

STRONG TOWER ACADEMY, IKORODU

AKINTAYO, R. O. D

08060636748

ACKINTERYOUR@GMAIL.COM

CLASS: SSS 1

SUBJECT: BIOLOGY

TOPIC: BIOMES

CONTENT

BIOMES

A biome is a large region of the Earth where vegetation grows. It is characterised by distinct climate, soil as well as the types of plants and animals found in it.

Climate supported different types of vegetation, thus types of biomes change geographically.

LOCAL BIOMES IN NIGERIA

The three main types of biomes in Nigeria are mangrove swamp, tropical rainforest and savannas.

1. MANGROVE SWAMP FOREST

LOCATION: found in coastal regions like Delta, Cross River, Rivers, Akwa-Ibom, Bayelsa, Ogun and Lagos.

CHARACTERISTICS OF SWAMP FOREST

- i. Tall woody trees: The major species is **Rhizophora racemosa**.
- ii. Plants mainly have aerial roots.
- iii. It has evergreen trees with broad leaves.
- iv. Its water is a combination of fresh and salty water.
- v. It has a high rainfall of over 250cm³ throughout the year which results in water logging.

Common plant species found are red and white mangrove, coconut, raffia palm, etc

Common animal species found include crabs, snakes, birds, kingfishers, tilapia fish, etc.

2. TROPICAL RAINFOREST

Tropical rainforest can be found in states like Edo, Delta, Ondo, Imo, Abia, Lagos, Anambra, Rivers, Bayelsa and Akwa-Ibom.

CHARACTERISTICS OF TROPICAL RAINFOREST

- i. Tall trees with buttress roots, evergreen and broad leaf.
- ii. The trees exist in different height or layers. That is, bottom, middle and upper layers.
- iii. It has numerous climbers, creepers, epiphytes and parasitic plant.
- iv. It has little undergrowth due to canopy formed by the tall trees.
- v. Plant species are not in pure stand, that is, trees are scattered.
- vi. High rainfall of over 200cm high temperature and high relative humidity.

Plants species include Iroko, Obeche, Mahogany, Opepe, ebony, etc.

Animals include monkeys, snakes, birds, squirrel, etc.

3. SAVANNA

A. GUINEA SAVANNA

I. SOUTHERN GUINEA SAVANNA

Found in Enugu, Kogi, Benue, Kwara, Ebony, Osun and Ekiti states.

CHARACTERISTICS OF SOUTHERN GUINEA SAVANNA

- i. It is the largest of all the biotic community in Nigeria.
- ii. It has moderate rainfall of between 100 – 150cm.
- iii. It has tall grasses.
- iv. It has tall trees with broad leaves.
- v. The trees are scattered and deciduous. i.e. they shed their leaves during the dry season.

Plant species include locust bean trees, shea-butter, etc

Animals include antelopes, lions, leopards, zebra, etc.

II. NORTHERN GUINEA SAVANNA

Found in states like Plateau, Bauchi, Niger, Taraba.

CHARACTERISTICS OF NORTHERN GUINEA SAVANNA

- i. It has low rainfall of about 50 – 100cm per annum.
- ii. It has scattered and short deciduous trees.

- iii. It has short but numerous grasses.
- iv. Some of the trees wither in dry season and sprout at the beginning of the rainy season.

Common plant species found include acacia, date palm, baobab, etc.

Common animal species include snakes, lizards, deer, lions, leopards, antelopes, etc.

III. **SUDAN SAVANNA**

Similar to northern guinea savanna, except that the trees are more scattered and rarely a row past 15m tall.

IV. **SAHEL SAVANNA**

Found in the drier regions to the north of Sudan Savanna. It is found in states like Borno, Katsina, Sokoto, Yobe, Zamfara, Kebbi, Kano and Jigawa.

CHARACTERISTICS OF SAHEL SAVANNA

- i. The climate has high temperature and very low rainfall (below 50cm per annum)
- ii. It has short and scanty grasses.
- iii. It has short and tough shrubs and trees.
- iv. Grasses are fewer, poorer and in patches.
- v. It has many drought resistant and scattered plants.

Important plant species include acacia, gum arabic, date palm, etc.

4. **DESERT**

Located in the northern borders of Sokoto, Katsina, Jigawa, Yobe and Borno.

CHARACTERISTICS OF DESERT

- i. It has little or no rainfall most parts of the year.
- ii. It has high temperature and very low humidity.
- iii. It has fewer grasses and shrubs.
- iv. The plants have special features which enable them live in desert.

Plants found in desert regions include baobab, cactus trees.

MAJOR BIOMES OF THE WORLD

The major biomes of the world are:

- i. Tropical rain forest
- ii. Savanna
- iii. Desert
- iv. Shrub
- v. Afro-alpine

1. TROPICAL RAINFOREST

Location: Amazon basin of South America, Zaire basin of Central Africa, the coasts of Africa and interior Malaysia.

CHARACTERISTICS OF TROPICAL RAINFOREST

- i. High temperature of between 25°C - 37°C.
- ii. Rainfall is throughout the year with two peaks (double maxima).
- iii. Annual rainfall of 2000mm.
- iv. Forest trees have broad evergreen leaves.
- v. Various layers or canopies of trees.

2. SAVANNA/GRASSLAND

- I. **Tropical Grassland:** Central America, North West part of South America, West Africa, part of East Africa, South East Asia and Northern Australia.

CHARACTERISTICS OF TROPICAL GRASSLAND

- i. Temperature ranges from 21°C - 30°C.
- ii. Annual temperature range of 11°C.
- iii. Annual rainfall of above 600 – 1500mm.
- iv. It has seasonal convectional rainfall.
- v. Short and scattered trees.

- II. **Temperate Grassland:** Found in interior continents in Asia, North America, South America (Argentina), South Africa and Australia.

CHARACTERISTICS OF TEMPERATE GRASSLAND

- i. The vegetation is associated with temperate continental climate.
- ii. Hot summer with temperature of over 20°C.
- iii. Cold winter with temperature below 0°C.

- iv. Rainfall of about 508mm is convectional and light.
- v. Grasses are succulent of uniform height and short.

3. DESERT

- I. **HOT DESERTS:** Hot deserts include Sahara desert (North Africa), Arabian Desert (Arabia), Iranian desert, Namib and Kalahari Desert (South Africa), Great Australia Desert (Australia) and Atacama Desert (South America)

CHARACTERISTICS OF HOT DESERT

- i. Temperatures are high (between 30°C - 60°C)
 - ii. Aridity or rainlessness is common.
 - iii. Annual rainfall is about 250mm.
 - iv. Vegetation is sparse and scanty.
- II. **COLD DESERTS:** Cold deserts are found in interiors of Eurasia, North America and South America.

CHARACTERISTICS OF COLD DESERTS

- i. Hot summers (below 38°C) and cold winters (below 7°C).
 - ii. Rainfall is about 250mm, but it is unreliable.
 - iii. Short and scanty grasses.
- 4. **SHRUB LAND:** Shrub vegetation is found in semi-arid regions bordering tropical deserts and the interior of continents. It is found in West Africa close to the Sahara deserts, North Eastern Brazil and Australia.

CHARACTERISTICS OF SHRUB LAND

- i. High temperature of over 30°C.
 - ii. Low rainfall.
 - iii. Summers are hot and dry while winters are mild and rainy.
 - iv. Low thorny trees, bushes with shrubs and herbs.
 - v. Drought resistant shrubs, aromatic plants and dwarf trees such as maquis, thorny acacia.
- 5. **AFRO-ALPINE:** Afro-alpine is associated with high mountains/highlands. It is found in the Cameroun Mountain, Kenya highland, Kilimanjaro (East Africa).

CHARACTERISTICS OF AFRO-ALPINE

- i. Temperature and pressure decrease with altitude.
- ii. Heavy rainfall on the windward side, while leeward side experiences

lesser rainfall.

- iii. The windward side may experience luxuriant forest type vegetation.
- iv. The leeward side may experience a savanna type of vegetation.

ASSIGNMENT

1. With examples, list four characteristics of plants in deserts areas.
2. Give four characteristics each of the following:
 - a. Deciduous forest
 - b. Coniferous forest
 - c. Arctic tundra
3. Draw a map of Nigeria showing the distribution of biomes.