



BREEDING
A R E N A
College

THE BREEDER'S GUIDE

AGRICULTURAL SCIENCE YEAR 7

**MS. ADERINOLA
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Term Cultivate
2024/2025

SCHEME OF WORK

AGRICULTURAL SCIENCE		
Pre-vocational		September 09 – December 13th
WEEK	TOPIC	SUB-TOPICS
1	Meaning and importance of agriculture	Meaning of agriculture History of agriculture
2	Meaning and importance of agriculture	Branches or scope of agriculture Importance of agriculture to individual farmers, the community, and the nation
3	Forms of agriculture	Apiculture Horticulture Heliculture
4	Forms of agriculture	Livestock Crop farming Fishery
5	Crop plant form	Different parts of a plant The function of plant each part
6	Crop plant form	Aquatic plants Terrestrial plants
7	Midterm	Midterm
8-9	Classification of crops	Based on their life circle Based on their morphology Based on their uses
10	Distribution of crops in Nigeria	Meaning Factors Affecting the Distribution of Crops in Nigeria Uses of crops
11	Revision	Revision
12	Examination	Examination
WEEK	TOPIC	SUB-TOPICS

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Agricultural Science

1. MEANING AND IMPORTANCE OF AGRICULTURE

Objective: By the end of this class, students should be able to know the meaning of agriculture

Duration: 60mins

Week: 1

Teaching Method/Strategy: Narration

Entry Behavior (How you plan to start your Class): Ask the students if they have ever planted a crop

Meaning of agriculture

The term “agriculture” is derived from two Latin words: “ager,” meaning “field,” and “cultura,” meaning cultivation. Agriculture means field cultivation.

Agriculture is the art and science of raising crops and animals for the benefit of man. It involves the cultivation of crops, raising and breeding livestock, and processing, storing, distributing, and marketing agricultural products.

History of agriculture

The utmost concern of man is always to secure food. The early man lived by hunting wild animals and gathering fruits and vegetables to feed himself. After eating the fruits, the seed thrown away later germinated, producing new plants of the same type. The animals which were brought home also mated to produce young ones.

The farming tools of early man were crude. He made hoes and matches first stick and later from stones. Man learned to deliberately plant crops and rear animals to ensure his family's food supply and to feed the growing population.

REFERENCE	KEYWORDS	EVALUATION/ASSESSMENT
<i>The Breeder's Guide – Ms. Aderinola Ogunmuyiwa/ new basic facts in general social studies and security education</i>	<ul style="list-style-type: none">• Definition• History• Origin	

Remark:

I. MEANING AND IMPORTANCE OF AGRICULTURE

Objective: By the end of this class, a student should be able to outline various branches of agriculture

Duration: 60mins

Week: 2

Teaching Method/Strategy: narration

Entry Behavior: Ask a student to state the different types of soil

Branches or scope of agriculture

- Soil science is the study of the soil in which crops grow.
- Crop science studies how crops are grown and how man and animals use them.
- Animal science: This is the study of the production and management of farm animals.
- Agricultural engineering and mechanization: This involves designing, construction, maintenance, and operation of farm machines and equipment.
- Forestry: Forestry studies and manages forest and forest resources.
- Fishery: This refers to the activities involved in producing fish and other aquatic animals.

Importance of agriculture to the individual, farmer, and society

- Provision of food: agriculture provides food for man. Food is needed by man for growth, repair of body cells, and energy and vigor.
- Provision of shelter: We need shelter from adverse weather conditions like rain, sunshine, heat, cold, and wind animals.
- Source of income: Agriculture provides income to the farmer by selling his agricultural products like maize, tomato, yam, cassava, livestock, and animal products in the local markets.
- Provision of clothing: agriculture provides clothing materials (man) from such agricultural products as wool, cotton, and animal skin.
- Provision of employment: Some people are self-employed, others serve as hired labor, and others work in agro-based industries.
- Regional development: people go to the rural areas to purchase agricultural products, which leads to good roads, hospitals, and schools. Etc.

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Importance of agriculture to the nation

- **Provision of raw material for industries:** Agriculture provides cotton for the textiles industries, groundnuts for oil mills, cocoa for the food and beverage industries, etc.
- **Foreign exchange:** Before petroleum was discovered, Nigeria depended almost entirely on the export of agricultural raw materials for foreign trade. Foreign exchange is the money obtained from foreign countries to sell these agricultural products.
- **Provision of employment:** Up to 75% of Nigerians live in agriculture. Some are self-employed, while others work in agro-based industries that use agricultural raw materials.
- **International relations:** Some countries have programs that send relief to aid needy countries that are displaced by natural disasters like floods, drought, earthquakes, volcano eruptions, and war.

REFERENCE	KEYWORDS	EVALUATION/ASSESSMENT
<i>The Breeder's Guide -- Ms. Aderinola Ogunmuyiwa/ new basic facts in general social studies and security education</i>	<ul style="list-style-type: none">• Shelter• Meaning• Importance	

Remark:

2. FORMS OF AGRICULTURE

Objective: By the end of this class, a student must be able to describe the process of bee and honey production

Duration: 60mins

Week: 3

Teaching Method/Strategy: Explanation

Entry Behavior (How you plan to start your Class): Play a short video clip on bee production

Forms of agriculture

This refers to the different areas covered in agricultural production. Which involves the following:

- **Crop farming:** This involves the production of vegetables, fruits, cereals, roots and tubers, legumes, oil crops, and fiber crops. Etc.
- **Horticulture:** This involves raising fruits, vegetables, and ornamental plants. They produce fruits and vegetables in commercial quantities for sale in urban markets for export and canning.

Ornamental plants are grown by the horticulturist to beautify the environment.

- **Apiculture and bee farming:** These bees are kept in hollowed-out logs or clay pots, hanging high in a tree, away from predators. Today, beekeepers place honey bees in white wooden boxes or hives neatly spaced and lined up in their apiary or bee yard.
- **Heliculture:** This is the process of farming or raising snails. Snails are found to be rich in energy and protein. They are now reared to meet the food needs of Nigerians. They are mostly found in the woods, fields, dunes, gardens, etc. They feed on dead plant materials, dead worms, dirt, fruits, and leaves.

REFERENCE	KEYWORDS	EVALUATION/ASSESSMENT
<i>The Breeder's Guide – Ms. Aderinola Ogunmuyiwa/ new basic facts in general social studies and security education</i>	<ul style="list-style-type: none">• Forms• Beekeeping• Heliculture	

4. FORMS OF AGRICULTURE

Objective: By the end of this class, a student should be able to differentiate between the various forms of agriculture

Duration: 60mins

Week: 4

Teaching Method/Strategy: explanation

Entry Behavior (How you plan to start your Class): Ask the students to list the types of flowers they know

Livestock farming

This involves the rearing of various farm animals. These farm animals render (to man) economic benefits and have to thrive under man's care.

Crop farming: crop farming involves the production of vegetables, fruits, cereals, roots and tubers, legumes, latex, spics, etc. They are mostly used as food for man, animal feed, and industrial raw materials.

Fishery: This refers to the production of fish and other aquatic animals, and those other aquatic animals include crabs, lobster, shrimps, oysters, prawns, etc.

REFERENCE	KEYWORDS	EVALUATION/ASSESSMENT
<i>The Breeder's Guide – Mr. Damilola Oke/ new basic facts in general social studies and security education</i>	<ul style="list-style-type: none">• Fishery• Crop farming• Livestock	

Remark:

5. CROP PLANT FORM

Objective: By the end of this class, a student should be able to identify crop plant forms

Duration: 60mins

Week: 5

Teaching Method/Strategy: illustration

Entry Behavior: Ask a student to identify the part of a plant brought to the class

Different parts of a plant

Crop plants have two main parts (the shoot and the root). The root is the part of a plant below the ground, while the shoot consists of all parts of the plant above the ground. The shoot includes leaves, stems, branches, buds, flowers, and fruits.

The roots

Root systems are two types, namely tap-root and fibrous root systems. A tap root consists of one major root from which various minor branches (lateral roots) arise. A fibrous root system consists of numerous similar fine roots, all growing from the base of the plant stem. The root grows at the tip, pushing the free end of the root through the soil.

- **Function of roots**

- They anchor plants in the soil
- They absorb water and mineral salts from the soil
- In some plants, they serve as storage organs, cassava.

The stem

The stem bears leaves, buds, flowers, and fruits.

- **Functions of the stem**

- It supports the leaves, flowers, and fruits
- It conducts water and mineral salts to the leaves and manufactured substances from the leaves to other parts of the plant.
- In some plants, the stem serves as a storage organ; for example, sugarcane

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The leaves

A typical leaf consists of a stalk called a petiole and a lamina blade. The green lamina is made from a soft tissue with thin-walled cells supported by a stronger network of veins. These veins serve as a pipeline that takes raw materials into manufactured foods from the leaf.

Functions

- Leaves make food for the plant through “photosynthesis.” Green leaves contain “pockets” of chlorophyll. This green pigment harnesses the sun’s light energy and uses it to build up sugars from carbon dioxide and water.
- Some leaves serve as storage organs, as in onions.

The flower

The flower is the reproductive part of flowering plants. It is the region where the male and female organs reproduce the pollen grain and ovary, respectively.

Function

- The flower contains the ovary, which develops to form fruit after pollination and fertilization; the ovules inside it develop to form the seeds.

REFERENCE	KEYWORDS	EVALUATION/ASSESSMENT
<i>The Breeder’s Guide – Ms. Aderinola Ogunmuyiwa/ new basic facts in general social studies and security education</i>	<ul style="list-style-type: none">• Part• Flower• Functions	

Remark:

6. CROP PLANT FORM

Objective: By the end of this class, a student should be able to identify aquatic plants

Duration: 60mins

Week: 6

Teaching Method/Strategy: Explanations

Entry Behavior: 5 mins video about aquatic and terrestrial plants

All crops belong to a group of plants called “higher plants.” Higher plants can exist on their own by manufacturing their food from basic elements such as water and carbon dioxide. This process of food manufacture in higher plants is known as “photosynthesis.”

Crop plant forms can be classified based on habitat. Which are;

- **Aquatic form:** These are plants that live in water. E.g., plankton, water lettuce, and green algae.
- **Terrestrial form:** These grow and survive on the land, e.g., yam, rice, beans, oil palm, coconuts, etc. They are mostly eaten by terrestrial animals, including man.

Crop plant forms are also classified based on leaf shape, and based on that, we have

- **Broad-leaf crops:** These plants have broad leaves, e.g., groundnut and beans
- **Narrow-leaf crops:** crop plants whose leaves grow narrow in shape. E.g., rice, maize, guinea corn, and elephant grass. Etc.

Crop plant form is classified based on the nature of cotyledon.

- **Monocotyledons:** These are plants that have one seed leaf or cotyledon. Examples are maize, rice, millet, wheat, coconut, and banana.
- **Dicotyledons:** These plants have two cotyledons; for example, groundnut, tomato, cowpea, cocoa, rubber, mango, kola, citrus, and neem.

REFERENCE	KEYWORDS	EVALUATION/ASSESSMENT
<i>The Breeder's Guide – Ms. Aderinola Ogunmuyiwa/ new basic facts in general social studies and security education</i>	<ul style="list-style-type: none">• Aquatic• Terrestrial• Crop form	

Remark:

8-9. CLASSIFICATION OF CROPS

Objective: By the end of this class, a student should be able to classify crops according to their life cycle

Duration: 120mins

Week: 8-9

Teaching Method/Strategy: explanation

Entry Behavior: Ask a student to list the crops found in their locality

Based on their life cycle

Crops are usually classified (according to their life span) into three main groups:

- Annual: These are crops that complete their cycle within one year. They are usually grown from seed. Examples: maize, groundnut, cowpea, millet, yam, and most vegetables.
- Biennials: These crops take two seasons or years to complete their lifecycle. Examples are cassava, cabbage, and cocoyam.
- Perennials: These crops take over two years to complete their life cycle. Rubber, cocoa, orange, mango, paw-paw, and banana are examples.
- Trees and shrubs: Trees and shrubs are woody perennials. Shrubs typically have several similar-sized main stems and, of course, do not grow as large trees. Trees are distinguishable from large shrubs only by their dominant main trunk or stem.

Classification based on their morphology

- **Monocotyledons:** These are plants that have one seed leaf or cotyledon. Examples are maize, rice, millet, wheat, coconut, and banana.
- **Dicotyledons:** These plants have two cotyledons; for example, groundnut, tomato, cowpea, cocoa, rubber, mango, kola, citrus, and neem.

Classification based on their uses

- Cereals: These are plants of the grass family that produce seeds useful to man. These crops include barley, corn, millet oats, rice, sorghum, and wheat. Their grains are eaten as food worldwide, and the most widely consumed food is rice.
- Legumes: The legume or pea family is a large group of plants that include several important vegetables, trees, shrubs, and herbs. Legumes or leguminous plants include beans, lentils, peas, groundnuts, soya beans, etc.

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- Vegetables: herbaceous plants that have edible parts are called vegetables. They are usually eaten fresh and green and supply protein and vitamins to the body. Examples are tomatoes, water-leaf, Amaranthus, melon, lettuce, melon, pepper, cabbage, etc.
- Root and tuber crops: crops with enlarged underground stems or roots. E.g., cassava, sweet potato and carrot.
- Fruits and nuts: Fruits are important sources of carbohydrates and vitamins. Examples: mango, citrus, avocado pear, paw-paw, pineapple, guava, etc.

REFERENCE	KEYWORDS	EVALUATION/ASSESSMENT
<i>The Breeder's Guide – Ms. Aderinola Ogunmuyiwa/ new basic facts in general social studies and security education</i>	<ul style="list-style-type: none">• Classes of crops• Life cycle• Morphology	

Remark:

10. DISTRIBUTION OF CROPS IN NIGERIA

Objective: By the end of this class, a student should be able to know the reasons for the distribution of crops in Nigeria

Duration: 60mins

Week: 10

Teaching Method/Strategy: Explanation

Entry Behavior: 5 minutes explanation video

- meaning:

This can be defined as the region where each particular crop is mostly adapted in Nigeria. Successful adaptation of crops to the climate and soil condition of an area is known as adaptability. Different crops require different climates and soil conditions for their normal growth and development.

- **Factors affecting the distribution of crops in Nigeria**

- Rainfall: Crops depend mainly on rainfall for their water supply.
- Temperature: There is a temperature range within which a crop can attain its maximum yield.
- Relative humidity: Some crops require very cool temperatures, e.g., the Irish potato, grown in cool Northern areas like Jos.
- Sunshine: Sunshine is very necessary for the growth of all crops. It is an essential element in the photosynthetic activity of the plants.

REFERENCE	KEYWORDS	EVALUATION/ASSESSMENT
<i>The Breeder's Guide – Ms. Aderinola Ogunmuyiwa/ new basic facts in general social studies and security education/ Edu. Delight tutors</i>	<ul style="list-style-type: none">• Crop Distribution• Nigeria• Crops	

Remark: