

- They lead to displacement of people.
- They are expensive to start and manage.
- They lead to destruction of natural environment.
- People get diseases like bilharzia.

Activities carried out on multi-purpose river projects.

- | | |
|---|--|
| <input checked="" type="checkbox"/> Tourism | <input checked="" type="checkbox"/> Irrigation farming |
| <input checked="" type="checkbox"/> Fishing | <input checked="" type="checkbox"/> Generation of HEP |

Activity

1. What are multipurpose river projects?

2. Give **one** reason why multipurpose river are called so.

3. Name the multi-purpose river projects in Africa

4. Give any **two** examples of Multi-purpose River projects in Africa.

5. State the factors considered before setting up a multipurpose river project

6. Give **one** reason why multipurpose projects are built in areas with strong rocks.

7. Give any **two** importance of multipurpose river projects.

8. Give any **two** disadvantages of multipurpose river projects

9. State any **two** activities carried out on multi-purpose river projects.

ASWAN HIGH DAM

Aswan high dam was constructed on R. Nile in Egypt.

It is the largest dam along R. Nile.

Lake Nasser is the manmade lake found behind the Aswan High Dam.

Aswan High dam was built in 1970 by **Russian engineers**.

Contributions of Aswan high dam to the economy of Egypt

- | | |
|--|--|
| 1. The dam generates Hydro Electric Power. | 4. It is used for transport and fishing. |
| 2. It helps to provide water for irrigation. | 5. People get water for domestic use. |
| 3. It helps to control annual floods. | 6. It creates employment. |

Factors to consider when setting up a dam

1. Presence of hard rocks to build on the foundation.

2. Presence of constant fast running water.
3. Availability of ready market to consume the H.E.P.
4. Presence of capital
5. Presence of reliable market
6. Presence of narrow steep sided gorge (deep valley)

Disadvantages of multi-purpose river projects

1. They may cause displacement of people.
2. A lot of money is spent on constructing the dam and resettling people
3. Some lines of communication are blocked when building the dam.
4. They occupy big areas which would have been used for other purposes.

Guided Activity

1. On which river was Nalubaale dam constructed?

2. Name the country in which Kiira dam is located.

3. Name any **two** dams constructed on R. Zambezi in Zambia

4. What do you understand by multipurpose river projects?

5. Apart from irrigation, mention any **one** other river project found on Cabora Bossa in Mozambique.

6. Mention **two** benefits from Multipurpose River projects.

7. Name the largest dam constructed along R. Nile in Egypt.

8. Mention **two** contributions of Aswan high dam to the economy of Egypt

9. State **two** factors to consider when setting up a dam

10. Mention **two** disadvantages of multipurpose river projects.

LESSON

LAKES IN AFRICA

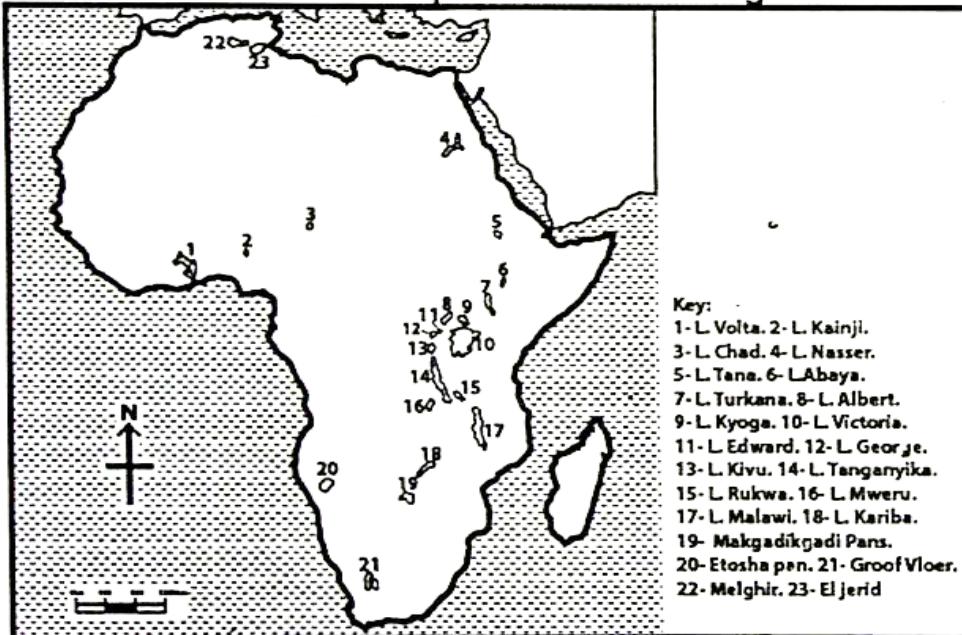
Lake is a large mass of water surrounded by land.

Lakes are formed when very wide holes on the earth's surface are filled with water.

Funny facts about lakes in Africa

- ✓ Lake Victoria is the largest lake in Africa.
- ✓ Lake Tanganyika is the longest and deepest lake in Africa.
- ✓ Lake Volta is the largest manmade lake in Africa.
- ✓ Lake Ngami is a seasonal lake found in Kalahari Desert.
- ✓ Lake Amboseli is an example of seasonal lake in Africa.

Map of Africa showing lakes.



Types of lakes

There are different or several types of lakes in Africa.

- 1. Rift valley lakes
- 2. Crater lakes
- 3. Human made lakes
- 4. Depression lakes
- 5. Volcanic lakes (Lava dammed lakes)
- 6.
- 7. Ox-bow lakes
- 8. Lagoon lakes

Activity

1. Name the longest lake in Africa.
2. Mention any **two** countries shared by the largest lake in Africa.
3. Name the lake where oil has been discovered in Uganda.
4. Give **two** means of transport used on Lake
5. Give **one** example of a seasonal lake found in Kalahari desert.
6. In which way is the formation of Lake Kyoga different from that of Lake Edward.
7. Apart from providing water for industrial use, how has Lake Victoria contributed to the growth of industries in Uganda?
8. Give any **one** reason why you think that Lake Victoria is at higher altitude than Lake Kyoga.
9. Which lake is shared by all the three East Africa countries?
10. Why is the lake mentioned above referred to as inter territorial lake of Africa?
11. In which way does the river Nile show that Lake Victoria is at a higher altitude than Lake Kyoga?
12. State **two** factors which have contributed to the existence of natural forests around Lake Victoria
13. Which lake in East Africa lies within the Eastern Rift Valley?

Creative Printers

14. Why is the area around Lake Victoria suitable for farming?

Lesson

Volcanic lakes

These lakes are formed as a result of volcanicity (volcanic activities)

Volcanicity is the process by which molten rocks (magma) is exposed on the earth's surface

Give three types of volcanic lakes.

They are:

1. Caldera lakes.
2. Crater lakes.
3. Lava dammed lake

i. Crater lakes

They are lakes formed when water collects in craters of extinct volcanoes.

Crater lakes were formed by volcanicity (volcanic activities)

They are found on dead volcanic mountains e.g

- | | | |
|-----------------|------------------------|--------------------------|
| 1. L. Muhavura, | 5. lake Tana | 9. L. Nyakasura |
| 2. Ngorongoro, | 6. Lake Nyungu | 10. L. Nyamunuka |
| 3. Nyamunuka, | 7. L. Katwe (largest) | 11. L. Basumtwi in Ghana |
| 4. lake Kivu, | 8. L. Muhavura | 12. Panjam in Nigeria |

Lake Katwe is the only Crater Lake found on the floor of rift valley in Africa

Characteristics of crater lakes.

- ✓ They are salty.
- ✓ They have steep walls.
- ✓ They have no outlets.

ii. Lava dammed lakes:

Lava dammed lakes are formed as a result of volcanicity.

Lava dammed lakes are formed as a result of lava blocking the drainage system of a river.

They are formed as a result of lava flowing blocking a river.

Examples of Lava dammed lakes

- | | |
|--------------------------|------------------------------|
| 1. L. Mutanda in Uganda | 5. Lake Mlehe |
| 2. L. Edward in Uganda | 6. L. Kivu in Rwanda and DRC |
| 3. L. Bunyonyi in Uganda | 7. L. Tana |
| 4. Lake Bulera in Uganda | 8. Lake Nyos in Cameroon |

Lake Bunyonyi is the deepest lake in Uganda.

iii. Caldera lakes

A caldera is a large round depression created on top of a dead volcano

Caldera lakes are enlarged and deepened crater lakes

Lake Menengai in Kenya

Lake Ngozi in Kenya

Lake Longonot in Kenya

Mt. Meru in lake Tanzania

Lake Ngorongoro in Tanzania

Lesson

Rift valley lakes

They are formed when water collects in faulted valley.

These are lakes formed as a result of faulting.

Rift valley lakes are lakes found within the rift valley and were formed as a result of faulting.

Examples of rift valley lakes

- | | | |
|-----------------|-------------|-----------|
| ❖ L. Albert | ❖ L. Magadi | ❖ Edward |
| ❖ L. Tanganyika | ❖ Natron | ❖ Nakuru |
| ❖ L. Malawi | ❖ Eyasi | ❖ Magadi |
| ❖ L. Turkana | ❖ Baringo | ❖ Manyara |

Funny facts about lakes in Africa

Lake Albert, Turkana in Kenya and Lake Malawi in Tanzania are known for crude oil

Lake Edward is joined to Lake albert by River Semliki

Lake magadi in Kenya is known for salt and soda ash mining

Lake Nakuru in Kenya is known for flamingo and pelicans birds

Lake Malawi is the meeting point of both Western and Eastern arms of rift valley.

Characteristics of rift valley lakes

1. Most of them are deep.
 2. Most of them are narrow
 3. Most of them have regular shapes.
 4. Most of them have more inlets than outlets.
 5. Most of them are long.
 6. Most of them have salty water.
 7. They are mostly found in the rift valleys
 8. They have salty rocks underneath

Rift Valley Lakes have salty water because:

1. They have more in-lets than outlets.
 2. They have salty basement rocks.

Activity

- ### 1. How were rift valley lakes formed?

2. State any **two** characteristics of rift valley lakes.

3. Mention any **two** lakes in East Africa known for crude oil mining.

4. Name the tourist attraction at lake Nakuru.

5. On which lake does the Western and Eastern arms of rift Valley arm meet?

- ## 6. How important is lake Magadi to the Kenyan government?

7. Give **two** reasons why rift valley lakes have salty water.

8. Give **one** reason why fishing is not commonly carried out on rift valley lakes.

9. Why do most of the rift valley lakes have salty water?

10. Mention any **one** benefit that people living near Lake Katwe have.

SPELLING EXERCISE

1 **2**

3 **4**

5 **6**

7 8

LESSON

Sources of water for the lakes:

- ✓ Rainfall
- ✓ Streams
- ✓ River

Ox-bow lakes

They are formed as a result of river meandering and deposition.

A **meander** is a curved bend of a river

They are commonly found on meandering rivers on the **lower course**.

Rivers with ox-bow lakes

1. R. Semiliki –Uganda
2. R. Nyando – Kenya
3. R. Kilombero – Tanzania
4. R. Nile – Egypt
5. Lake Avangas in Gabon
6. Lake Manzala on the Nile delta in Egypt
7. L. Kanyaboli on River Yala in Kenya

Characteristics of Ox – bow lakes.

- ✓ They are formed by river meandering.
- ✓ They have oval shape.
- ✓ They are shallow.
- ✓ They sometimes seasonal.

Down warped lakes (depression lakes)

They were formed as a result of down warping

Down warped lakes are also called:

- ✓ Plateau lakes
- ✓ Fresh water lakes
- ✓ Basin lakes
- ✓ Natural lakes
- ✓ Depression lakes

Down warped lakes were formed by the earth's movement which resulted into the formation of depressions (basins) where water collected to form lakes.

Examples of down warped lakes

1. Lake Kyoga
2. Lake Victoria
3. Lake Ngami in Botswana.
4. Lake Bisinia
5. Lake Wamala
6. Lake Nakuwa
7. Lake Opeta
8. Lake Kwania.
9. Lake Chad in Chad
10. Lake Amboseli

Characteristics of depression lakes

1. They have fresh water.
2. They have both inlets and outlets.
3. They have irregular shape.
4. They are shallow
5. They are wide.
6. They have swampy surroundings

These lakes have fresh water because they have both inlets and outlets.

Lake Victoria is called inter-territorial lake because it is shared by three countries in the same region.

Lake Chad

- > Lake Chad is a basin lake formed by down warping.
- > It is the largest lake in the Chad basin.
- > Has fresh water from river Chari.
- > The name "Chad" means "large expense of water" or "lake"
- > The country Chad in central Africa got her name from Lake Chad.
- > The size of Lake Chad varies due to seasonal flooding of the surrounding wetlands.
- > The fact that L. Chad is in the Sahara desert, it experiences a high rate of evaporation.
- > This lake was explored by a German explorer Heinrich Barth whereas James Richardson died a few days before reaching the lake .
- > Lake Chad is the major inland source of water for Chad, Cameroon, Nigeria and Niger.

Lake Ngami

- It is located in Botswana near Okavango swamp.
- Lake Ngami is filled by Toughe River an effluent of Okavango delta.
- It dried up between 1965 and 1966 because of a long drought.
- Lake Ngami becomes muddy during the dry season.
- It has no natural outlet.

Lake Amboseli

- > This is the major lake in Kenya which is not found in the Rift valley.

Activity

1. State any **one** way in which lakes promote crop farming.

2. State any **two** main economic activities carried out on Uganda's fresh-water lakes

3. Give any **two** ways in which rivers and lakes influence the climate of Africa.

4. Name the type of lakes found on dead volcanic mountains.

5. Name the largest fresh water lake found on the central plateau of Uganda

6. How is Lake Victoria similar to Lake Kyoga in terms of formation

7. Name any **one** lake that forms a natural boundary between Uganda and the Democratic Republic of Congo.

8. Name **one** inland port found on Lake Victoria in Uganda.

9. What process led to the formation of Lake Kyoga?

lesson

Human-made lakes

These are lakes formed as a result of human activities e.g. pottery, dam construction

Human activities that may lead to formation of manmade lakes.

- ✓ Dam construction.
- ✓ Brick making.
- ✓ Digging ponds.

Examples of man-made lakes

1. Lake Kariba on R. Zambezi- Zambia
2. Lake Volta on R. Volta – Ghana
3. Lake Nasser on R. Nile – Egypt.
4. Lake Kainji on R. Niger – Nigeria
5. Kabaka's lake – Uganda
6. Kajjansi lake in Uganda
7. Namugongo Lake in Uganda

Characteristics of manmade lakes.

- ✓ They are shallow
- ✓ They are seasonal

NB: The largest man-made lake in Africa is lake **Volta** on **R. Volta** in **Ghana**.

Lake Nasser is the largest human made lake along river Nile.

LAGOON LAKES

A lagoon is a small lake separated from the sea by sand or mud.

Most lagoon lakes are found at the West African coast.

This is because West Africa has an indented coastline yet East Africa has a smooth coastline.

The largest lagoon is Keta in Ghana.

There are many lagoon lakes at the coast of Ghana mainly because it is indented.

Examples of lagoon lakes:

1. Lagos lagoon
2. Nokeu in Benin
3. Koule in Ghana
4. Igele in Gabon

Guided Activity

1. How were lagoon lakes formed?

2. Give **one** reason why there are many lagoon lakes in West Africa.

3. Give **one** reason why East Africa has no lagoon lakes.

4. Mention any **two** human activities that may lead to formation of manmade lakes

5. State any **two** characteristics of manmade lakes.

6. Name the largest man-made lake in Africa

7. On which river was Lake Nasser constructed?

8. Give any **two** examples of lagoon lakes in Africa.

LESSON

Importance of lakes in Africa

Economic importance of lakes to people.

1. They attract tourists who bring income
2. They are source of fish which is sold for income.
3. Lakes are sources of water for industrial use
4. Lakes are sources of water for irrigation.
5. Some lakes are sources of minerals which are sold for income
6. Lakes are used for water transport.
7. Lakes act as fishing grounds.

Social importance of lakes to people.

1. Lakes are used for recreation through swimming
2. Lakes help in rain formation
3. They provide water for domestic use.
4. They are homes of marine animals
5. They provide fish which is eaten as food.

Political importance of lakes to African Countries

Some lakes act as natural border between countries.

Dangers of lakes to people living near them

1. Flooding of the area.
2. Easy spread of water borne diseases
3. They are sources of water accidents.
4. They harbor dangerous aquatic animals
5. They harbour disease vectors.
6. Lakes hinder road and railway construction.

Problems facing lakes in Africa

1. Silting which reduces the depth of water bodies.
2. Overuse of water from lakes
3. Prolonged drought which lowers the water level.
4. Dumping of wastes into water bodies.
5. Water weeds
6. Over fishing

Activity

1. State any **two** values of lakes to people.

2. State any **two** lakes in Africa which share border between two countries?

3. Mention any **two** physical features used to fix the international boundaries.

4. State **one** reason why the above physical feature is used to fix the boundary.

5. How do lakes help to modify the climate of an area?

6. State any **two** dangers of lakes to people.

7. Mention **two** common animals which live in lakes

8. State any **two** common means of transport used on lakes in Africa.

9. What causes water accidents on lakes?

Lesson

How do people misuse lakes

- By over fishing
- By fish poisoning
- Through pouring wastes materials in water bodies.

Reasons why some lakes are shallow

- Due to silting.
- Some lakes are swampy.

How lakes help to promote agriculture

- They help in rain formation which supports crop growing.
- They provide water for irrigation.
- Lake shores have fertile soils for crop growing.

How lakes promote industrial growth

- Lakes provide water which is used as raw materials in water processing industries.
- Lakes provide water which is used for cooling engines of machines
- Lakes provide fish which is used in fishing processing industries.

Factors that attract people to live near lakes and rivers.

- Presence of fertile soils that favour crop growing.
- Presence of favourable climate.
- Presence of economic opportunities like fishing.

Reasons why water transport is difficult on some lakes in Africa.

- Some lakes have water weeds.
- Some lakes have big rocks.
- Some lakes are shallow.
- Some lakes are narrow.
- Some lakes have dangerous water animals.

Fishing in Africa

Fishing is the extraction of fish from water bodies.

In Uganda, fishing is under Ministry of Agriculture, Animal industry and Fisheries.

Fishing is a primary industry. It gives raw materials instead of the finished goods.

Fishing ground in Africa**Sources of fish (Fishing grounds)**

- | | | |
|-----------|-----------|---------|
| 1. Lakes | 4. Rivers | 7. Dams |
| 2. Swamps | 5. Ponds | |
| 3. Oceans | 6. Seas | |

Fish pond is a place where fish are reared.

Aquaculture is the rearing of fish in fish ponds.

Types of fish.

- Fresh fish
- Marine fish
 - Fresh fish is type of fish got from lakes and rivers
 - Marine fish is type of fish got from oceans and seas.

Examples of fish caught in Africa.

Tilapia ✓ Nile perch

Mud fish ✓ Million fish

- Nile perch is the largest fish caught in Ugandan lakes
- Tilapia fish is the commonest type of fish caught in East Africa

Methods used to catch fish**modern methods of fishing used in Africa.**

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Gillnetting. | <input checked="" type="checkbox"/> Trawling method. | <input checked="" type="checkbox"/> Drifting method. |
| <input checked="" type="checkbox"/> Purse method. | <input checked="" type="checkbox"/> Long line fishing. | <input checked="" type="checkbox"/> Seine fishing. |

Traditional/local methods of fishing used in Africa.

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Use of fishing hooks. | <input checked="" type="checkbox"/> Use of fishing spears. | <input checked="" type="checkbox"/> Use of fishing traps. |
| <input checked="" type="checkbox"/> Use of fishing baskets. | <input checked="" type="checkbox"/> Use of panga. | <input checked="" type="checkbox"/> Use of fishing rods. |

Bad fishing methods used in Africa.

- Fish poisoning.
- Fishing young fish.
- Use of under sized fishing nets.

Reasons why the government is discouraging bad fishing methods.

- To avoid fishing under sized fish.
- To avoid extinction of fish.
- To avoid water pollution

Ways the government of Uganda is preventing bad fishing methods.

- By educating people about the dangers of using bad fishing methods.
By teaching people about the advantages of good fishing methods.
By enforcing strict laws against bad fishing methods. ✓ By deploying army on lakes.

1. Why aren't there fish and any other living organisms in L. Katwe?

2. State any **one** challenge that fishermen in Uganda face in carrying out their work.

3. State any **two** bad fishing practices in Uganda

4. Give any **one** danger of fishing using undersized nets.

5. Give any **one** danger of fishing using poison.

6. In which **one** way do mangrove forests promote the fishing industry?
-

Lesson

Problems facing the fishing industry.

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Over fishing. | <input checked="" type="checkbox"/> Water weeds | <input checked="" type="checkbox"/> Shortage of fish market. |
| <input checked="" type="checkbox"/> Poor fishing methods. | <input checked="" type="checkbox"/> Price fluctuation of fish. | <input checked="" type="checkbox"/> Bad weather e.g. storms. |
| <input checked="" type="checkbox"/> Water pollution. | <input checked="" type="checkbox"/> Pirates | <input checked="" type="checkbox"/> Shortage of labour. |
| <input checked="" type="checkbox"/> Poor transport and communication. | <input checked="" type="checkbox"/> Shortage of capital. | <input checked="" type="checkbox"/> Poor storage of fishing facilities. |
| | <input checked="" type="checkbox"/> Dangerous water animals. | |

possible solutions to the problems facing the fishing industry.

- Teaching people better fishing methods.
- Teaching people better fish preservation methods.
- Teaching people about the dangers of polluting water bodies.
- Teaching people about the dangers of bad fishing methods.
- Enforcing strict laws against bad fishing methods and dumping of wastes into water bodies
- Constructing better roads.
- Creating ready market for fish.
- Constant removing of water hyacinth by the government.
- Relocating dangerous water animals to restricted areas.

Problems faced by fishermen in Uganda

1. Dangerous marine animals.
2. Drowning
3. Fish poisoning
4. Over fishing
5. Poor storage facilities
6. Pirates

Fish preservation

This is the ways of keeping fish caught for a long time without getting bad.

modern methods of preserving fish.

1. Freezing
2. Tinning/canning

Traditional/local methods of preserving fish.

1. By smoking.
2. By salting.
3. By sun drying.

Smoking method is dangerous to the environment because:

- ✓ It promotes deforestation
- ✓ Pollutes the environment

Guided Activity

1. Name the commonest method of preserving fish in Uganda.
-

2. Give any **one** modern way of preserving fish
-

3. State **two** traditional methods of catching fish in Uganda
-

4. Give any **two** reason why modern methods of catching fish are commonly used on Lake Victoria
-

5. State **two** reasons why it is not profitable to build a fish processing factory in Tororo
-

6. State any **two** ways in which smoking of fish cause environmental problems.
-

7. Name **two** countries to which Uganda exports fish
-

LESSON

Irrigation Scheme in Africa

An irrigation scheme is an area where crops are grown under the artificial supply of water from a natural source.

Irrigation is the artificial supply of water from a water body to a garden.

Reasons for irrigation

1. To increase production of crops.
2. To prevent crops from drying.
3. To grow crops throughout the year.
4. To put the useless land to use.
5. To increase crop yields.

What are methods of irrigation?

1. Canal method / Gravity irrigation.
2. Over flow method (sprinkler)
3. Using a watering can

Advantages of irrigation farming

1. Crops are grown throughout the year.
2. Crops give high yields.
3. Dry land is put to use.

Examples of irrigation schemes of Africa

Irrigation scheme	Country	Source of water	Crops grown
Gezira scheme	Sudan	Blue Nile	Cotton
Richard Toll	Senegal	River Senegal	Groundnuts
Awash valley	Ethiopia	River Awash	Rice
MweaTebere	Kenya	River Thiba, Nyamindi	Rice
Kilombero valley	Tanzania	River Kilombero	Sugarcane
Doho	Uganda	River Manafa	Rice
Mobuku	Uganda	River Mubuku	Rice
Shabelle	Somalia	River Shabelle	Bananas
Vaal	S. Africa	River Vaal	Groundnuts
Lake chad	Chad	River Chad	oats

GEZIRA IRRIGATION SCHEME

- ✓ Gezira irrigation scheme is located in Sudan between Blue Nile and White Nile.
- ✓ Gezira scheme was started in 1925 by the British.
- ✓ It is the largest irrigation scheme in Africa. Its size is 80,000 hectares.
- ✓ Gezira is managed by the Sudan Gezira Board.
- ✓ The farmers in Gezira are called Tenants.
- ✓ Sennar dam on Blue Nile helps to provide water for irrigation by raising the level of water to the canal level.
- ✓ Canal method is the common method of irrigation in Gezira.
- ✓ Another method of irrigation is sprinkler.

Reasons why Gezira was established in that area

1. Presence of water from Blue Nile.
2. The area was fertile for farming.
3. The area was gently sloping / flat.
4. The area was a desert.
5. It was sparsely populated.

Crops grown in Gezira irrigation scheme

- | | | |
|----------------------------------|-----------|------------|
| 1. Cotton – The major cash crop. | 4. Millet | 6. Wheat |
| 2. Groundnuts | 5. Beans | 7. Sorghum |
| 3. Maize | | |

Functions of Sudan Gezira Board

1. It provides seeds to tenants.
2. Provides fertilizers to tenants.
3. Provides machinery to tenants.
4. Gives technical advice.

How Gezira irrigation scheme benefits the people of Sudan.

1. It is a source of employment.
2. It is a source of food.
3. It is a source of foreign income from cotton export.
4. The scheme helps to provide social services to people.
5. The scheme provides farmers with clean water.
6. It helps to conserve the environment.

Problems faced by Gezira irrigation scheme

1. Pests that attack crops.
2. Canal silting.
3. Diseases like Bilharzia
4. Price fluctuation of cotton in the world market.
5. Dangerous weed.

Solutions for the above problems

1. Spraying to control pests.
2. By dredging the silted canals.
3. By spraying molluscicides.
4. By diversification.
5. By spraying herbicides.

Guided Activity

1. Name the extension of Gezira irrigation scheme.

2. State the main cash crop grown on the Gezira irrigation scheme

3. Mention the cash crop grown in Kenana irrigation scheme.

4. Which dam helps to supply water to Gezira irrigation scheme?

5. Give any **one** main crop grown in Doha irrigation Scheme

6. Name the major crop grown in the Kilombero Irrigation scheme in Tanzania.

7. Give any **one** advantage of growing crops by irrigation

8. In which country is the Gezira irrigation scheme found?

9. Give any **two** factors that have enabled irrigation to be done on a large scale in Sudan.

The influence of physical features:**a) On People**

- The wind ward side of a mountain attracts very many people due to the presence of fertile soils for cultivation, and also receives plenty of rainfall.
- The lee ward side of a mountain has very few people because it receives very little rainfall.
- Plains favour pastoralism due to the presence of pasture.
- Road and railway 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**

1. Presence of pasture for animals.
2. Agricultural mechanization is easy in such areas.
3. Construction of houses, roads, railways and industries is easy.
4. Natural hazards like floods are not common in these areas.

ii) Highland areas

1. Presence of fertile soils.
2. Availability of reliable rainfall.

Common economic activities carried out in highland areas.

1. Crop farming
2. Mining
3. Dairy farming

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

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

Activity

1. Why do lee ward side of a mountains have very few people?

2. In which way do Plains favour pastoralism?

3. Give any **two** reasons why many people settle around lakes and rivers.

4. State any **two** reasons why people prefer settling of plateaus than on the valleys.

5. Mention any **two** economic activities carried out in highland areas.

6. State any **two** reasons why there are very few people living in higher parts of mountains

Lesson**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 and bare rocks.

c) On Animals.

1. Plains have plenty of grass which attracts wild animals.
2. Water bodies favour aquatic animals.
3. Pastoralism is common on plateau areas due to the presence of pasture for animals.
4. There are many climbing animals e.g. mountain gorillas in highlands due to the presence of many fruit trees.

d) On Climate.

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

Activity

1. What are climbing animals?

2. Why do climbing animals commonly found in forested areas of Africa?

3. Mention any **two** reasons why there are no animals on top of Mount Rwenzori.

4. Name the type of rainfall received within lakes.

5. Why does wind ward side of a mountain receive plenty of rainfall?

6. Why do climbing animals live in forested areas?

7. Why is crop growing difficult in Karamoja sub region?

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

Climate is the average weather condition of a place recorded for a long period of time.

Weather is the state of atmosphere in a place at any given time.

The difference between climate and weather is that:

Climate is the average weather condition of a place recorded for a long period of time while weather is the state of the atmosphere of a place at any given time.

Conditions of weather

Condition of weather refers to how weather appears like.

- | | | |
|-------------------|------------------|------------------------|
| 1. Sunny weather | 4. Rainy weather | 7. Hot or cold weather |
| 2. Cloudy weather | 5. Windy weather | 8. Humid weather |
| 3. Misty weather | 6. Foggy weather | |

Factors/Elements of weather/ climate

These refer to the elements that cause the atmospheric conditions.

They include:

- | | | |
|----------------|-----------------|---------|
| 1. Rainfall | 4. Fog | 7. Wind |
| 2. Sunshine | 5. Air pressure | 8. Mist |
| 3. Temperature | 6. Cloud cover | |

Activity

1. What is climate?

2. What is weather?

3. Give **one** way climate is different from weather.

4. Name **two** aspects of climate that influence human activities.
-

5. Give any **two** conditions of weather.
-

6. State any **two** activities which take place at Entebbe meteorological centre.
-

7. Mention **two** weather conditions needed by the farmers?
-

8. Which weather condition causes accidents in water?
-

LESSON

Terms associated to weather.

1. **Isohyets:** These are lines drawn on a map to show places with the same rainfall.
2. **Isobars:** These are line drawn on a map to show places with the same air pressure.
3. **Isotherms:** These are lines drawn on a map to show places with the same temperature.
4. **Isonephys:** These are lines drawn on a map to show places with the same intensity of cloud cover.
5. **Isohels:** These are lines drawn on a map to show places with the same sunshine.
6. **Contour lines:** These are lines drawn on a map to show places with the same altitude.

Weather recording instruments

Instruments	Function
Rain gauge	Measures the amount of rainfall
Wind vane	Shows the direction in which wind is blowing
Anemometer	Used to measure the speed of wind
Barometer	Measures the air pressure
Sunshine recorder	Measures the amount of sunshine
Windsock	Shows strength of wind
Hygrometer	Measures the humidity
Min-maximum Thermometer	Measures the minimum and maximum in temperatures of the day
Seismograph	Measures intensity of the earthquakes
ceilometer	Measures intensity of the cloud covers

ACTIVITY

Instrument	Function (use)
Rain gauge	Measures rainfall.
Wind vane	Shows the direction of wind.
Wind sock	Shows the direction where wind is blowing to. Measures the strength of wind.
Barometer	Measures air pressure.
Hygrometer	Measures humidity.
Anemometer	Measures the speed of wind.
Sunshine recorder	Measures sunshine.
Ceilometers	Measures thickness of clouds.
Thermometer	Measures temperature.
Weather cock	Measures the direction of wind.

Activity

1. How is a wind vane different from a wind sock from showing direction?
-

2. Name **two** places where a wind sock is found.
-

3. Why is a windsock found in the above places?
-

4. Why is a windsock painted bright colours?

5. How important is a rain gauge at the weather station?

6. Why are rainfall measured in millimetres?

7. State any **two** aspects of wind measured at the weather stations.

LESSON

Weather forecasting

This is the prediction of future weather changes.

Weather forecasting is the foretelling of weather changes

It helps a farmer to avoid bad weather conditions.

How weather forecast is important to;

a) Farmers

- ✓ Helps farmers to know when to plant their crops.
- ✓ Helps farmers to know when to harvest their crops.

b) Sailor:

- ✓ Helps them to know the right weather for sailing

c) Pilots:

- ✓ To know the right weather to fly a plane

Influence of weather to people during,

i) Wet or rainy days

1. People plant their crops.
2. People put on heavy clothes.
3. They weed their garden.
4. They spray the crops.

ii) Dry / sunny season

1. They harvest their crops.
2. They dry their harvests.
3. They put on light clothes.
4. They prepare land for farming.
5. They irrigate their crops.

iii) Windy weather

1. Farmers winnow their seeds.
2. People sail.
3. People are helped to run the wind mills.

Guided Activity

1. Name **two** instruments used for recording weather conditions.

2. Give any **two** reasons why farmers should know the weather patterns in their area

3. Which element of weather is measured using a ceilometer?

4. Apart from rainy season, under which other weather condition would one use an umbrella?

5. Give any **one** reason why a school should have a weather station.

6. State the use of a wind-sock at a weather station

7. Mention the instrument that is used to measure the intensity of cloud cover at a weather station
8. Apart from being cloudy, or windy, give any **one** other change of weather.
9. Mention any **one** climatic condition which has enabled dairy farming to be carried out in the Kenya Highlands.
10. Why is it important for a farmer to know the climatic conditions of a place?

LESSON

Weather disasters and their effects to people

Weather disasters are the unplanned weather changes that can cause problems to people.

Examples of weather disasters

- Floods
- Landslides
- Storms
- Drought

Floods:

Flood is a large amount of water covering an area which is usually dry.

Causes of floods:

1. It is caused by heavy rainfall.
2. It is caused by poor drainage system.
3. People have settled in swampy areas.
4. It is caused by silting of swamps and rivers.

Effects of floods to people

1. People's property is destroyed.
2. Leads to famine by destroying crops.
3. Leads to loss of lives,
4. Kills domestic animals.
5. Leads to spread of diseases.
6. Destroys the bridges.
7. They cut off road networks.

Ways of helping flood victims

1. By giving flood victims food.
2. By giving flood victims clothes.
3. Resettling flood victims.
4. Giving them shelter.
5. Giving them medical care.

Ways in which floods can be controlled in Uganda.

1. By conserving swamps.
2. By constructing drainage channels.

ii) Drought

Drought is a long period of sunshine without rainfall.

Causes of drought:

Human activities that cause of drought are:

1. High rate of deforestation.
2. Swamp drainage.
3. Over cultivation.
4. Bush burning

Effects of drought

1. Famine
 2. Shortage of water.
 3. Shortage of pasture for animals.
 4. Death of animals
 5. Soil infertility
 6. Poor crop yields
- ### **Solutions for drought / drought effects**
1. Practicing irrigation farming.
 2. By practicing afforestation.
 3. By practicing re-afforestation.
 4. By practicing agro-forestry
 5. Avoid swamp drainage
 6. Constructing valley dams and boreholes.

iii) Landslide/mudslide

Landslide/mudslide is a massive falling of soil or rocks from the slopes of a mountain.

Causes landslides:

1. Heavy rainfall
2. Over cultivation on mountain slopes.
3. Deforestation on mountain slopes.

Effects of landslides

1. Loss of lives.
2. Displacement of people.
3. Destruction of property.
4. Famine.

Ways of controlling landslides.

- ✓ Planting trees on mountain slopes.
- ✓ Discouraging over cultivation on mountain slopes.
- ✓ Discouraging deforestation on mountain slopes.
- ✓ Discouraging human settlement on mountain slopes.
- ✓ Teaching people about the dangers of settling on mountain slopes

Hailstone is a small ball of ice which falls like rain.

Hailstorm is a storm during which hailstones fall from the sky.

-It is caused by heavy rainfall.

Effects of hailstones

1. It destroys crops.
2. It kills animals and people.
3. It leads to soil erosion.

Solutions to effects of hailstones

-Stay indoors

Guided Activity

1. Mention any **one** way in which forests help to reduce the effect of bad weather

2. Apart from sunshine, give any **one** other element of weather, which helps people to dry their clothes

3. State any **one** way which weather records are important to a farmer

4. What is the difference between weather and climate?

5. In which way does weather affect the type of dress people wear?

A Class made observations of the weather condition for one week and recorded their observations on a chart as shown low. Study it and use it to answer questions 6 to 12.

MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	
SUNDAY	

KEY

Full sunshine	
Little sunshine	
Windy	
Cloud with rain	
Cloud	

6. What was the weather condition like on Wednesday?

7. Name the disaster caused by the prolonged weather condition on Tuesday.

8. What causes the disaster above?

9. State **two** effects of the disasters above to people

10. Mention **two** ways of helping victims suffering from the disaster mentioned above.

11. State **two** ways in which floods can be controlled in Uganda.

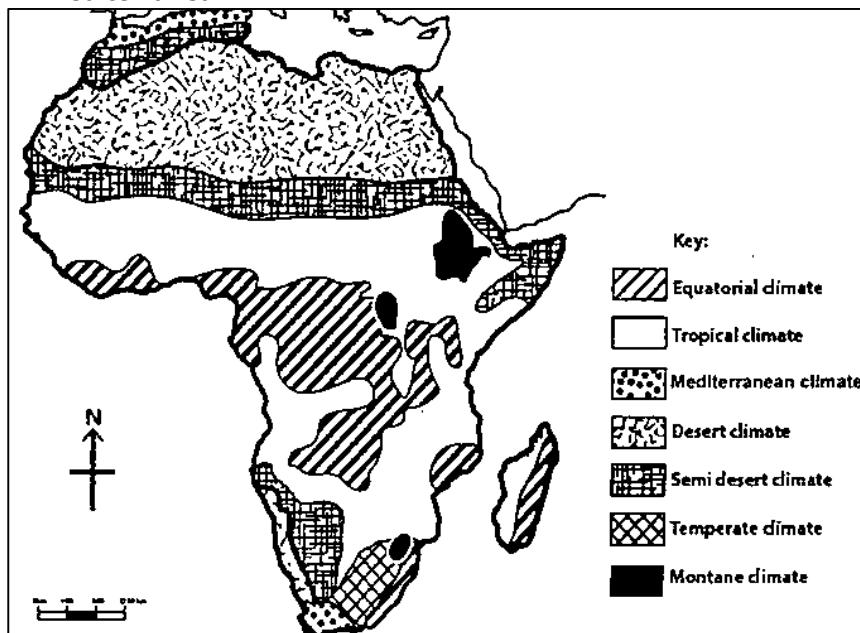
12. State the disaster caused by the prolonged weather condition experienced on Monday.

LESSON

Climatic regions of Africa

Africa has the following climatic regions.

- 1. Equatorial climate.
- 2. Tropical climate
- 3. Desert climate.
- 4. Mediterranean.
- 5. Temperate
- 6. Montane climate / Mountain climate.
- 7. Semi-desert climate.



A sketch map of Africa showing climatic regions
Equatorial climate

- ❖ Equatorial climate is described as hot and Wet throughout the year.
- ❖ This region lies within North and South of Equator
- ❖ In this region, the sun is always over head as a result the temperatures are usually high.

Why equatorial climate is described as hot and wet throughout the year

- ✓ It receives high temperature and heavy rainfall.
- ✓ It receives an average rainfall of 1500mm – 2500mm.
- ✓ It experiences a temperature range of 27° C and above.

Characteristics of Equatorial climate

- ❖ Equatorial climate is hot and wet throughout the year.
- ❖ The temperatures are usually high about 24° C – 27° C.
- ❖ This region receives heavy rainfall throughout the year; which is mainly convectional.
- ❖ It is covered within tropical rainforests.
- ❖ It usually occurs in the afternoons
- ❖ It has no marked dry seasons
- ❖ It is usually accompanied by lightning and thunderstorms.
- ❖ Rainfall got is over 1500mm annually.

Countries which experience Equatorial climate

- | | |
|--|--|
| <input checked="" type="checkbox"/> Democratic Republic of Congo | <input checked="" type="checkbox"/> Equatorial Guinea |
| <input checked="" type="checkbox"/> Congo – (Brazzaville) | <input checked="" type="checkbox"/> Sierra Leone |
| <input checked="" type="checkbox"/> Gabon | <input checked="" type="checkbox"/> Central African Republic |
| <input checked="" type="checkbox"/> Cameroon, Madagascar | |

The equatorial region covers areas such as: -

1. The coastal areas of East Africa.
2. The southern coastal area of West Africa.
3. The west coast of Madagascar.
4. The Lake Victoria basin of east Africa.

Reasons why equatorial regions receive heavy rainfall

- | | |
|---------------------------------|----------------------------|
| ✓ Presence of thick forests | ✓ Closeness of the equator |
| ✓ Presence of many water bodies | ✓ High humidity rate |
| ✓ Constant high temperatures | |

problems faced by people living in the equatorial regions

- | | | |
|----------------------|--------------------------------|------------------------------------|
| ✓ Civil wars | ✓ Floods due to heavy rainfall | ✓ Poor transport and communication |
| ✓ Landslides | | |
| ✓ Tropical diseases. | | |

Crops grown in Equatorial regions

- | | | |
|-------------|------------|----------------|
| 1. Oil palm | 3. Bananas | 5. Coffee |
| 2. Cocoa | 4. Rubber | 6. Sugar canes |

Economic activities in Equatorial regions

- | | | |
|------------|------------|-------------------|
| 1. Farming | 3. Mining | 5. Latex tapping. |
| 2. Tourism | 4. Hunting | 6. Fishing |

The main human activity carried out in the equatorial climatic region is lumbering

Factors that favour lumbering in the equatorial regions

- ✓ Presence of hardwood trees.
- ✓ Presence of ready market for timber.
- ✓ Presence of capital.
- ✓ Good government policy.

Temperature and rainfall from Equatorial region

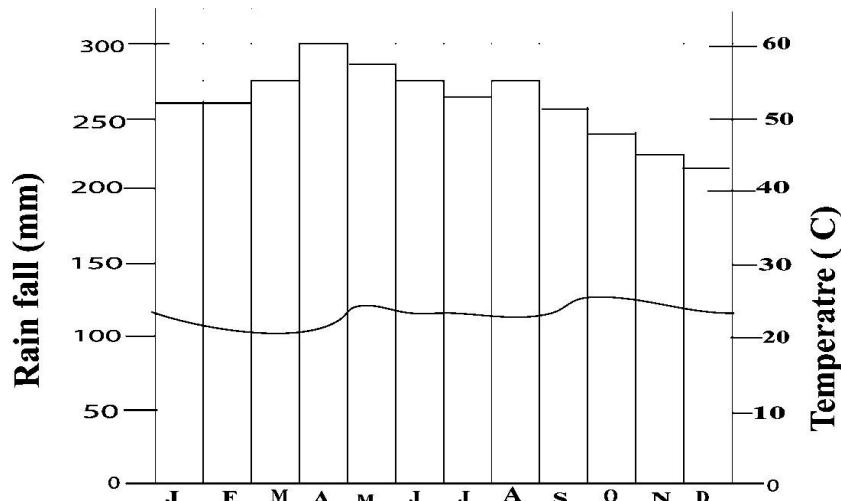
Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp. °C	23	23	23	22	22	22	21	22	22	22	22	24
R/fall (mm)	40	10	150	230	205	115	65	80	195	225	150	50

Activity

1. How many heavy seasons of rainfall are shown in the table above?
2. Calculate the rainfall range as shown in the table above.
3. Mention one country in Africa where the climate above was recorded.
4. Mention the three crops suitable for the above climate.
5. In which month was the highest rainfall received?
6. Suggest any one area in East Africa which has the climate shown in the table above.

- Give the characteristics of convectional rainfall.
- Mention two areas in Uganda with Equatorial climate.

Study the climate graph below and answer the questions about it



- What is the type of climate is described above?
- What is the highest amount of rainfall recorded at the above place?
- Mention any two months with the same amount of rain fall.
- How much rain fall was recorded in March?
- What was the temperature recorded in June?
- Mention any **two** countries that experience the above type of climate in Africa

Guided Activity

- What type of rainfall is commonly received in equatorial regions?
-

- How does Equatorial climate affect people's way of living?

Housing

Crops grown.

- What measures can the government put in a place to maintain the climate?
-

- Write down **two** economic activities in the equatorial climatic region.
-

- Which neighbouring country of Uganda is mainly covered by equatorial rain forests?
-

- Apart from minerals, give any one product obtained from the equatorial rain forests in the Democratic Republic of Congo (Zaire).
-

- Uganda and Ghana both lie in the Equatorial region. Why is Uganda's climate different from that of Ghana?
-

- Mention any **two** countries in Africa with equatorial climate.
-

LESSON

TROPICAL CLIMATIC REGION

- ★ Tropical climate is described as hot and wet throughout the year. It is experienced in the most parts of Africa.
- ★ This is why Tropical climate is also called **Tropical continental climate**.
- ★ This region lies between 5° – 15° N and 5° – 15° S of the equator.
- ★ It mainly receives convectional rainfall but some mountainous areas receive relief rainfall.
- ★ The amount of rainfall decreases with the distance from the Equator.
- ★ The period of the year when the sun overhead the Equator is called Equinox (21st March, 23rd September)

Tropical climate covers the largest part of Africa.

- ✓ It has two parts (the wet and the dry areas)
- ✓ The wet area is near equatorial climate while the dry is near semi - desert climate.
- ✓ The rainfall ranges between 750mm – 1500mm annually.

Characteristics of tropical climate

1. It has two wet and dry seasons. (Two marked seasons)
2. It has high temperature between 21°C – 32°C .
3. It experiences longer dry seasons
4. It receives moderate rainfall
5. It is warm and wet
6. Rainfall is normally received though the equinox.

Countries which experience tropical climate

1. Uganda	-	Zimbabwe	-	Nigeria
2. Kenya	-Ghana		-	Mali, Rwanda, Burundi
3. Tanzania	-	Gambia	-	Chad
4. Malawi	-	South Sudan	Burkina Faso	

Economic activities carried out in Tropical region

1. Crop farming
2. Tourism
3. Lumbering
4. Fishing
5. Mining
6. Hunting
7. Trade
8. Industrialization
9. Livestock farming

Crops grown in tropical climate

Maize, millet, coffee, tobacco, groundnuts, guavas, jackfruits, mangoes and oranges

examples of the animals reared in tropical regions.

- ✓ Cattle
- ✓ Goats
- ✓ Sheep

Animal rearing is simplified because of plenty of pasture for animals.

Examples of Nomadic tribes in the tropical region.

- The Fulani in Nigeria
- The Masai in Kenya
- Nandi in Kenya
- The Karimojong in Uganda

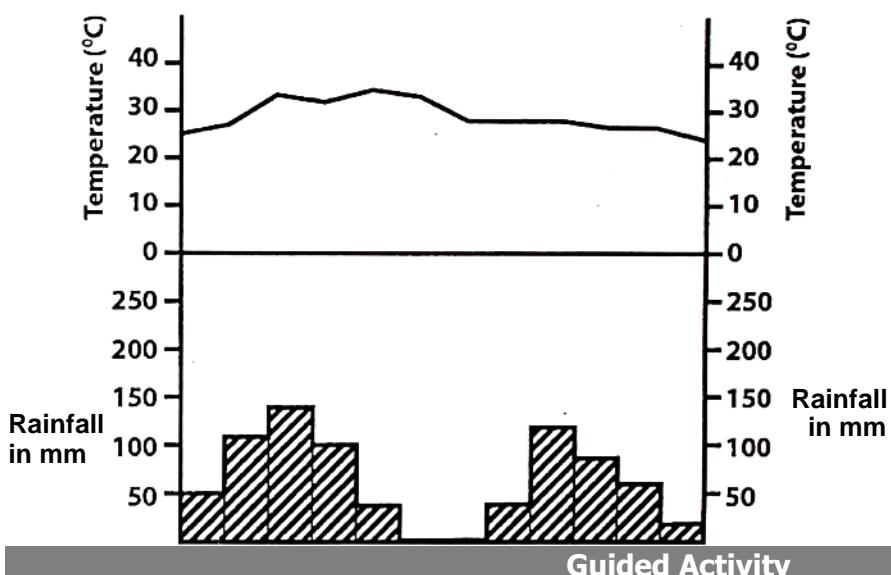
Problems faced by people living in tropical regions.

- Famine
- Prolonged drought
- Tropical diseases
- Shortage of water during dry season
- Wildfires during dry seasons
- Floods during rainy seasons

Graph showing rainfall and temperature in tropical climate

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp ($^{\circ}\text{C}$)	25	26	34	32	35	33	27	27	27	26	26	25
Rainfall (mm)	50	110	140	100	40				40	125	80	60

Graph showing tropical climate



Guided Activity

1. State the climate described by the table above.

2. Which cash crop is favoured by the above climate?

3. Which activities can be done by a farmer in the months of June, July and August?

4. Which month is suitable for planting crops or trees?

5. Give **one** reason for your answer above.

6. How many rainy seasons are indicated on the table?

7. Which month was the average rainfall highest?

8. In which month was there no rainfall?

9. What was the lowest average temperature recorded?

10. What relationship do you notice between average rainfall and average temperature?

11. Describe the above climate.

12. How many rainy seasons are shown on the graph?

13. What measures can the government put in a place to modify the above climate?

14. Write down **two** economic activities carried out in the tropical region.

15. Mention any **two** countries in Africa with tropical climate.

LESSON

MEDITERRANEAN CLIMATE ZONE

This region has four seasons spring, summer, autumn and winter.

The summers are hot and dry.

The winters are warm and wet.

This region is found along Northern western side of the continent. (Africa) It also covers the south Western tip of the continent (Africa).

NB: Mediterranean climate is also called **warm temperate western climate**.

Countries covered by Mediterranean climate

- | | | |
|------------|-----------------|------------|
| 1. Morocco | 3. Libya | 5. Tunisia |
| 2. Algeria | 4. South Africa | |

Main economic activities carried out

- | | |
|---|----------------------|
| 1. Agriculture (growing of citrus fruits) | 4. Trade |
| 2. Tourism | 5. Industrialization |
| 3. Mining | |

Examples of citrus fruits

- | | | |
|------------|------------|-----------|
| 1. Apples | 3. Oranges | 5. Lemons |
| 2. Berries | 4. Dates | 6. Grapes |

Characteristics of Mediterranean climate

1. It experiences hot and dry summers.
2. It experiences warm and wet winters.
3. There is moderate rainfall, mainly in winter season.
4. This rainfall is brought by westerly winds.
5. It receives maximum sunshine in summer seasons.
6. It has four seasons.

seasons experienced in Mediterranean climatic region.

- | | |
|----------|----------|
| ✓ Summer | ✓ Spring |
| ✓ Winter | ✓ Autumn |

Summer: The hottest / warmest season between spring and autumn.

Winter: The coldest seasons between spring and autumn.

Spring: The season between summer and winter when plants grow.

Autumn: The season of the year between summer and winter when leaves change colour and the weather becomes coldest.

Describing the seasons experienced in the Mediterranean climate.

1. **Summer:** The warmest season of the year between spring and autumn
 2. **Winter:** The coldest season of the year between autumn and spring
 3. **Spring:** The season between winter and summer when plants begin to grow.
 4. **Autumn:** The season of the year between summer and winter when the weather becomes colder.
- Citrus fruits growing is the major economic activity carried out in the Mediterranean climatic regions.

Examples of citrus fruits

- | | | |
|-------------------|-----------------|----------------|
| 1. Oranges | 5. Apples | 10. Pineapples |
| 2. Limes | 6. Peach | 11. Dates |
| 3. Lemons | 7. Oats | 12. Grapes |
| 4. Passion fruits | 8. Strawberries | |
| | 9. Mangoes | |

Guided Activity

1. In which season does Mediterranean region receive rainfall?

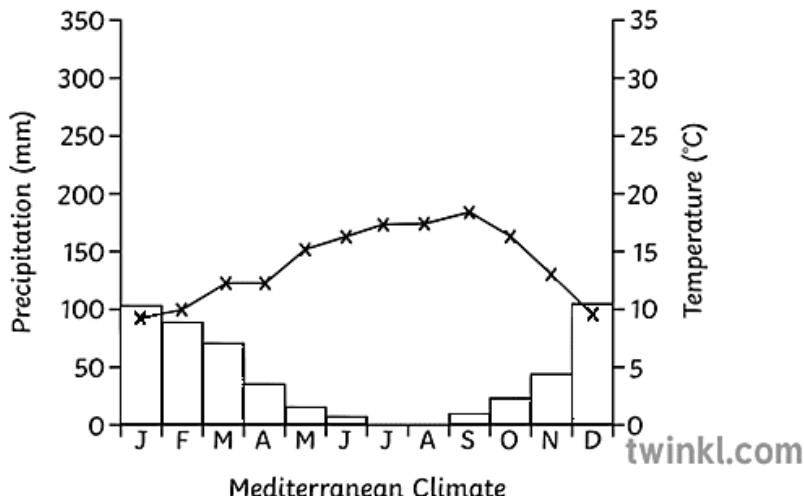
2. Mention any **two** fruits grown in the Mediterranean climate.

3. Describe Mediterranean climate.

Climatic table of Mediterranean climate

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temperature(0c)	24	25	23	22	18	12	13	15	17	18	19	22
Rainfall (mm)	25	18	40	60	90	110	90	80	48	30	28	20

Graph showing Mediterranean climate



4. In which African country was the above climate recorded?
-

5. State the type of climate shown in the graph above.
-

6. Apart from Algeria, mention other **two** countries with the above type of climate.
-

7. In which month was the highest temperature recorded?
-

8. In which way is the rainfall related to temperature according to the graph?
-

9. State the highest temperature recorded at Algiers.
-

SPELLING EXERCISE

1 2

3 4

5 6

7 8

LESSON TEMPERATE CLIMATIC ZONE

The climate in this zone is experienced in areas of high altitude between latitudes 20° and 30° north and south of the Equator.

Temperate climate is also called **Highveld climate**.

It is found in the plateau of South Africa.

This region covers the Eastern part of South Africa to the East of the Drakensberg range -These parts are referred to as the velds.

-They include;

-Transvaal
 -Natal
 -Orange free } provinces
 state

The temperature ranges between 10°C – 21°C.

Rainfall range is 500mm – 760mm.

Characteristics of temperate climatic zone

1. Temperate climatic region has warm – wet summers and cool dry winters.
2. This climatic region receives moderate rainfall.
3. The temperatures decrease with altitude.
4. It is hot and wet throughout the year
5. It is found in areas outside the tropics.
6. The temperature ranges between 10°C to 27°C
7. The rainfall received ranges between 400mm – 780mm

Countries that experience temperate climate in Africa.

South Africa Eswatini Lesotho

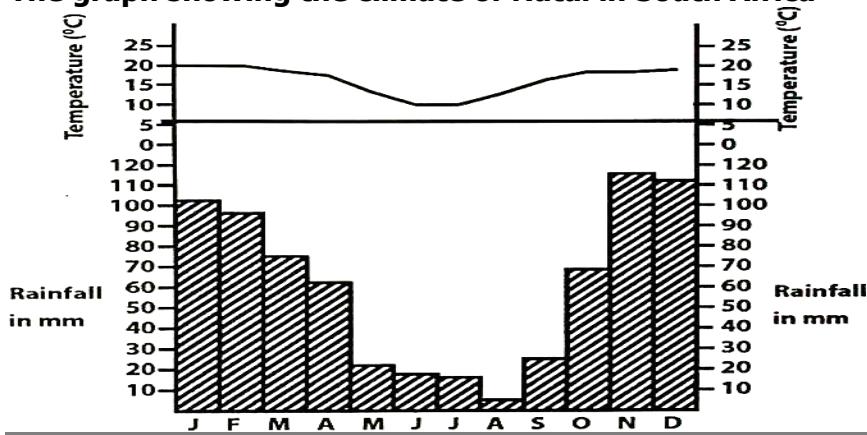
Economic activities carried out

1. Crop growing e.g maize, wheats, fruits
2. Livestock farming
 Merino sheep for wool, Afrikander sheep for meat (mutton), Angola goats for mohair.
3. Mining
4. Tourism
5. Lumbering

Annual climatic graph of temperate climatic zone of Natal in South Africa

Month	J	F	M	A	M	J	J	A	S	O	N	D
Temp. °C	20	30	18	16	13	10	10	13	16	18	18	19
R/fall mm	112	97	75	61	22	9	8	5	35	69	115	111

The graph showing the climate of Natal in South Africa



Guided Activity

Study the table below and answer the questions that follow

Month (O)	J	F	M	A	M	J	J	A	S	O	N	D
Temp (0°C)	20	20	18	16	13	10	10	13	16	18	18	19
Rainfall (mm)	112	97	75	61	22	9	8	5	25	69	116	111

1. In which way is rainfall related to temperature according to the table above?

2. Find the temperature range of Natal on the table above.

3.

4. State the month with the highest rainfall.

5. What type of climate is described on the table above?

6. In which **two** African countries do we find the above climate?

7. Mention **two** economic activities carried out in the above region.

LESSON

Desert climate

It is described as hot and dry throughout the year.

The temperature range of desert climate is between $35^{\circ}\text{C} - 50^{\circ}\text{C}$.

Deserts are very cold at night because there are no clouds to hold the warmth.

Deserts are caused by dry winds and cold ocean currents

Hammartan winds and North east winds caused the Sahara Desert.

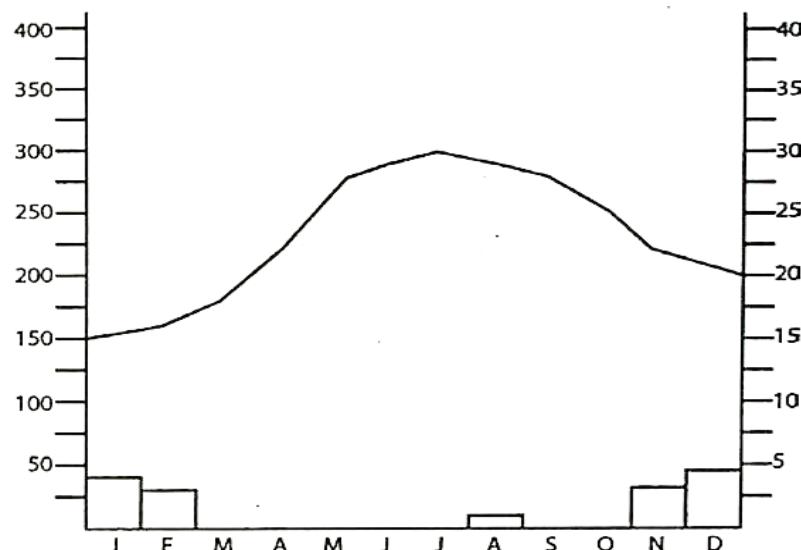
Cold Canary current caused Sahara Desert while **Benguela currents** caused Namib and Kalahari deserts.

The monthly rainfall and temperature from Namib Desert

Table showing the climate of Libya.

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp. ($^{\circ}\text{C}$)	15	16	18	22	28	29	30	29	28	25	22	20
Rainfall (mm)	40	30	-	-	-	-	-	10	-	-	31	45

The graph showing desert climate.



Months of the year

Guided Activity

Study the graph below and answer the questions that follow.

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp. $^{\circ}\text{C}$	18.5	19	19	18	17	16	16	14	15	14	18	17
R/fall mm	3	3	7.7	3	3	-	-	-	-	-	-	-

Which months received the same amount of rainfall?

2. What is the total amount of rainfall received in the above area?

3. Give **one** reason why Namib Desert has low temperature.

4. Mention the tourist attractions found in deserts.

5. In which way are oases important to people in desert regions?

6. What enables a camel to be used for transport in deserts?

7. Give **two** characteristics of desert climate.

8. Describe desert climate.

9. Mention **two** economic activities carried out in desert regions.

LESSON

Problems faced in the desert areas of Africa

1. Poor transport
2. Lack of water
3. There is no or little rainfall
4. There are desert storms
5. Excessive heat during day
6. Severe coldness at night

Creative Printers

Characteristics of desert climate

1. Rainfall is little and unreliable throughout the year
2. It is hot and dry throughout the year
3. It is hot during the day and cold during the night
4. Temperature is low at night, highest during the day.

Water in desert areas are found in the oases.

Economic activities carried out in the desert climatic regions

Nomadic pastoralism, oil drilling, tourism, irrigation farming

Animals kept are camels for transport, meat and income, , cattle sheep, goats

Common crops grown in the desert areas of Africa

Barley, millet, wheat, dates and cassava and oil palms

People in desert mostly build houses with flat roofs to prevent desert storms from blowing off the roofs.

The roofs are made of concrete or muds to regulate the temperature

Activity

1. Which type of climate is described as hot and dry throughout the year?

2. State any **two** characteristics of desert/semi-arid climate

3. Why is desert climate described as hot and dry throughout the year

4. Give **one** reason why desert areas are very hot during day and very cool during night.

5. State **one** reason why Deserts experience very high temperatures during the day

6. Give **one** reasons why the nights are very cold in Deserts

7. Why do desert areas receive little or no rainfall?

8. Name the countries which experience desert climate in Africa

SEMI DESERT CLIMATE

Semi desert climate/ Semi-arid climate

This is the climatic region that receives little rainfall

-It is hot and dry almost throughout the year.

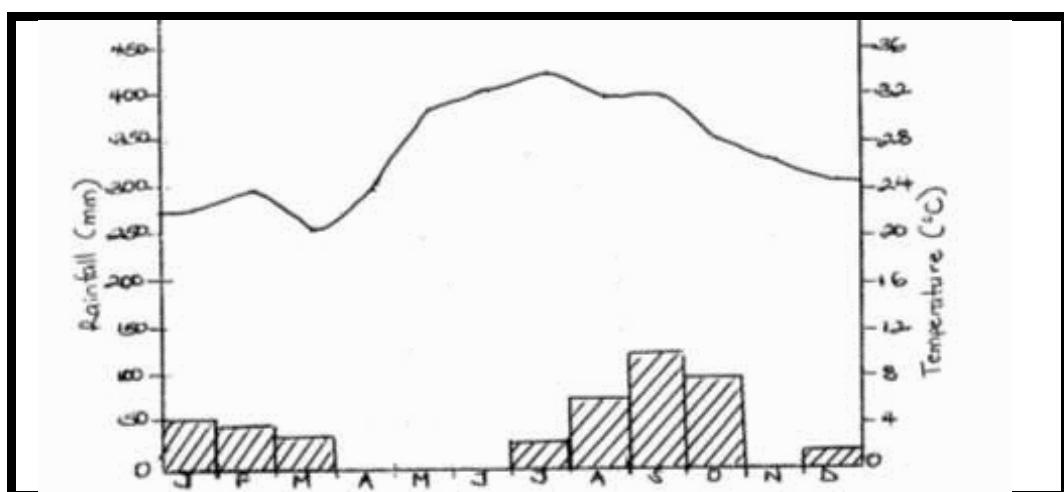
Characteristics of Semi-desert climate

1. It is hot and dry.
2. There is low humidity.
3. It has very hot days and cold nights.
4. Skies are clear with little cloud cover.
5. It receives low and unreliable rainfall.

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



Economic activities carried out in Semi desert climate.

1. Nomadic pastoralism
2. Tourism
3. Mining

Pastoralism is the rearing of cattle for survival.

Nomadic pastoralism is the movement of people with their animals from one place to another looking for pasture and water.

MOUNTAIN / MONTANE CLIMATIC ZONE

This climatic zone is experienced in high altitude areas.

Altitude is the height of the land above the sea level.

The temperature here reduces with increase in altitude making the higher slopes to experience cool temperature throughout the year.

Montane climate is experienced in the areas like

1. Drakensburg Mountains.
2. Ethiopian highlands.
3. Mt. Kilimanjaro.
4. Mt. Rwenzori.
5. Mt. Kenya
6. Mount Mufumbiro
7. Mount Elgon

Mountains in Africa which are snowcapped.

1. Mt. Rwenzori
2. Mt. Kenya
3. Mt. Kilimanjaro

Characteristics of Montane climate

1. It has cool temperature.
2. Relief rainfall is mostly received.
3. There is high humidity
4. The wind ward side receives more rainfall than the lee ward side.

Economic activities commonly carried out in montane climate.

- | | | |
|--------------|------------------|-------------------|
| 1. Tourism. | 3. Crop growing. | 5. Animal keeping |
| 2. Lumbering | 4. Mining | |

LESSON**Factors influencing or affecting the climate of Africa**

- | | |
|---------------------|-------------------------------------|
| 1. Altitude | 5. Human activities |
| 2. Ocean currents | 6. Distance from large water bodies |
| 3. Prevailing winds | 7. Vegetation |
| 4. Latitude | |
| 8. reliefs | |

Altitude

Altitude is the height of land above the sea level.

Altitude is measured using an instrument called Altimeter.

- Altitude affects climate by changing the temperature.
- Areas on a higher altitude are cooler than areas on a lower altitude.
- The temperature decreases by 2°C for every three hundred metres (300m):

How altitude influences climate

- Areas on a low altitude are hotter than areas on high altitude.
- Areas on high altitude are cooler than areas on a low altitude.

Activity

1. What is altitude?

2. Name the instrument that is used to measure altitude

3. How does altitude affect climate of an area?

4. Why is Entebbe cooler than Kampala?

5. Give **one** reason why Moroto is hotter than Kabale.

6. Why do areas near the Indian Ocean experience high temperatures?

SPELLING EXERCISE

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Prevailing winds

Prevailing winds are wind that blow in a given direction at a given time of the year.

- Winds also influence the climate of Africa.
- The North-East trade winds which blow from Arabia are dry.
- They do not bring rainfall.
- The Harmattan winds also do not bring rainfall because they are dry.

- ✓ The South-East trade winds, the south west trade winds and the Westerly winds bring rainfall because they are warm and moist.
- ✓ Winds that blow across a water body bring rainfall in an area because they pick moisture from the water body.

BREEZES

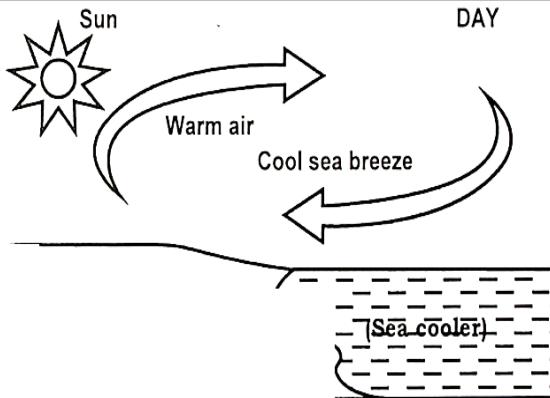
A breeze is the movement of air from a cool region to a warm region.

Types of breezes

Sea breeze

(i) Sea breeze

This is the movement of cool air from the sea towards land.



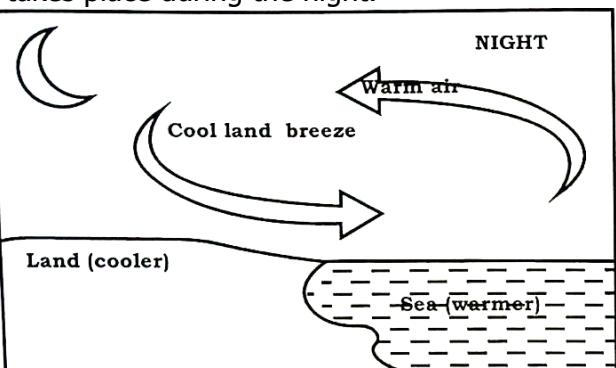
- It takes place during the day.
- This is the movement of cold air from the sea towards the land to replace the rising warm air.
- During the day, the land is heated faster than water bodies.
- The warm air on land rises and cold air from the sea moves towards land to replace it.

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.

Guided Activity

1. Why is the climate of Africa different from one place to another?

2. How do water bodies help to modify the climate of an area?

3. Give any **two** processes involved in the formation of rainfall

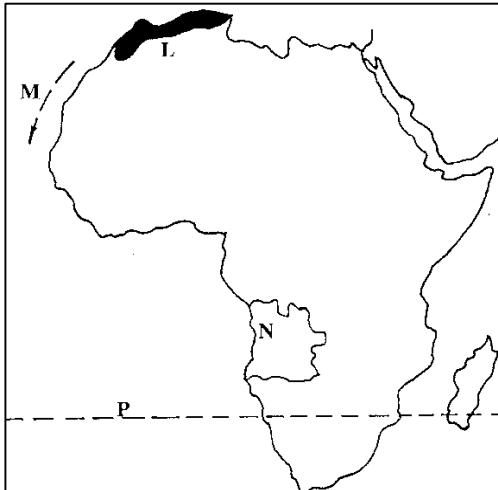
4. State the difference between sea breeze and land breeze.

5. Name two hot deserts of Africa

6. Mention **two** seasons experienced in Mediterranean climate.

7. State **two** problems faced by people in hot deserts of Africa.

Below is a map of Africa. Use it to answer the questions that follow.



- a) Name the country marked **N**

- b) State the type of climate experienced in the shaded part marked **L**.

- c) Name the line of latitude marked with letter **P**

- d) Name the current marked with the letter **M**.

LESSON

Ocean currents

An ocean is a large mass of water that covers most of the earth.

Ocean currents are masses of water in an Ocean flowing in a particular direction.

Causes of ocean currents

1. The rotation of the earth
2. Pressure difference
3. Changes in temperature and salinity.
4. Prevailing wind
 - ❖ If a current flows from a warm area, it is warm and if it flows from a cool area it is cold.
 - ❖ Warm currents like Mozambique currents and Guinea currents help to form rainfall because they have moisture while cold currents do not form rainfall because they are dry.

Characteristics of an Ocean current.

- It is cold when flows from cold areas to warm areas.
 - It is warm when flows from warm areas to cold areas.
 - It flows in particular direction on the surface of an ocean.
- Ocean currents are either warm or cold depending on their origin.

Warm ocean current

These are currents that blow from the warm areas to cold areas.

Examples of warm currents that bring rainfall to Africa

1. Mozambique (Agulhas) Ocean current.
2. Guinea Ocean current.
3. Somali Ocean current.

How warm ocean currents affect the climate Africa

- They bring rainfall to Africa.
- They make coastal areas of Africa warm.

Cold ocean currents

These are currents that blow from cold areas to warm areas.

Examples of cold currents that bring rainfall to Africa are:

- ❖ Canary Ocean current .
- ❖ Benguela Ocean current .

Benguela Ocean current is the Ocean currents responsible for dry conditions in Namib Desert

How ocean currents affect the climate of Africa

Warm ocean currents help to form rainfall

Cold ocean currents bring drought.

Prevailing wind.

Wind is the fast moving air.

Causes of wind.

- Changes in temperatures
- Differences in air pressure

Prevailing winds are winds which blow around Africa

Warm winds bring rainfall to Africa unlike dry or cold winds.

Prevailing winds that bring rainfall to East Africa.

1. North East monsoon winds.
2. South East monsoon winds.

How Prevailing winds affects climate

- ✓ Winds also influence the climate of Africa.
- ✓ The North-East trade winds which blow from Arabia are dry so they do not bring rainfall.
- ✓ The Harmattan winds do not bring rainfall because they are dry.
- ✓ The South-East trade winds, the south west trade winds and the Westerly winds bring rainfall because they are moist.

Winds that blow across a water body bring rainfall in an area because they pick moisture from the water body.

Inter Tropical Convergence Zone(ITZC) is the place where **two** trade winds meet

Activity

1. Name the prevailing winds that blow around the Sahara desert?

2. How do Harmattan winds affect the climate of West Africa?

3. Give **one** reason why Harmattan winds do not bring rainfall to West Africa.

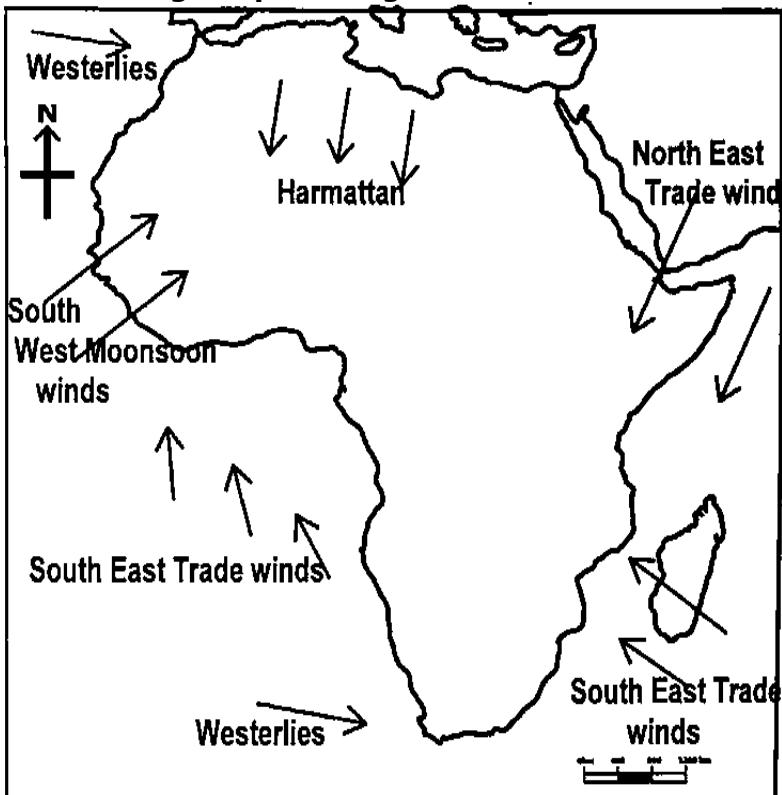
4. Name the prevailing winds that blow around the Cape region of South Africa and the Mediterranean land in the North Africa

5. Name the prevailing winds that bring rainfall to the Cape region of South Africa and the Mediterranean land in the North Africa

6. Write ITCZ in full

7. What do we call the place where two trade winds meet?

A sketch map of Africa showing the prevailing winds



Activity

1. Name **two** prevailing winds that bring rainfall to East Africa.

2. Give one-way Northeast and Southeast monsoon winds influence the climate of East Africa.

3. How do Northeast trade winds affect the climate of Africa?

4. Name the prevailing winds which don't bring rainfall to East Africa.

5. Give one reason why the Northeast trade winds do not bring rainfall to East Africa.

6. How do South East Trade Winds affect the climate of West Africa?

7. Name the prevailing winds that bring rainfall to West Africa.

Pressure belts in Africa

Air pressure is the force exerted by the air on the earth's surface.

Areas in high altitude experience high air pressure and areas in low altitude experience low air pressure.

Causes of high pressure belts in Africa:

Low temperatures

Places with high atmospheric pressure

- ❖ Mountain tops
- ❖ Hilltops

❖ Places with high atmospheric pressure

Equatorial zones, valleys and plains

Causes of low pressure belts in Africa:

- High temperatures

Causes difference in air pressure

1. Difference in altitude
2. Difference in wind
3. Difference in latitude

Effects of differences in air pressure

1. It causes wind
2. It causes difference in temperature

How Land mass affects climate:

1. Areas near lakes and oceans are wetter
2. Areas far from lakes and rivers drier

Activity

1. What term is given to the moving air?

2. State the reason why the Horn of Africa experiences dry and hot conditions

3. Which winds bring rainfall to East Africa?

4. How do the Harmattan winds affect the climate of West Africa?

5. Why do the South East Trade winds bring a lot of rainfall to East Africa?

6. Name the winds that bring rainfall to the Mediterranean regions of Southern Africa

SPELLING EXERCISE

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Vegetation

Places with thick vegetation receive rainfall unlike places with no vegetation.

Vegetation forms rainfall due to transpiration.

Human activities:

There are human activities that can modify climate.

These include:-

1. Afforestation
2. Agro-forestry
3. Preserving swamps
4. Bush fallowing

Human activities which lead to drought are:-

1. Deforestation
2. Swamp drainage
3. Bush burning
4. Overgrazing

How human activities influence the climate of an area

- ✓ Human activities that conserve the vegetation of an area and encourage rain formation while those that destroy the vegetation discourage rain formation.
- ✓ Human activities like swamp drainage, deforestation lead to drought.
- ✓ Afforestation, reafforestation lead to good climate.

Influence of climate on human activities

Climate	Human activities
Equatorial	<ul style="list-style-type: none">• People carryout farming, lumbering, latex tapping.• People put on heavy / thick clothes.• People build houses with slanting roofs to allow water run-off.
Tropical	<ul style="list-style-type: none">• People practice farming, pastoralism, and tourism.• Livestock farming e.g ranching and dairy farming.• People put on light clothes.
Temperate	<ul style="list-style-type: none">• People practice sheep rearing for wool.• Ranching for beef.• Growing of maize and barley.
Mediterranean	<ul style="list-style-type: none">• Growing of citrus fruits e.g oranges, grapes, lemon,
Desert / semi desert	<ul style="list-style-type: none">• People carryout irrigation farming.• Nomadic pastoralism by Fulani, Masai, Tuareg, Hausa, etc.• People build flat houses to control heat from the sun.• People wear light clothes with turbans.

How Latitude affects climate

- Areas along the equator are hotter than areas far away from the equator.
This is because they receive vertical sunrays
- Areas along the equator receive heavier rainfall than areas far away.
This is caused by high rate of transpiration and evaporation in the region.

How relief determines climate

Relief is the physical appearance of landscape in an area.

- Mountains help in formation of relief rainfall
- Plain areas receive cyclonic rainfall

Activity
1. What is latitude?

2. Give two ways latitude affect the climate of an area.

3. Give one reason why areas near the equator receive heavy rainfall.

4. Give one reason why areas near the equator are very hot in the months of March and September.

5. How does relief affect climate of an area?

6. Give one way ocean currents affect the climate of Africa

7. How do prevailing winds affect the climate of Africa?

8. How does nature of vegetation affect the climate of an area?

9. How do human activities affect the climate of an area?

10. Give the human activities that affect the climate negatively.

11. Give **one** way deforestation affect the climate of an area.

12. Give the human activities that modify the climate.

13. How does afforestation help modify climate of an area?

Summary of climatic description

Climate	Rainfall	Temperature	Description
Desert	Less than 250mm	35°C – 50°C	Hot and dry
Tropical	1000mm – 1500mm	21°C - 32°C	Wet and dry
Equatorial	2000mm – 2500mm	21°C - 27°C	Hot and wet
Mediterranean	500mm – 750mm	10°C - 21°C winter 21°C - 27°C summer	Hot, dry summers and warm, wetter winters.
Temperate	400mm – 1200 mm summer	10°C - 20°C	Hot and wet summers and dry cool winters.

Problems and solutions to problems faced by people in different climatic regions:

Climatic Region	Problems faced	solutions
Equatorial	✓ Poor transport ✓ Disease vectors	✓ Tarmac roads ✓ Spraying to kill vectors
Desert climate/semi desert	✓ Lack of water ✓ Lack of pasture ✓ Famine	✓ Constructing boreholes and valley dams ✓ Irrigating pasture ✓ Practicing irrigation farming
Montane climate	✓ Poor transport ✓ Land slides ✓ Soil erosion	✓ Tarmac the winding roads ✓ Planting trees ✓ Terracing
Temperate climate	✓ Cold temperatures during summer	✓ Putting on thick clothes
Mediterranean climate	✓ Cold temperatures during winter	✓ Putting on thick clothes
Tropical climate	✓ Disease vectors	✓ Spraying to kill vectors

Guided Activity

1. Give **one** reason why the people living in the Sahara Desert wear turbans on their heads

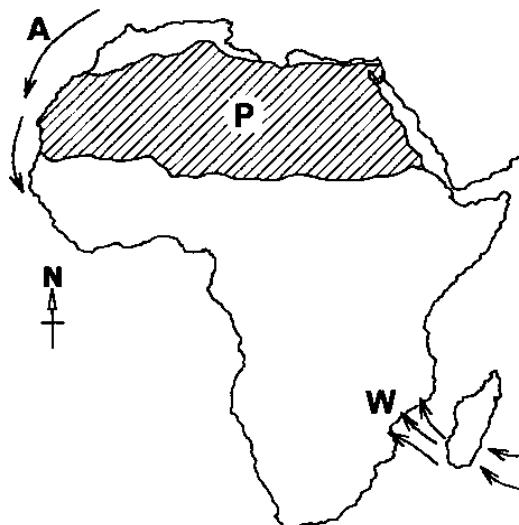
2. State any **one** way in which an Oasis is important to the people who live in the Sahara Desert

3. Give any **one** reason why Libya , which is a desert, is one of the richest countries in Africa

4. Give any **one** problem that people who live in the deserts of Africa face.

5. Libya is a desert country. How does it produce its food?
.....
6. How does altitude influence the climate of an area?
.....
7. Name any **two** elements of climate that influence human settlement
.....
8. How does afforestation influence the climatic condition of a place?
.....
9. How does vegetation form rainfall?
.....
10. What causes ocean current?
.....

Study the map below and answer the questions about it



- a) Name the ocean current marked with letter A.
.....
- b) State the type of climate experienced in the shaded region marked P.
.....
- c) Name any **two** countries within the shaded area marked P.
.....
- d) Why does the shaded region marked P experience very cold nights?
.....
.....

SPELLING EXERCISE

- 1 2
- 3 4
- 5 6
- 7 8

The influence of climate on human activities ways climate influence people's way of living.

1. Climate makes people to build houses with slanting roofs.
2. Climate makes people to paint houses white colour.
3. Climate affects people's way of dressing.
4. Climate affects people's activities.

a) desert and Semi-desert climatic region (Dry areas)

Economic activities commonly carried out in Semi desert climate.

1. Pastoralism.
2. Tourism.
3. Crop cultivation.

The influence of Semi-arid climate on human activities

1. People grow crops by irrigation.
2. People grow fast maturing crops like maize, beans, millet, sorghum etc. since their area receives short rainy seasons.
3. People build simple huts.
4. Pastoralism is mostly favoured by the presence of a large vacant land.

Problems faced by people living in semi-desert climatic region.

1. High temperatures during day time.
2. Shortage of water.
3. Poor transport.
4. Shortage of pasture for animals.

Solutions to the problems faced by people living in desert areas.

1. By digging valley dams to store water.
2. By practicing irrigation farming to increase food supply.
3. By growing drought-resistant crops.
4. By growing fast maturing crops.
5. By painting houses with white in order to reflect sunlight.
6. By dressing in light white clothes to reduce heat during day.

The influence of Equatorial and Tropical climate on human activities

1. Lumbering is done in the tropical rain forests.
2. Tourism is favoured by the plenty of animals.
3. Perennial crops are usually grown due to plenty of rainfall receive e.g. coffee, oil palm, bananas, tea.
4. People wear thick clothes to provide warmth during rainy and windy weather.
5. People keep a variety of animals due to presence of pasture for animals.
6. 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.

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

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

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

Activity

1. Mention any **two** economic activities commonly carried out in semi desert climate.

2. How can crop growing be made successful in the semi-arid climate?

3. Why do people in semi-arid climate grow fast maturing crops?

4. Mention any **two** problems faced by people living in semi-desert region.

5. Mention any **two** possible solutions to the problems faced by people living in desert areas.

6. Why do people in equatorial and tropical climate wear thick clothes?

7. State **two** reasons why people in equatorial and tropical climate build houses with slanting roofs.

8. Mention any **two** problems faced by people living in equatorial and tropical regions.

9. State any **two** possible solutions to the problems faced by people living in equatorial and tropical climatic region

c) Montane climate

Economic activities commonly carried out in montane climate.

1. Tourism.
2. Crop growing.
3. Lumbering

The influence of the montane climate on people

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

Problems faced by people living in montane climatic region.

1. Poor transport network.
2. Severe soil erosion
3. Landslides.
4. Much coldness

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

1. By building winding roads.
2. By keeping donkeys for transport.
3. By wearing thick clothes to overcome much coldness.
4. By planting trees to reduce soil erosion and landslides.

NB: -Plant roots control landslides in highland areas by holding the soil particles firmly.

How climate is an important resource to people

- Good climate favours crop growing.
- Good climate favours growth of pasture for animals.
- Climate influences the way of living.
- Climate influences people's activities.
- Climate influences people's way of dressing.
- Climate influences people's way of building houses.

Activity

1. Mention any **two** economic activities carried out in montane climate.

 2. How do people living in montane climatic regions protect their bodies from much coldness?

 3. Why do people living in montane climatic region grow perennial crops?

 4. State **two** problems faced by people living in montane climatic region.

 5. State **two** possible solutions to the problems faced by people living in montane climatic region.

 6. How does climate affect people's style of building houses

 7. Give two reasons why people paint their houses with white colour.

 8. Why do people build houses with slanting roofs in areas which receive heavy rainfall?

 9. Give two reasons why people in desert areas build houses with flat roofs.

 10. How does climate affect people's culture?

 11. Give **one** reason why people in hot areas wear light/white clothes.

 12. State any **two** reasons why people in cold areas wear thick/heavy clothes.

 13. Give **one** reason why people in desert areas put on turbans and veils.

 14. How do plant roots control landslides in highland areas?

Climate changes in Africa

Climatic change is the constant variation in weather patterns for a long time.

Indicators of climatic change.

- Desertification
 - Drought
 - Global warming
 - Heavy rainfall

Causes of climatic change.

- Deforestation
 - Industrialization
 - Bush burning
 - Swamp drainage
 - Pollution of atmosphere

Effects of climatic change.

- Famine due to prolonged drought.
 - Shortage of water due to prolonged drought.
 - Shortage of pasture for animals due to prolonged drought.
 - Soil infertility due to prolonged drought.

- Floods due to heavy rainfall.
- Landslides due to heavy rainfall.

Ways of controlling climatic change in Africa.

- | | |
|--|---|
| <input checked="" type="checkbox"/> Practicing afforestation
<input checked="" type="checkbox"/> Practicing reafforestation
<input checked="" type="checkbox"/> Practicing agro forestry.
<input checked="" type="checkbox"/> Treating both domestic and industrial wastes before releasing them in the atmosphere. | <input checked="" type="checkbox"/> Controlling lumbering.
<input checked="" type="checkbox"/> Discouraging deforestation.
<input checked="" type="checkbox"/> Discouraging swamp drainage. |
|--|---|

Lesson

DESERT

Deserts are places that receive too little rainfall throughout the year.

Deserts are areas which receives little or no rainfall throughout the year.

Types of deserts in Africa:

1. Marine desert.
2. Continental desert.

Marine desert

Marine deserts are deserts found along the coast.

These are deserts which are cool and dry throughout the year.

Examples of Marine desert

Namib Desert in Namibia

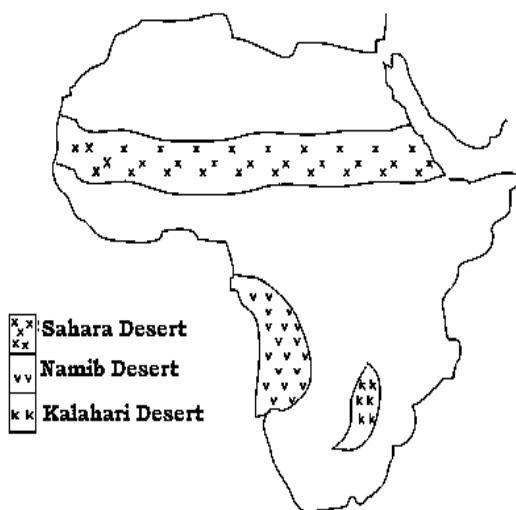
Continental desert

These are desert which are found in the interior of the continents.

They are hot and dry throughout the year.

Examples of Continental deserts

1. Kalahari Desert in Botswana.
2. Sahara Desert in North Africa.



Causes of Deserts.

1. Dry winds
2. Cold ocean currents

Characteristics of deserts.

- They receive little or no rainfall.
- They are dry and hot throughout the year.
- They have very hot temperatures.
- The skies are clear.

Sahara and Kalahari deserts are called continental deserts because they lie inside the continent.

River Nile and Oases are the only sources of water in Sahara desert

River Nile is said to be **the life blood of Egypt and Sudan**

Reasons why River Nile is referred to as the life blood of Egypt and Sudan.

- The Egyptians and Sudanese use the waters of the Nile for irrigation.
- The Egyptians and Sudanese use the waters of the Nile for domestic use.

Activity

1. What is a desert?

2. Give **two** Causes of Deserts

3. Mention any **two** characteristics of deserts.

4. Give two types of deserts

5. Give **two** examples of continental deserts in Africa.

6. Mention **one** example of marine desert in Africa

7. Name the largest and hottest desert in Africa.

8. Name the prevailing winds which are responsible for the dry conditions in Sahara desert.

9. Name the latitude that crosses in the middle of Sahara desert.

Lesson

An oasis

An oasis is a fertile area with water and vegetation in a desert.

It is the main source of water in desert areas. Farming is possible in the oases areas.

Importance of oases to people living in desert areas

- Oases provide water for irrigation.
- Oases provide water for domestic use.
- Oases provide pasture for animals.
- Oases attract tourists who bring income.
- Oases are used for scientific and study research

Reasons why people living in desert areas stay near oases.

- To get water for irrigation.
- To get water for domestic use.
- To get pasture for animals.
- Oases attract tourists who bring income.

Economic activities carried out in desert places

- Tourism
- Nomadic pastoralism
- Irrigation farming.

Activity

1. Name the main source of water in the East of Sahara desert

2. Apart from River Nile, mention other source of water in Sahara desert

3. Give the reasons why River Nile is referred to as the life blood of Egypt and Sudan

4. What is an oasis?

5. Mention the main source of water in desert areas

6. How are oases important to people living in desert area?

7. Give any **two** reasons why people living in desert areas stay near oases.

8. State any **two** economic activities carried out in the desert areas of Africa.

lesson

Desertification

Desertification is the process by which pieces of land becomes dry and unable to support plant growth.

Causes of desertification.

- | | |
|---|--|
| <input checked="" type="checkbox"/> Bush burning | <input checked="" type="checkbox"/> Swamp drainage |
| <input checked="" type="checkbox"/> Deforestation | <input checked="" type="checkbox"/> Global warming |

Dangers of desertification.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Famine | <input checked="" type="checkbox"/> Shortage of pasture for animals. |
| <input checked="" type="checkbox"/> Prolonged draught. | <input checked="" type="checkbox"/> Soil infertility |
| <input checked="" type="checkbox"/> Shortage of water. | |

Sand dunes in deserts of Africa

Sand dunes are large heaps of sand found in a desert

They are caused by strong wind that blow in a desert

Importance of sand dunes to people living in desert areas

- They attract tourists who bring income.
- They provide sand for building houses.

Disadvantages of sand dunes.

- They destroy people's houses.
- They make road transport difficult.

Activity

1. What are sand dunes?

2. What causes sand dunes?

3. How are sand dunes important to people living in desert areas?

4. Give any **two** disadvantages of sand dunes.

5. Mention any **two** tourist attractions found in desert areas.

6. Mention any **two** human activities carried out in desert areas.

Lesson

Tourist attractions found in desert areas.

- Sand dunes
- Desert climate
- Oases

Human activities carried out in desert areas.

- Cattle keeping
- Mining
- Tourism
- Irrigation farming

Examples of animals reared in desert regions.

- Camels
- Cattle
- Sheep
- Goat

The major type of transport used in desert areas is Animal transport

The main means of transport used in desert areas is Camel

Reasons why a camel is able to survive/live in desert areas.

1. It has strong eyelids to resist sand dunes and sunrays
2. It has a large fatty hump for storing fats and water
3. It has flat hooves for easy movement
4. It takes a long time without taking water
5. It has a lot of fur which prevent heat loss

uses of a camel to people

- It is used for transport
- It is a source of meat
- It is a source of milk.
- It is a source of income when sold
- It attracts tourists who bring income.

Activity

1. State any **two** tourist attractions found in desert areas of Africa.

2. Mention any **two** human activities carried out in desert areas.

3. State any **two** examples of animals reared in desert regions.

4. Give any **two** reasons why a camel is able to survive/live in desert areas.

5. Give **two** uses of a camel to people

6. State the major type of transport used in desert areas of Africa.

7. Name the main means of transport used in desert areas.

Lesson

Global warming

Global warming is the constant rise in the world's temperatures.

Causes of global warming.

- Deforestation
- Swamp drainage
- Bush burning
- Charcoal burning
- Industrialization
- Emission of greenhouse gases.

Examples of greenhouse gases.

- Carbon dioxide
- Methane
- Carbon monoxide
- Nitrous oxide

Ways of reducing global warming.

- By practicing afforestation.
- By discouraging swamp drainage.

- By practicing agro forestry.
- By discouraging bush burning.
- By practicing reafforestation.
- By controlling lumbering.
- By discouraging deforestation

Trees control global warming by absorbing carbon oxide in the atmosphere

Dangers of global warming.

- It destroys ozone layers.
- It causes drought.
- It reduces on the amount of rainfall.

TOPIC 4: VEGETATION OF AFRICA

LESSON

Vegetation is the plant cover of an area.

types of vegetation

1. Natural vegetation
2. Planted vegetation

Elements/ components of vegetation

- | | |
|------------|----------|
| 1. Trees | 3. Crops |
| 2. Flowers | 4. Grass |

Planted vegetation

Planted vegetation is the plant cover of an area planted by people.

Planted vegetation is the plant cover of an area that grows under the influence of man.

Examples of planted vegetation.

- ✓ Planted Forests
- ✓ Planted grass.
- ✓ Planted flowers
- ✓ Crops

Natural vegetation

Natural vegetation is the plant cover of an area that grows under the influence of God. ✓ Natural vegetation is the plant cover of an area that grows naturally on its own.

Examples of Natural vegetation.

- | | | |
|-----------|--------------------|---------------------|
| 1. Trees | 3. Thickets | 5. Shrubs Grassland |
| 2. Bushes | 4. Natural forests | 6. Swamps/wetlands |

Difference between Natural and planted forest:

- ✓ Natural forests produce hard wood while planted forests produce soft wood.
- ✓ Natural forests have a variety of tree species while planted forests have one tree species
- ✓ Natural forests have thick under growth while planted forests do not have thick under growth.
- ✓ Natural forests take long to mature while planted forests take short time to mature.
- ✓ Natural forests do not grow in rows while planted forests grow in rows.

Guided Activity

1. Define the word vegetation.

2. Mention **two** types of vegetation

3. Give **two** differences between natural and planted forest

4. Why do trees in natural forests take long to mature?

5. Mention any **two** elements of vegetation

6. List **two** examples of trees in natural forests

7. How kind of vegetation mostly provides food for mountain gorillas?

8. What is natural vegetation?

9. Suggest any **two** ways in which the destruction of natural vegetation affects the environment.

10. Which type of vegetation covers the largest area in East Africa?

LESSON

Forests

A forest is a large area of land covered with trees.

Types of forest.

- Natural forests Planed forests

Natural forests

These are forests that grow under the influence of God.

These are forests that grow naturally on their own.

Characteristics of natural forests.

- | | |
|---|--|
| <input checked="" type="checkbox"/> Trees naturally grow tall. | <input checked="" type="checkbox"/> Trees form a canopy. |
| <input checked="" type="checkbox"/> Trees are evergreen. | <input checked="" type="checkbox"/> They receive heavy rainfall. |
| <input checked="" type="checkbox"/> Trees are of different types. | <input checked="" type="checkbox"/> They have thick undergrowth |
| <input checked="" type="checkbox"/> Trees are resistant to diseases. | <input checked="" type="checkbox"/> Trees produce hardwood. |
| <input checked="" type="checkbox"/> Trees take long period of time to mature. | |

NB. Natural forests produce hard wood because they take long to mature.

Why do they take long to mature?

- ✓ They compete for nutrients.
- ✓ They lack conditions for maturing faster

Examples of natural forests.

- Equatorial rainforest. Mediterranean forests. Mangrove forests.

Examples of trees in natural forests:

- | | | |
|-------------------|--------------|----------|
| 1. African walnut | 3. Ebony | 5. Mvule |
| 2. Mahogany | 4. Rose wood | |

Planted forests

Planted forests are forests that grow under the influence of man.

characteristics of planted forests.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Trees take short period of time to mature. | <input checked="" type="checkbox"/> One type of tree species is planted. |
| <input checked="" type="checkbox"/> Trees are not resistant to diseases. | <input checked="" type="checkbox"/> Trees produce soft wood. |
| <input checked="" type="checkbox"/> Trees are planted in lines. | |

Reasons why planted forests produce soft wood

- Trees grow very fast.
- Trees take short period of time to mature

uses of soft wood

- | | |
|---|---|
| <input checked="" type="checkbox"/> For making soft boards. | <input checked="" type="checkbox"/> For making papers. |
| <input checked="" type="checkbox"/> For making pencils. | <input checked="" type="checkbox"/> For making match boxes. |

Examples of tree species in planted forests.

- Eucalyptus
 Musizi
 Conifers (Pines, Cedar, Cypress, Fir)

Lesson

Economic importance of forests to people.

- They attract tourists who bring income.
- They are sources of fuel wood which is sold for income.
- They have fertile soils which favour agriculture.
- They prevent soil erosion.

Social importance of forests.

- | | |
|--|--|
| <input checked="" type="checkbox"/> They help in rain formation. | <input checked="" type="checkbox"/> They are home for wild animals. |
| <input checked="" type="checkbox"/> They act as wind breaks. | <input checked="" type="checkbox"/> They are sources of herbal medicine. |

- They beautify the environment

Advantages of living near thick forests

1. A lot of rainfall is received in the area.
2. People can access herbs.
3. The soil is fertile for farming.
4. People can get wild meat (hunting).
5. People can easily access timber.
6. People can easily access wood fuel.

Disadvantages / dangers of thick forests.

- They are hiding out rebels.
- They harbor disease vectors.
- They are homes of dangerous wild animals.
- They reduce land for other economic activities.
- They make road construction difficult.

How do forests provide income to people?

- Through tourism.
- They provide firewood which is sold for income.

Why are trees planted on the school compound?

- To provide shade at school.
- Trees act wind breaks.
- To control soil erosion at school.
- Trees provide fresh air at school.
- To beautify the school compound.
- Some trees provide fruit to school children.
- For scientific and study research.
- Some trees provide firewood to the school.

Ways of taking care of planted vegetation

- By irrigating it
- By spraying
- By fencing it
- By thinning
- By pruning
- By adding manure or fertilizers to the soils

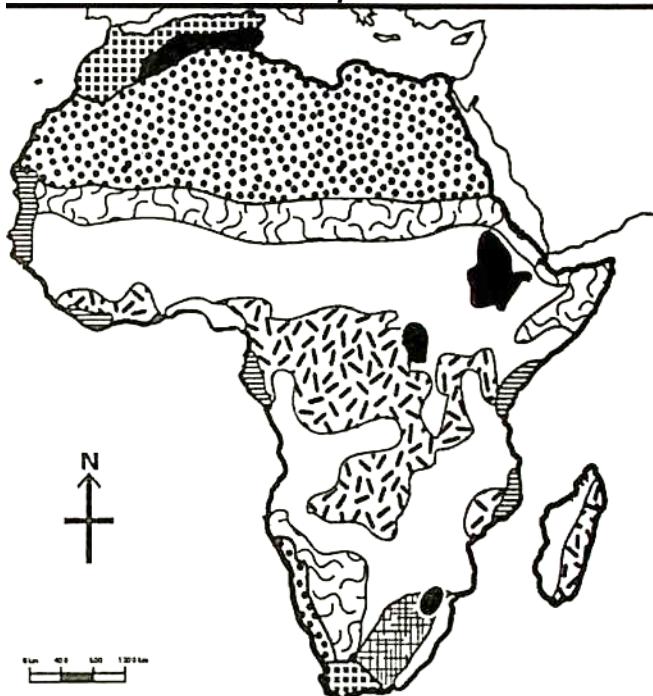
Lesson

Vegetation zones in Africa:

1. Equatorial / tropical rain forests
2. Semi desert
3. Savanna
4. Desert
5. Mediterranean
6. Mangrove
7. Temperate

Swamps / swampy vegetation

The sketch map of Africa below shows natural vegetation zones.



EQUATORIAL VEGETATION

- ✓ Equatorial rainforests are also called **tropical rainforests**
- ✓ This type of vegetation grows in areas that experience high rainfall throughout the year.
- ✓ Equatorial rainforests are found along the coast of West Africa in Nigeria, Gabon, Ghana and Democratic Republic of Congo and around the shores of Lake Victoria in Uganda.

Examples of tree species found in Equatorial rain forests:

- | | |
|-------------------|-------------|
| 1. Mahogany | 4. Ebony |
| 2. Greenheart | 5. Rosewood |
| 3. Mvule (Troika) | 6. Sapele |

Characteristics of Equatorial rain forests:

1. The trees produce hardwood.
2. Trees take long to mature
3. The trees have broad leaves.
4. The trees have buttress roots, standing above the ground.
Trees grow buttress roots to provide extra support since the trees are very tall.
5. The forests form a canopy.
6. They have a thick under growth called shrubs.
7. They are ever green.
8. The trees are very tall.

Reasons why trees in the equatorial rainforests grow very tall

- To compete for sunlight.
- They receive plenty of rainfall.
- The areas have fertile soils.

Economic activities in equatorial rainforests

- | | |
|--------------|------------------|
| 1. Lumbering | 3. Latex tapping |
| 2. Tourism | 4. Farming |

Name the countries in Africa with Equatorial rainforests.

- | | | |
|-----------------------------|---------------|-----------------|
| 1. DRC | 5. Gabon | 9. Sierra Leone |
| 2. Senegal | 6. Madagascar | 10. Nigeria |
| 3. Central African Republic | 7. Cameroon | 11. Uganda |
| 4. Tanzania | 8. Mozambique | |

Creative Printers

Examples of rainforests in Uganda.

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Mabira forest | <input checked="" type="checkbox"/> Kibale forest | <input checked="" type="checkbox"/> Maramagambo forest. |
| <input checked="" type="checkbox"/> Budongo forest. | <input checked="" type="checkbox"/> Mt. Rwenzori forest. | <input checked="" type="checkbox"/> Mt. Elgon forest. |
| <input checked="" type="checkbox"/> Marabigambo forest | <input checked="" type="checkbox"/> Bwindi impenetrable forest. | |
| <input checked="" type="checkbox"/> Bugoma forest. | | |

Reasons why there are few people living in the equatorial rainforests.

- Presence of thick forests.
- Poor wet and hot conditions.
- Presence of vectors.
- Poor transport and communication.
- Presence of man eaters.

Guided Activity

1. State **one** reason why trees in rainforests do not shed their leaves?

2. Give **one** reason why trees in Equatorial forests grow very tall

3. Which neighbouring country of Uganda is mainly covered by equatorial rain forests?

4. Apart from minerals, give any **one** product obtained from the equatorial rain forests in the Democratic Republic of Congo (Zaire).

5. Forests in Uganda are being destroyed. What three reasons do people give for doing so?

6. State any **one** way in which forests improve people's health.

7. State any **one** problem farmers may face as a result of cutting down forests.

8. Name the type of vegetation which grows in areas that experience high rainfall throughout the year.

9. Mention **two** advantages of living near thick forests

10. Forests are disadvantageous to people. State **two** reasons to support this statement.

LESSON

SAVANNA VEGETATION

There are two types of grasslands in Africa namely:

1. Savanna grasslands.
2. Temperate grasslands Savanna grasslands:

Savanna grassland covers the largest part of Africa.

Savanna vegetation is basically grassland –

Savanna vegetation is a large area of land covered with short bushes and scattered trees.

There are two types of savanna vegetation namely;

1. Savanna grassland/ Wet savanna
2. Savanna woodland/Dry Savanna.

Savanna grasslands:

They are located in tropical regions.

Savanna grasslands have plenty of grass.

This explains why most game parks are located there.

It is the most widely spread in Africa.

It covers places like Senegal, Nigeria, South Sudan, East Africa, Zambia, Angola and South of DRC.

Characteristics of wet Savanna vegetation

1. It has tall and scattered or a few trees.
2. The grass is short in areas that receive little rainfall and tall grass in areas that receive a lot of rainfall.
3. The trees shed their leaves during dry season.
4. The grass leaves go brown and dry in the dry season.

Savanna woodlands/dry savanna:

The Miombo in Central Tanzania, Zambia, Malawi, Mozambique, South Eastern DRC and Western Madagascar are examples of Savanna woodland.

Characteristics of Savanna woodland

1. Most trees in the savanna are deciduous i. e they shed their leaves during the dry season to reduce the rate of transpiration.
2. Woodland Savanna has tall thorny trees
3. It has short grass.
4. The trees have long roots which they use to tap underground waters.
5. The woodlands have thorny thickets.

Trees found in savanna vegetation

❖ Acacia

❖ Baobab

❖ Euphorbia

countries in Africa which have savanna woodland.

Tanzania

Angola

Malawi

Zambia

Mozambique

Zimbabwe

Name major economic carried out in Miombo woodland.

Bee keeping/Apiculture

Reason why Miombo woodland favours bee keeping.

Bees cannot be attacked by tsetse flies.

reason why Miombo woodland does favour dairy farming ✓ Due to presence of tsetse flies which spread Nangana to animals.

Ways of controlling of tsetse flies.

Spraying tsetse flies.

Using tsetse fly traps.

Clearing bushes

Reasons why Miombo woodlands are sparsely populated.

- Due to presence of tsetse flies
- Due to prolonged drought
- Due to presence of infertile soils.

Guided Activity

1. Why is cattle-rearing one of the commonest activities in the Savannah areas of East Africa?

2. Why is savannah vegetation suitable for game parks in Africa?

3. Name the type of vegetation that covers the most part of Africa.

Creative Printers

4. Why do you think savanna vegetation covers the largest part of Africa?

5. Mention any **two** characteristics of savanna woodland.

6. Give **two** reasons why cattle keeping is carried out on a large scale in Savanna grassland

LESSON

Temperate grasslands

The temperate grasslands are found in the temperate regions.

They are located in Southern Africa.

The temperate grasslands of South Africa are called the High velds.

They cover areas of Orange Free State, Transvaal and Natal.

Characteristics of temperate grasslands

1. It has short grass in the drier region.
2. It has few scattered trees and shrubs.
3. The grass has short roots.
4. They have long and narrow leaves.
5. The leaves have hairy covering.

These conditions help them to survive in the dry seasons (reduce the rate of transpiration)

Economic activities

1. Sheep rearing – Merino for wool.
2. Goat rearing – Angora goats for mohair.
3. Growing of oak trees.
4. Crop growing e.g. citrus fruits, vegetables, maize, sugarcane and wheat.

Examples of tree spices found in temperate vegetation.

- Blackwood.
- Chestnut
- Wattle

Activity

- What do we call trees which shed their leaves during dry season?
- Give **one** reason why deciduous trees shed their leaves during dry season

- What do we call trees which do not shed their leaves?

- Give three examples of trees found in savanna vegetation.

- Give any **four** economic activities carried out in savanna grassland of Africa

- State any **four** reasons why savanna grasslands are densely populated

LESSON

MEDITERRANEAN VEGETATION

The Mediterranean vegetation is found in the North West and South West of Africa.

It consists of woodland and scrub

Forests in woodland provide soft wood

Countries covered by Mediterranean vegetation

- Morocco
- Algeria
- Tunisia
- Libya
- South Africa

Examples of trees found in the Mediterranean vegetation

- | | | |
|------------|-----------|-------|
| ❖ Pines | ❖ Cypress | ❖ Oak |
| ❖ Cedars | ❖ Fir | |
| ❖ Conifers | ❖ Olives | |

Characteristics of Mediterranean vegetation

- The trees develop thick bark.
- The trees have long roots to tap water from deep the ground.
- The leaves are wax covered, shiny and hairy to reduce the loss of water (transpiration)
- The roots are widely spread.
- The vegetation consists of short thin stemmed trees.

Economic activities

- Growing of citrus fruits e.g. oranges, lemons, tangerines, limes, vines, grapes, date etc.
- Sheep and cattle rearing.

Other crops: wheat, maize, barley and vegetables.

Reasons why Mediterranean regions are densely populated.

- ✓ Due to presence of fertile soils for crop growing.
- ✓ There are no thick forests.

Guided Activity

- How does the Mediterranean vegetation contribute to the wine making industry?

- Identify any **two** products that can be made from the wood got in Mediterranean vegetation.

- Of what value are citrus fruits to a school child?

4. Suggest any **two** ways in which tsetse flies can be controlled.

5. State any **two** reasons why Mediterranean regions are densely populated.

6. Mention any **one** of the citrus fruits grown in the Mediterranean climate region of Africa.
-

7. Identify the area in East Africa which has a lot of tsetse flies.
-

8. In which way do tsetse flies affect the people in Central Tanzania?
-

LESSON

SEMI ARID/ DESERT VEGETATION

It is found in areas which receive little rainfall.

It is found near Sahara and Kalahari- Namib deserts, in Karamoja, North eastern part of Kenya and South Sudan.

The common tree species is **cactus**.

Characteristics of Semi- desert climate:

1. It consists of short scrub, bushes and thorny trees.
2. It has rough scattered grass.
3. It has few trees because of little rainfall received.
4. The plants have deep roots tap water from deep the ground.
5. The plants have small leaves to reduce transpiration.

Economic activities in Semi desert areas.

- | | |
|---|--|
| <input checked="" type="checkbox"/> Animals rearing | <input checked="" type="checkbox"/> Mining |
| <input checked="" type="checkbox"/> Tourism | <input checked="" type="checkbox"/> Trade |

DESERT VEGETATION

Deserts are areas which receive little or no rainfall throughout the year.

This type of vegetation zone is found in Kalahari, Sahara and Namib deserts.

Characteristics of desert vegetation:

- | | |
|---|----------------------------|
| 1. The ground has bare rock and sand heaps (sand dunes) | 6. Trees have thick barks. |
| 2. Few trees grow in desert regions | 7. Trees have thin leaves. |
| 3. Trees have very long roots | |
| 4. Trees have tap roots | |
| 5. It has thorny trees. | |
| 8. Trees have thick bark and thin leaves to reduce transpiration. | |

Examples of trees in the desert

- | | |
|-----------|------------------|
| 1. Baobab | 3. Poppies |
| 2. Cactus | 4. Thorny bushes |

Economic activities in desert vegetation

- | | |
|--|--|
| <input checked="" type="checkbox"/> Oil mining e.g. in Libya | <input checked="" type="checkbox"/> Irrigation farming |
| <input checked="" type="checkbox"/> Nomadic pastoralism | <input checked="" type="checkbox"/> Tourism |

Activity

1. State **two** characteristics of desert vegetation.
-

2. State any **one** reason why trees in desert areas have tap roots.
-

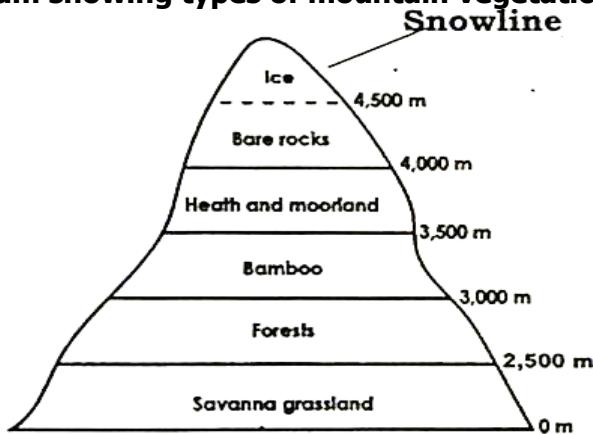
3. Why there are few people living in desert and semi desert areas?
-

4. Mention any **two** economic activities done in the desert vegetated areas.
-

MOUNTAIN VEGETATION:

- * It is found on Drakensberg mountains, Mount Kilimanjaro, Kenya, Elgon, Rwenzori and Ethiopian highlands.
- * Mountain vegetation is also called montane vegetation.
- * It changes with the difference in altitude.
- * At the foot of the mountain, there is Savanna grassland / Tropical grassland.
- * From 1500m to about 3000m there are Equatorial forests / tropical Rain forests.
- * Above 3000 – 3500m there are Bamboo forests.
- * From 3500m – 4000m there is heath and moorland.
- * From 4000m – 4500m there are bare rocks. Above 4500m there is a snow line.

Diagram showing types of mountain vegetation:



Note:

Characteristics of mountain vegetation

- Trees produce hardwood.
- Trees are very tall.
- Trees are evergreen

Factors that affect the varying vegetation on mountain.

- Rainfall
- Altitude

Guided Activity

Why isn't there little or no vegetation on mountain peaks?

MANGROVE FORESTS

Mangrove forests grow in coastal salty waters.

They are found along the East coast of Africa, the Western part of Madagascar and Western Coast of Africa.

Why mangrove trees are commonly found along the coasts.

This is because mangrove trees require salty water to grow.

- ❖ The forests have hard wood used in boat and ship building.
- ❖ This wood is suitable for ship building because it is water proof.

Why mangrove forests are important to water transport.

They provide water proof timber used for making ships.

Characteristics of mangrove forest.

- | | |
|---|--|
| <input checked="" type="checkbox"/> They produce hardwood. | <input checked="" type="checkbox"/> They grow in water logged areas. |
| <input checked="" type="checkbox"/> The trees are evergreen. | <input checked="" type="checkbox"/> They have buttress roots. |
| <input checked="" type="checkbox"/> They grow in salty water areas. | <input checked="" type="checkbox"/> They receive heavy rainfall. |
| <input checked="" type="checkbox"/> The trees are very tall. | <input checked="" type="checkbox"/> They provide water proof timber. |

African countries with Mangrove forest.

- | | | |
|---------------|---------------|-------------|
| 1. Tanzania | 5. Mozambique | 9. Ghana |
| 2. Mozambique | 6. Liberia | 10. Tunisia |
| 3. Kenya | 7. Madagascar | |
| 4. Nigeria | 8. Guinea | |

Economic importance of mangrove forests.

1. They provide water proof timber used in ship building.
 2. They attract tourists who bring income.
 3. They are sources of income through timber export.

Vegetation distribution in Africa

Vegetation distribution is the way plant cover is spread in an area.

Factors that influence vegetation distribution

- Factors that influence vegetation distribution**

1. Climate (rainfall and temperature)	3. Drainage system	7. Relief
2. Soil fertility/ Nature of the soil	4. Altitude	8. Government policies
	5. Human activities	
	6. Latitude	

How these factors affect the climates of a place

1. Climate

- Rainfall determines vegetation growth.
 - Vegetation cover varies from place to place depending on rainfall and temperatures.
 - (i) Places with heavy rainfall have thick vegetation
 - (ii) Places with little rainfall have poor vegetation
 - (iii) Low temperatures make growth of vegetation difficult

(iii) Low temperature

2. Altitude

Altitude

Vegetation changes with altitude.

- Areas at high latitude experience cool temperatures which have great influence on vegetation.
 - Mountain areas usually have plenty of rainfall and fertile soils.
 - Vegetation does not grow in areas above the snow line.
 - Bamboo forests grow in areas of high altitude of mountains
 - Savanna vegetation grow in areas of low altitude of mountain

Savann Soils

- (i) Thick vegetation grow in places with fertile soil
(ii) Poor vegetation grow in areas with infertile soil

4. Human activities

Some man's activities hinder vegetation survival while others support its growth.

Activities that affect vegetation growth negatively

- Activities that affect vegetation growth negatively**

(i) Human settlement	(vi) Urbanization	(xi) Charcoal burning
(ii) Industrialisation	(vii) Recreation	(xii) Mining
(iii) Reforestation	(viii) Lumbering	(xiii) Bush burning
(iv) Swamp drainage	(ix) Settlement	
(v) Overstocking	(x) Road construction	

- Activities that promote vegetation growth**

 - (i) Afforestation
 - (ii) Re-afforestation
 - (iii) Agro-forestry
 - (iv) Good farming methods

Dangers of large scale use of vegetation to environment

- Dangers or large scale use of vegetation

 - (i) Reduction in rainfall / drought
 - (ii) Soil exhaustion
 - (iii) Global warming
 - (iv) Destruction of water catchment areas
 - (v) Destruction of animal habitat

**(V) Destroy
Drainage**

Drainage Drainage refers to how places are supplied with water.

- Places with good drainage have thick vegetation growth.
 - Places with poor drainage have thin vegetation growth.

➤ Places with Government policy

Government policy Some government policies promote vegetation growth.

Examples of government policies that promote vegetation growth

- Examples of government policies that promote vegetation**

 - (i) Controlling environment degradation through NEMA.
 - (ii) Supplying planting trees to farmers
 - (iii) Rural electrification reduces cutting down of trees

Some government policies destroy vegetation growth

Examples of government policies that destroy vegetation growth

- (i) Industrialization
- (ii) Road construction

Guided Activity

1. What is rural electrification?

2. Give **two** advantages of rural electrification.

3. Where does Uganda export her electricity?

4. Why is electricity called an invisible export?

5. Why was the Owen falls dam constructed at Jinja instead of Moroto?

6. Why do you think many people in rural areas will not benefit from the government policy of rural electrification?

LESSON

Economic importance of vegetation to people

- (i) It helps in the formation of rainfall.
- (ii) It is a source of pasture for animals.
- (iii) It is a source of building materials
- (iv) It creates employment for the people e. g herbalist and carpenters
- (v) They provide timber for people.
- (vi) They attract tourists for income

Social importance of forests / vegetation

- (i) They provide wood fuel.
- (ii) Source of building materials like poles and grass.
- (iii) It is a source of food
- (iv) It is a source of herbal medicine

Importance of vegetation to animals

- (i) It is a source of food for animals
- (ii) It is a habitat for wild animals
- (iii) It is a source of herbal medicine

Problems caused by vegetation to people:

- (i) Some vegetation is poisonous
- (ii) Thorny vegetation prick people
- (iii) Bad people hide in forests
- (iv) Vegetation is a habitat for dangerous wild animals

Problems caused by vegetation to animals

- Some vegetation is poisonous
- They hide enemies to other animals
- Some thorny vegetation can prick animals

Reasons why animals live in different vegetation zones

- (i) It's due to different types of food found in different vegetation zones.
- (ii) It's due to the difference in shelter in different vegetation zones.
- (iii) It's due to the difference in climate in different vegetation zones.

Guided Activity

1. Suggest **two** ways in which natural vegetation can be conserved.

2. Mention **two** products got from planted forests.

3. Give **two** effects of destroying the natural vegetation.

4. State **two** influence of vegetation to people.

5. How does vegetation influence the life of animals?

6. Give **two** importance of grasses to people.

7. What is the greatest cause of environmental degradation in most parts of Africa?

8. How does vegetation influence population distribution?

9. Give **two** reasons why natural forests have greatly reduced in Uganda.

LESSON

Environmental degradation

Environmental degradation is the destroying of the natural environment.

Causes of environmental degradation.

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Swamp drainage | <input checked="" type="checkbox"/> Brick making | <input checked="" type="checkbox"/> Overgrazing |
| <input checked="" type="checkbox"/> Over cultivation | <input checked="" type="checkbox"/> Rural-urban migration | <input checked="" type="checkbox"/> Settlement |
| <input checked="" type="checkbox"/> Overpopulation | <input checked="" type="checkbox"/> Deforestation | |

Human activities that destroy the environment

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Deforestation | <input checked="" type="checkbox"/> Over grazing | <input checked="" type="checkbox"/> Road construction |
| <input checked="" type="checkbox"/> Urbanization | <input checked="" type="checkbox"/> Lumbering | <input checked="" type="checkbox"/> Mining |
| <input checked="" type="checkbox"/> Bush burning | <input checked="" type="checkbox"/> Over cultivation | <input checked="" type="checkbox"/> Industrialization |
| <input checked="" type="checkbox"/> Crop farming | <input checked="" type="checkbox"/> Charcoal burning | |

Dangers of environmental degradation.

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Soil erosion | <input checked="" type="checkbox"/> Soil infertility | <input checked="" type="checkbox"/> Prolonged droughts |
| <input checked="" type="checkbox"/> Desertification | | <input checked="" type="checkbox"/> Global warming |

Activity

1. What is environmental degradation?

2. State any **two** causes of environmental degradation.

3. Mention any **two** human activities that destroy the environment

4. Give any **four** dangers of environmental degradation.

Lesson

What is deforestation?

Deforestation is the massive cutting down of trees without replacement.

Reasons why people practice deforestation.

- | | |
|---|--|
| <input checked="" type="checkbox"/> To get timber. | <input checked="" type="checkbox"/> To get fuel wood. |
| <input checked="" type="checkbox"/> To get land to building houses. | <input checked="" type="checkbox"/> To get land for farming. |
| <input checked="" type="checkbox"/> To construct roads. | <input checked="" type="checkbox"/> To get land for industrialization. |
| <input checked="" type="checkbox"/> To get land for settlement. | |

Dangers of deforestation.

- | | |
|--|---|
| <input checked="" type="checkbox"/> Soil erosion. | <input checked="" type="checkbox"/> Displacement of wild animals. |
| <input checked="" type="checkbox"/> Desertification | <input checked="" type="checkbox"/> Destruction of homes of wild animals. |
| <input checked="" type="checkbox"/> Prolonged drought. | |

- Destruction of natural beauty of the environment.
- It reduces chances of rainfall.

Ways of controlling deforestation.

- Enforcing strict laws against deforestation.
- Teaching people about the importance of trees.
- Teaching people about dangers of deforestation.
- Promoting rural electrification.

How cutting of trees affects wildlife

- It leads to migration of wildlife.
- It leads to displacement of wildlife.
- It destroys the shelter of wildlife.

How cutting of the trees affects the climate of an area

- It reduces the chances of rainfall.
- It leads to desertification.
- It leads to global warming.
- It leads to drought.

Ways destruction of natural vegetation affects the environment

- It reduces chances of rain formation.
- It causes soil erosion.
- It leads to desertification.

Activity

1. What is deforestation?

2. How does deforestation affect soil fertility?

3. Reasons why people practice deforestation.

Creative Printers

4. State any **two** dangers of deforestation.

5. Write down **two** ways of controlling deforestation.

6. State any **two** effects of cutting of trees on wildlife

7. How does cutting of the trees affect the climate of an area

8. Give any **two** ways destruction of natural vegetation affects the environment

Lesson

Environmental conservation

Environmental conservation is the preserving of the natural environment.

Ways of conserving /protecting of the natural vegetation.

- | | |
|---|---|
| <input checked="" type="checkbox"/> By practicing afforestation. | <input checked="" type="checkbox"/> By practicing agro-forestry. |
| <input checked="" type="checkbox"/> By avoiding bush burning. | <input checked="" type="checkbox"/> By using of better farming methods. |
| <input checked="" type="checkbox"/> By practicing re-afforestation. | <input checked="" type="checkbox"/> By practicing rotational grazing. |
| <input checked="" type="checkbox"/> By avoiding deforestation. | <input checked="" type="checkbox"/> By controlling lumbering. |

Ways government policies can promote vegetation growth.

- By controlling environment degradation through NEMA.
- By supplying trees to farmers.

- Through rural electrification to reduce deforestation.

Give the meaning of the following terms.

- Agro forestry** is the growing of crops together with useful trees on the same piece of land.
- Afforestation** is the planting of many trees where they have never been.
- Re-afforestation** is the planting of trees where they have been cut on a large scale.

Activity

1. What is environmental conservation?

2. State any **two** ways of conserving /protecting of the natural vegetation.

3. Write **two** ways government policies can promote vegetation growth.

4. Give the meaning of the following terms.

Agro forestry

Afforestation

Re-afforestation

Lesson

WILDLIFE AND TOURISM IN AFRICA

Wildlife refers to the animals, plants, birds and insects that live on the natural environment or bush.

Why wildlife should be preserved / protected?

- It attract tourist who bring income.
- It creates employment to people.
- It helps to conserve the natural environment

Factors that influence wildlife distribution.

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Vegetation | <input checked="" type="checkbox"/> Security | <input checked="" type="checkbox"/> Diseases |
| <input checked="" type="checkbox"/> Government policy | <input checked="" type="checkbox"/> Availability of water. | |

TOURISM

Tourism is a business of providing services to the tourists.

Examples of services provided to the tourists

- | | |
|------------------|------------------|
| 1. Accommodation | 3. Medication |
| 2. Transport | 4. Entertainment |

A tourist is a person who visits a place of interest for pleasure or study purposes.

Types of tourism

- (i) Domestic tourism
- (ii) International tourism

Major tourist attractions in Africa

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Wildlife | <input checked="" type="checkbox"/> African culture | <input checked="" type="checkbox"/> Historical sites |
| <input checked="" type="checkbox"/> Climate | <input checked="" type="checkbox"/> Vegetation | |
| <input checked="" type="checkbox"/> Physical features | <input checked="" type="checkbox"/> Beautiful beaches | |

African cultures that attract tourists.

- Dance
- Dress and costumes
- Musical instruments
- Artifacts
- Food

Activity

1. What's do we called a place where remains of early man are kept for study and tourism?

2. Why is tourism considered as an industry?

3. Why do tourists like to visit mountainous areas of Uganda?

4. Why do you think a tourist who comes to Uganda is given a map of Uganda?

5. In which way does the building of hotels promote tourism in Uganda?

6. Mention any **two** tourist attraction in Uganda

7. Give any **two** tourist attractions that are likely to be found in Libya and not in Uganda.

Lesson**Reasons why tourists like to visit forest areas of Uganda**

To enjoy seeing forest wildlife

For adventure

For scientific and study purposes

Why do tourists like visiting lakes and rivers?

To enjoy cool climate.

For adventure.

For scientific and study

To see water animals.

To swim.

purposes.

Tourism is regarded as an industry because

1. It earns revenue to the government.

2. It creates employment.

3. It is a source of income to people.

4. It is an investment.

Tourism is called an invisible trade because it does not involve physical exchange of goods yet income is earned.

Tourism is regarded as an invisible export because:

It does not involve physical exchange of goods but income is earned.

Tourism is a source of foreign exchange.

Other examples of invisible exports

1. Electricity

3. Education

5. Insurance

2. Skilled labour

4. Security

6. Banking

Services offered to tourists by the government.

Transport

Accommodation

Security

Entertainment

Activity

1. Give any **two** ways of encouraging tourists to come to Uganda.

2. State any **two** factors which affect tourism in Uganda

3. Mention any **two** examples of services provided to the tourists

4. Tourism is regarded as an invisible export. Give a reason to support this.

5. How does tourism promote security of the country?
-
-

Lesson

Ways through which government gets money from tourists.

- | | |
|--|--|
| <input checked="" type="checkbox"/> After tourists paying for transport. | <input checked="" type="checkbox"/> After tourists paying for entertainment. |
| <input checked="" type="checkbox"/> After tourists paying for accommodation. | <input checked="" type="checkbox"/> After tourists paying for security. |

Tourist attractions found in Kenya and Tanzania but not in Uganda.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Seaports | <input checked="" type="checkbox"/> Coastal plains |
| <input checked="" type="checkbox"/> Mangrove forests | <input checked="" type="checkbox"/> Natural harbours |

Tourist attractions found in Libya but not in Uganda.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Oases | <input checked="" type="checkbox"/> Sand dunes |
| <input checked="" type="checkbox"/> Desert climate | <input checked="" type="checkbox"/> Natural harbours |

Reasons why tourism in Kenya is more developed than that of Uganda.

- Kenya is politically stable than Uganda.
- Kenya has better transport services than Uganda.
- Kenya has better hotels and lodges than Uganda.
- Kenya advertises her tourism industry than Uganda.

Factors which promote tourism in Africa

- | | |
|---------------------------------------|-----------------------------------|
| 1. Political stability | 5. Good publicity |
| 2. Good transport. | 6. Good and peaceful government |
| 3. Good accommodation facilities | 7. Government policies on tourism |
| 4. Availability of tourist attraction | |

Factors hindering the development of tourism industry in Africa

- | | |
|--|-------------------------------------|
| 1. Political instability | 6. Shortage of funds |
| 2. Lack of publicity. | 7. Poor management of tourism sites |
| 3. Poor transport | 8. Poaching |
| 4. Lack of tourist attraction | 9. Encroachment of game parks |
| 5. Poor government policies on tourism | 10. Poor accommodation |

Importance of Tourism

- 1. It earns foreign exchange
- 2. It conserves wild life
- 3. It provided employment to the people.
- 4. It leads to development of infrastructures.
- 5. It is used to diversify the economy.
- 6. It promotes international friendship It leads to preservation of culture e.g. various historical objects, e.g. viewed in museums
- 7. It leads to development of local industries (craft industry)

Problems created by tourist industry

- 1. Easy spread of diseases
- 2. Tourism promotes immorality
- 3. Some tourists come as spies

Guided Activity

1. In which way does security promote tourism?
-

2. How does tourism industry provide employment to people?
-

3. How do hotels and lodges promote tourism in a country like Uganda?
-

4. In which one way does building of roads promote tourism in a country like Uganda?

5. Why are tourists who come to Uganda given a map of Uganda?

6. Mention **two** other examples of invisible exports

LESSON

Game parks and Game reserves in Africa:

Game Park:

It is a large area of land set aside by government to preserve wildlife for public and future generations to see and admire.

Game reserves:

Game reserves are areas of land set aside by government for future development into a game park.

Difference between Game Parks and Game reserves

In game reserves, hunting can be done on permission but in game parks, hunting is not allowed.

Difference between Game rangers and Game wardens

Game rangers are armed people who are employed to provide security to the wild animals against poachers in game parks while game wardens are people who take care of wild animals in game parks. Most of game parks in Africa are found in savannah vegetation/tropical grasslands.

Reasons why most of game Parks are found in Savanna/Tropical Vegetation. ✓

1. There is enough pasture for animals.
2. There is enough water for animals.
3. There is enough space for animal shelter.
4. Due to favorable climate for animals.

5. SPELLING EXERCISE

6. 1 2

7. 3 4

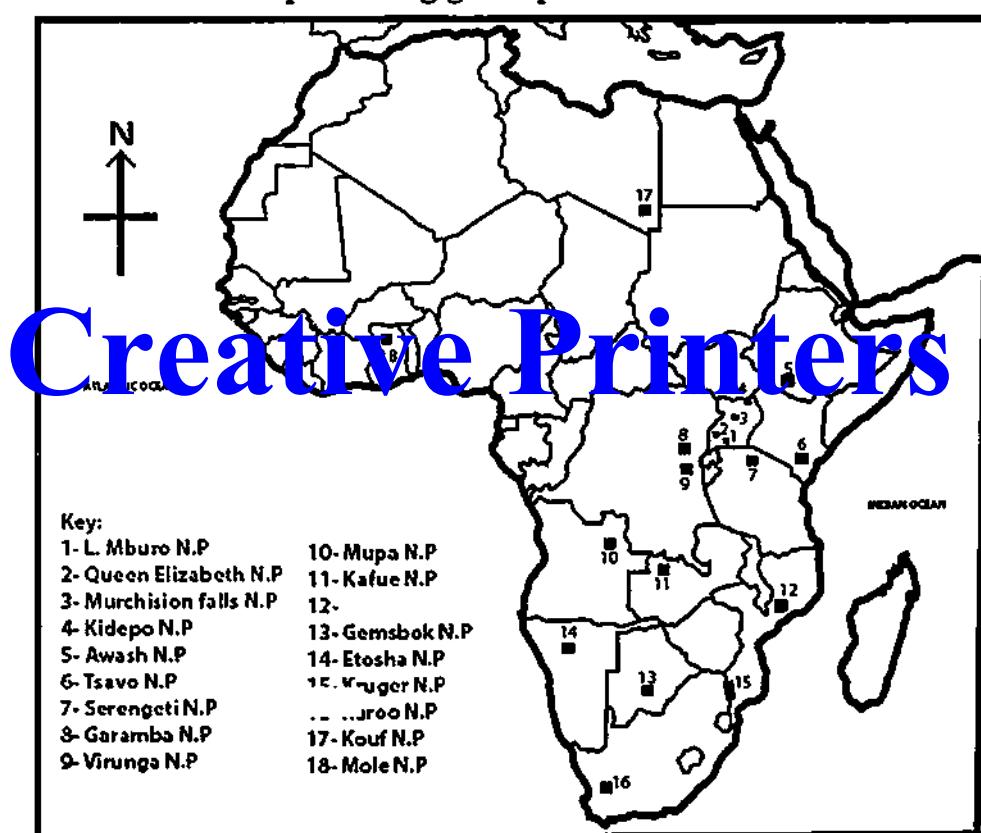
8. 5 6

9. 7 8

Game parks in Africa

- ❖ Serengeti National Game Park in Tanzania.
- ❖ Lake Mburo National Park in Uganda.
- ❖ Kruger National park in South Africa.
- ❖ Queen Elizabeth National Park in Uganda.
- ❖ Virunga National park in DRC.
- ❖ Garamba National park in DRC.
- ❖ Gemsbok National park in Botswana.
- ❖ Murchison falls National park in Uganda.
- ❖ Tsavo National park in Kenya.
- ❖ Karoo National park in South Africa.
- ❖ Kidepo valley National park in Uganda.
- ❖ Gorongosa National park in Mozambique.
- ❖ Kouf National park in Libya.
- ❖ Ras Muhammad National park in Egypt.
- ❖ Awash National park in Ethiopia.
- ❖ Mupa National park in Angola.

Map showing game parks in Africa.



Country	Game Park
South Africa	Kruger, Karoo, St Lucia Park, West Coast Game Park
DRC	Virunga, Okapi, Garamba
Burundi	Ruvubu
Kenya	Marsabit, Tsavo, Sibiloi, Meru, Amboseli, Aberdares
Tanzania	Serengeti, Katavi, Ruaha, Mikumi
Uganda	Murchision falls,
Libya	Kouf
Nigeria	Yankara, Kainji lake
Egypt	Ras O' Mohammed

- **Namib – Naukluft national Park** is the largest in Africa.
- **Ruaha national Park** is the largest in Tanzania and East Africa.
- **Tsavo national Park** is the largest in Kenya.

- **Murchison falls national Park** is the largest in Uganda.

Importance of Game Parks to people in Africa

1. They preserve wildlife for future generation.
2. They attract tourists who pay foreign exchange to the country.
3. They are sources of educational information (study purpose).
4. They provide employment to people.
5. They facilitate the development of transport system e.g Air transport.
6. They provide market for the craft industry.

Importance of Game Parks to animals

- (i) They protect animals
- (ii) They provide shelter
- (iii) They provide food

Problems facing Game Parks in Africa

- | | |
|---------------------------------|----------------------|
| 1. Poaching | 5. Drought |
| 2. Insecurity | 6. Land encroachment |
| 3. Wild bush fires | 7. Poor management |
| 4. Animal vectors and diseases. | |

Solutions to the above problems

1. Enforce laws against poaching.
2. Ensuring total security to the African countries.
3. There should be fighting equipment.
4. Employing more veterinary personal.
5. Discourage deforestation and encourage afforestation.
6. Resettling people far away from game parks.
7. Improving on management of tourism sites.

Problems faced by people who live near Game Parks

1. Destruction of peoples crop by animals from Game Parks
2. People may be killed by wild animals.
3. Easy spread of animals diseases.
4. Animals make a lot of noise for people

Guided Activity

1. How was Tsavo National Game parks a problem to the builders of the Uganda railways.

2. Mention any **one** game park found in northeastern Uganda.

3. State any **one** reason why there are no crocodiles in National Game Park found in North Eastern Uganda.

4. State any **two** economic benefits of National Game Parks in Uganda.

5. State the main reason why fishing is not allowed in the waterbodies located within the game parks.

6. Mention any **one** human activity which causes the number of wild animals to reduce in national game parks

7. Why is savannah vegetation suitable for game parks in Africa?

8. Why do you think that people are not allowed to hunt for the animals in a game park?

9. Give any **one** reason why some wild animals are killed in the National Game parks

10. Mention any **two** problems that animals in game parks face.

11. Give **one** reason why government protects animals in game parks

LESSON

POACHING

Poaching is the illegal hunting of wild animals in game parks.

Reasons why people hunt and kill wild animals.

- To get meat.
- To get hides and skins.
- To get ivory.
- To get animal trunks.

Dangers of poaching.

- It affects tourism industry.
- It causes wild bush fire
- It reduces animals in game parks.
- It leads to death of animals in game parks
- It destroys animals' pasture.
- It leads to extinction of animals in game parks
- It destroys animals' shelter.

Reasons why the government of Uganda is discouraging poaching in game parks

- To avoid extinction of animals in the game parks.
- To preserve wildlife for future generation.
- To preserve wildlife for research.
- It affects tourism industry.

Effects of poaching on the tourism industry

- It leads to migration of animals from game parks.
- It leads to extinction of animals in game parks.

Classification of animals in game parks

1. Herbivores	Buffaloes, antelopes, zebras, kobs, giraffes
2. Carnivores	Lions, Leopards, Hyenas, Foxes
3. Omnivores	Wild pigs
4. Scavengers	Vultures, Carrion birds/storks
5. Birds	Ostriches, flamingo birds

Ways of caring for wild animals:

1. By feeding them
2. By treating them
3. By providing security
4. By preserving their habitats.

Guided Activity

1. In which way do tourism create employment opportunities to people?

2. How does tourism lead to the development of infrastructures?

3. State **two** problems created by tourist industry

4. Mention **two** ways of caring for wild animals:

5. Mention **two** ways in which tourism can affect the culture of an area

a) Positively

b) Negatively

6. Mention any **two** problems that animals in game parks face.

7. Give **one** reason why government protects animals in game parks.

8. In which way do forests support wild animals?

9. Name the wild animal found on the Uganda national coat of arms.

LESSON

Animals found in different vegetation zones:

1. Equatorial zone:

Climbing and fruit eating animals mainly dominate the equatorial vegetation.

They include: monkeys, gorillas, chimpanzees, baboons, apes.

Others include: elephants, lions and giraffes.

2. Savanna vegetation:

Grass eating animals /Herbivores, which include: Buffaloes, gazelles, zebras, Kobs, hare, etc.

Flesh eating animals/ Carnivores, which include: lions, leopards, hyenas, foxes,.

3. Swamp vegetation:

Animals adapted to water/Aquatic animals stay in swampy areas.

They include: crocodiles, hippopotamus, frogs, toads, tortoise, etc.

4. Semi deserts and desert vegetation:

Animals that need little water and vegetation to feed on

They include: snakes, newts, ostriches, squirrels, rats, etc

5. Temperate grasslands:

Animals adapted to dry and windy conditions:

They include: wild cats, wolves, Jaguar, Fox, Jackals and Rhinoceros

Guided Activity

Name any **two** examples of animals which live in this vegetation:

(a) Equatorial zone:

(b) Savanna vegetation

(c) Swamp vegetation

(d) Semi deserts and desert vegetation

(e) Temperate grasslands

LESSON

Population distribution in relation to vegetation:

In areas with desert and semi desert vegetation there is low population because:

- ✓ There is shortage of water
- ✓ There is little vegetation to provide shade, fuel & building materials.
- ✓ There is shortage of pasture
- ✓ It is difficult to grow crops.

In areas with Savanna vegetation there is high population because:

1. It is easy to keep animals.
2. It is easy to grow crops.
3. It is easy to build transport routes (roads, railway lines)

4. It is easy to build houses

In areas with Equatorial rainforests there is a low population because:

- It is difficult to build roads and railway lines
- They are hot and humid
- There are dangerous wild animals and disease spreading vectors

In areas with Mediterranean vegetation there is high population because:

- The vegetation is sparse.
- It favours the growing of crops.

In areas with Mountain vegetation there is high population because:

- It receives reliable rainfall.
- It has fertile soils.

Effects of population on vegetation

- ❖ Population of Africa is increasing rapidly.

High population leads to massive destruction of vegetation.

This vegetation is destroyed through:

- | | |
|-------------------|----------------------|
| 1. Deforestation | 4. Industrialization |
| 2. Swamp drainage | 5. Bush burning |
| 3. Overgrazing | 6. Over cultivation |

Effects of massive destruction of vegetation

1. It leads to soil erosion.
2. It leads to desertification.
3. It leads to uncontrolled weather disasters
4. It leads to over exploitation of vegetation.
5. Soil exhaustion.
6. It leads to soil infertility.
7. It leads to destruction of animal habitats.

Activity

1. Name any **two** types of animals found in game in game parks.

2. Give any **one** importance of taking care of wild animals

domestic animals

3. Why are there more animals in savanna grasslands?

4. State one reason why apes and mountain gorillas are commonly found in:
Equatorial forests

Mountain vegetation

Name any **two** tourist attractions in Uganda apart from game parks

5. Mention any **one** way tourism earns income to the country.

6. In what way does vegetation promote tourism in the country?

7. Name the type of vegetation that grows around Lake Victoria.

8. What type of vegetation grows in salty water along the coast of East Africa?

9. Why do trees in Tropical rainforests grow tall?

Effects of Small population on vegetation

Small population promotes the conservation of vegetation in Africa through:

1. Control of soil exhaustion
2. Proper utilization of vegetation resources
3. Preservation of vegetation reserves

Reasons why some vegetation zones have more people than others

- (i) Some vegetation zones receive more rainfall than others
- (ii) Some vegetation zones have more food than others
- (iii) Some vegetation zones have more pasture for people's animals than others.
- (iv) It is easy to build houses in some vegetation zones than others
- (v) It is easy to grow crops in some vegetation zones than others
- (vi) Some vegetation zones are hotter than others

Bodies which conserve vegetation

NEMA-National Environment Management Authority.

NFA - National Forestry Authority.

The two bodies belong to the Ministry of Water and Environment.

Importance of conserving vegetation.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Protects animals. | <input checked="" type="checkbox"/> Controls soil erosion. |
| <input checked="" type="checkbox"/> Controls global warming. | <input checked="" type="checkbox"/> Helps in rain formation. |

Ways in which NEMA/NFA protect vegetation.

- Educating people about protecting vegetation.
- Making policies on conservation of vegetation.

Way of conserving vegetation in Africa:

- | | |
|------------------------------|-------------------------------------|
| 1. Through afforestation. | 4. Through rotational grazing. |
| 2. Through re-afforestation. | 5. Through environmental education. |
| 3. Through agro forestry. | 6. Through making forest reserves |

Guided activity

1. State any **two** characteristics of trees in Equatorial forests.

2. How do planted forests support the wood pulp industry?

3. Name **two** products of:

i) Softwood

ii) Hardwood

5. State **one** importance of soft wood to a P7 children.

6. Mention any **two** effects of Small population on vegetation

7. State any **two** reasons why some vegetation zones have more people than others

8. Write down any **two** ways of conserving vegetation in Africa:

PLE TIPS FOR TEACHERS AND LEARNERS/CANDIDATES

PREAMBLE

Passing a formative or a summative exam is not an event, but a well-planned, a well-implemented, well monitored, well supported/directed, well assessed and well evaluated set of complimentary activities(functions). When one activity fails, it affects the success of all other functions. To summarize this statement, we will apply the TQM principle of management: Total Quality Management (total quality control), thus;
Inputs + Processes = Outputs.

The effectiveness of a teacher is reflected in the results/performance of the learners. It is therefore the cardinal role of the teacher to properly equip learners with specific vocabulary, competences (knowledge & skills), content, reasoning and the application of all these in everyday life.

Term 3 is term for consolidation, perfection and masterly of the learnt content. There is need to have consistence in all activities we do.

TIPS FOR TEACHERS

1. A copy of the curriculum P1-P7 is a must have: to guide planning, instruction and assessment
2. Prepare candidates properly before the examinations time.
3. Pay attention to both subject and language competences.
4. Map extracts should be given a priority.
5. The competences to be set should cater for critical thinking and creativity of the learners.
6. In assessment, be it formative or summative, the three questioning levels (taxonomy) must be well catered for: KCA;
 - a) **Knowledge questions:** recall facts, brief and precise
 - b) **Comprehension questions:** test reasoning, understanding of the concept and you can reason based on the knowledge/skill gained.
 - c) **Application questions:** use of gained competences in problem solving in everyday life experiences

TIPS TO THE LEARNERS

1. INSTRUCTIONS

- a) Read all the general instructions carefully.
- b) Read specific instructions on diagrams, maps, pictures, tables, graphs. Sometimes these instructions are guiding answers.
- c) Read through the question more than once and identify the key words before answering.
- d) Compose the answer well before writing it on the paper.

2. HANDWRITING

Good handwriting **MUST** be emphasized.

- a) Letter formation 5, S, a ol
- b) Unnecessary alternation of work. It is obvious that some work need to be crossed. Therefore use a single line to cross the work.
- c) Spacing of words e.g. Make laws/Makelaws/ can not, cannot
- d) Spacing of letters e.g. o l=d , lo= b, rn=m, al=d
- e) Capitalization: some capital letters resemble their small letters. The difference only comes in their sizes. Examples: Ss, Cc, Kk, Mm, Oo, Pp, Uu, Vv, Ww, Xx, Zz.
Make uniform letters in shapes, sizes and letter fonts. Avoid different fonts (a, a, A)
- f) Use the same handwriting throughout the paper.
- g) Use the same ink either blue or black throughout.
- h) Names of physical features, places, personalities must be written starting with capital letters
 - ✓ Apollo Milton Obote
NOT: appolo Milton obote

3. ANSWERING

- a) Each question takes one mark. No halves are awarded in SST.
- b) Answers should be short, brief and precise.

Disadvantages of full sentences in SST.

- i) The space may not be enough.
 - ii) There is tendency of writing incorrect spellings
 - iii) One may forget to write the answer.
 - iv) One may use a wrong tense/word/spelling in the middle of the sentence.
 - v) It is time consuming.
 - vi) The answer may not be easily traced by the person marking.
- c) All answers must be written in the space provided. Idle space should be left idle. If one answers both answers in space for (i) _____, he/she will get one mark.

For example

Give **two** advantages of a nuclear family.

It is cheap. It is easy to feed.

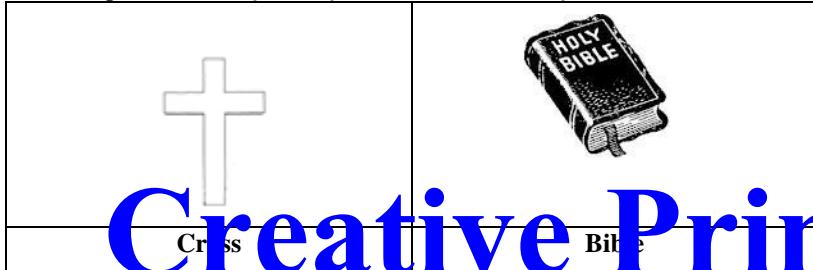
i) It is cheap. ✓

- d) When answering of questions, one must begin with ii) It is easy to feed. ✓

→ easier than Section B.

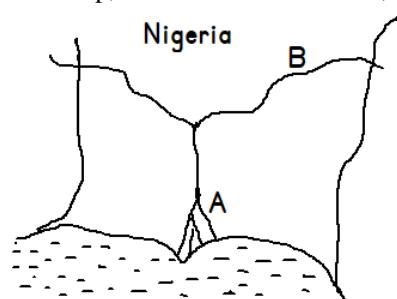
- e) Apart from drawing diagrams, all other answers must be written in ink/pen.
 E.g. Use letter K to show the position of Mt. Rwenzori on a map.
- i) Letter K must be written in ink.
 - ii) Letter K must be put on the exact position of the required area.
 - iii) An arrow can be used to show the exact position required.
 - iv) A clear symbol of a mountain must be drawn.
- f) If a child is to draw, it is good for them to draw and name.

For example: **Draw any one symbol of Christianity**



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- g) All drawings must be done in pencil. e.g. Draw
 h) On a map, if a child is told to name, he/she should give a specific name (proper name) e.g. (PLE 2018 Number 47)



Name the features marked

- A – Delta x
 B – River x

- A – Niger Delta ✓
 B – River Benue ✓

- i) Standard symbols should be used when writing and locating features on the map.

4. SECTION B QUESTIONS

- a) For Section B questions, learners must avoid general answers. E.g. Social services// Communication//Trade//Basic needs

Give any two ways the government is useful to people.

- i) It provides Social services.
 ii) It builds Hospitals.



✓ Note: A Hospital is a Social service centre.

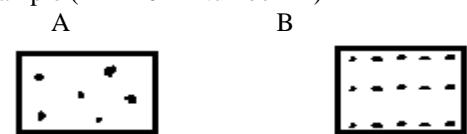
- i) It builds schools. ✓
 ii) It builds hospitals. ✓

- b) For Section B numbers, learners should read through Part a, b, c. some times the answers for part (a) are in (c).

For example (PLE 2013 Number 46)

- a) Name the Islands marked A on the map.
 b) Why are Islands marked A on the map remembered in the Colonial history of Bunyoro and Buganda?
 c) Some questions of Section B are stem questions, learners must be keen while answering. If one fails part A, part B and C will automatically be wrong.

For example (PLE 2012 Number 41)



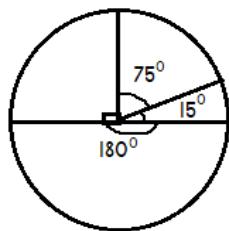
- i) What is the population distribution of area

- A –
 B –

- ii) Give any one disadvantage of the population distribution of area B to a Country.

GRAPHS, TABLES, DIAGRAMS AND PIE CHARTS

- a) All the diagrams must be thoroughly interpreted to get the correct answers. For climatic graphs and tables, temperature range should be given a priority. However, the pattern of rainfall, the totals of rainfall should equally be emphasized.
 b) Questions that require working/calculations, all calculations must be done on paper. For example (PLE 2016 Number 43)



If the total earnings of the country is US dollars 240 million, Find how much money was earned from tourism.

Note: This question had two marks one for working and one for the correct answer.

c) Correct units must be emphasized during the answering.

For example time i) 12:40am or 12:40pm

- ii) Population density – People per square Kilometre
- iii) Population – People
- iv) Area – square kilometres
- v) Rainfall – mm//Millimetres
- vi) Temperatures – $^{\circ}\text{C}/\text{F}/\text{Degrees Celsius}$

COMPARISON QUESTIONS

When a question calls for comparison, this comparison must be clearly brought out in the answer.

a) Why is Kabaale cooler than Gulu?

- Kabale is on a high altitude. X
- Kabale is on a higher altitude. ✓
- Kabale is on a higher altitude than Gulu. ✓

b) How was the formation of Mt. Rwenzori different from Mt. Elgon?

- Mt. Rwenzori was formed by faulting while Elgon was not. X
- Mt. Rwenzori was formed by faulting unlike Elgon. X
- Mt. Rwenzori was formed by faulting while Mt. Elgon was formed by Volcanicity. ✓

ABBREVIATIONS

Standard abbreviations should be used. Learners should be encouraged to use these standard abbreviations like;

UNHCR,	UNICEF,	NFA,	URA,	UNBS,
DRC,	NEMA,	UBOS,	UNRA,	UNESCO

Note: If a child commits him/her self to write in full, all words must be written correctly.

For example (PLE 2012 Number 46b), many candidates failed to write the correct form of UNHCR.

MATCHING

Matching must be done in ink not in pencil. in case there is no space for re-writing, correct matching must be done. If a pupil is required to re-write, he/she must copy the exact words written.

For example (PLE 2015 Number 55)

i)

LIST A	LIST B
Palm Sunday	Resurrection of Jesus Christ
Good Friday	birth of Jesus Christ
Easter Sunday	End of lent
Christmas day	Death of Jesus Christ

Matching was strictly to be done in ink/pen because no other space was provided.

ii) (PLE 2013 Number 51)

A	B
Abubakar	Mother of prophet Muhammad
Amina	The book given to Prophet Musa
Taurat	Wife of Prophet Muhammad
Aisha	First Caliph in Islam

Abubakar _____

Amina _____

Taurat _____

Aisha _____

Note: The learner is required to re-write all the work in the space provided.

RELIGIOUS EDUCATION

- a) Learners are advised to read through Christianity and Islam before choosing the alternative.
- b) Only one area should be answered e.g.
 - 36 Either ✓
 - 37 OR ✓
 - 38 OR ✓
 - 39 Either ✓
- c) For section B numbers, one must choose the whole of it.
 - 51 Either a, b, c ✓
 - 52 OR a, b, c ✓ The whole number must be answered.
- d) Quotations: Learners should read through the quotations well because they mostly contain the answer.
For example, in Islam,
 - Surah/Chapter/Quran// - 15:19// - Said by Allah to Prophet Muhammad.
 - Narrated by//Haidith according to.....//Said by Prophet Muhammad.
- e) Lessons learnt: These must be positive not negative ones.
 - To forgive//share//love//be trustworthy
 - Not to kill//Not to steal (Should be discouraged)

WORDS TO NOTE

Latitude – Latitudes	Longitude – Longitudes
Mourning – morning	Coast – cost
Arabic – Arabica	Compass – Compass direction
Port- pot	

PLE TOPICS THAT HAVE NOT MISSED FROM 2012 – 2020

1. Government of Uganda (P.5)
2. Climate (P.5, 6, 7)
3. Leaders in our district (P.4)
4. People (P.4, 5, 6, 7)
5. Location (P.5 ,6 ,7)
6. How to meet people's needs (P.4)
7. Foreign influence (P.5, 6, 7)
8. Vegetation (P.5, 6, 7)
9. Physical features (P.5, 6, 7)
10. Uganda as an independent nation (P.5)

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TOPICS THAT NEED EMPHASIS IN RE-TEACHING

1. East African Community (P.6)
2. Major World Organisations (P.7)
3. Economic Development (P.7)
4. The road to Independence (P.5, 6, 7)
5. Resources (P.5, 6)

IRE

- Pillars of Islam (5)
- Pillars of Islamic faith (6)

CRE

- Bible
- Creation
- Important personalities (Adam, Noah, Abraham, Jacob, Moses, Joseph)
- Prophets and messages
- Jesus Christ (From birth to ascension)
- Christianity and other religions
- Contemporary World (Failure, Success, Authority, Talents, Marriage, Work, Reconciliation etc.)