

Agricultural Science
Curriculum Guide
2020-2021

Grade 7 course outline

Introduction to Agriculture.

- Explain briefly the history of agriculture
- List five importance of agriculture.
- Clearly list five branches of agriculture

Careers in agriculture

- Define career
- List and explain some specialized area in agriculture.
- Explain the roles of agricultural personnel in their community and school.

Classification of resources

- List the types of natural resources
- Explain the sustainable use of resources
- State ways of conserving resources
- Give examples of technology in agriculture
- State the elements of Resources and Technology

Tools and Equipment

- Classify tools and equipment
- Identify five hand and power tools
- Explain how tools work

Soil and soilless medium

- Differentiate between soil and soilless medium.
- List four types of soilless medium used in agriculture.
- Draw a pie chart showing the four major components of the soil.

Growing seed

- Define what a seed is
- Draw and label the seed
- List the different seed parts and their function.

Germination

- State the conditions necessary for germination.
- State the two types of germination.
- Draw a diagram of the two type of germination.

- Explain what is meant by the term sowing of seeds.
- Demonstrate sowing of seeds in a seed tray or seedbed.
- Students will plant their own seeds and this will be evident in photograph that will be shared.

Viability of the seed

- Define Seed Viability.
- Explain three (3) factors that affect seed viability.
- Identify 2 pest which affects seed viability.

Transplanting seedlings

- Video will be use to demonstrate the process of transplanting seedling.
- State the activities involved in transplanting and care of seedlings after they transplanted.
- Demonstrate competency successfully transplanting which will ultimately give rise to excellent production.

Animal on the farm

- Define livestock production
- Identify animals grown on farm
- Differentiate between vertebrates and invertebrates

Classify farm animals based on

- Group animals according to their economic importance
- Purpose for which they are reared
- Age and sex

Grade 7 Agricultural Science Project

Make a manual of the tools used in agriculture. Manual should include five (5) pictures or drawing of hand tools and five (5) pictures or drawing power tools.

- Introduction (2 mark)
- Picture or drawing of tools (1 mark each)
- Name of tools (1 mark)
- Use of tools (1 mark)
- Creativity (5 marks)

Grade 8 course outline

Classification of Plants and animals

1. Define classification
2. List the ways in which plants are classified
3. Explain with example each plant classification
4. Explain the ways in which animals are classified.

Reproduction in plants

1. Define the term reproduction
2. List and explain the types of reproduction.
3. Define a flower
4. Draw and label the parts of a flower.
5. Explain the function of the parts of the flower

Pollination

1. Define the term pollination
2. List and explain the types of pollination
3. List the agents of pollination
4. Explain the characteristics of a wind and insect pollinated flower

Fruit formation

1. Define fertilization
2. Draw the diagram explaining fertilization in a flowering plant
3. Describe fruit formation
4. Define a fruit
5. List and give the characteristics of the types of fruits
6. Draw and label a diagram of a typical fruit

Plant Propagation

1. Define the term propagation
2. List the types of propagation
3. Explain the types of propagation
4. List the advantages and disadvantages of vegetative propagation
5. List the types of artificial propagation

Natural vegetative propagation

1. List the types of natural vegetative propagation
2. Give the characteristics of each type
3. Draw or paint a diagram of each type

Asexual Propagation: Budding

1. Define budding
2. With diagrams list the steps in the process of budding
3. List the parts of the plants used in budding
4. List the resources needed for budding
5. Select and prepare plant for budding

Asexual Propagation: Grafting

1. Define grafting
2. With diagrams list the steps in the process of grafting
3. List the parts of the plants used in grafting
4. List the resources needed for grafting
5. Select and prepare plant for grafting.

Air layering

1. Define air layering
2. With diagrams list the steps in the process of air layering
3. List the resources needed for air layering
4. Select and prepare plant for air layering

Cuttings

1. Define cutting
2. With diagrams list the steps in the process of cuttings
3. List the resources needed for cuttings
4. Select and prepare plant for cuttings

Record keeping

1. Define record keeping
2. Discuss the reason for record keeping
3. List the types of records
4. Describe and prepare each type of record
 - List all types of records
 - Focus on inventory and financial records

Rabbit rearing

1. List and give the characteristics of the different breeds of rabbits
2. Draw and label the external parts of a rabbit.
3. List the feeding material of rabbits
4. List and explain the pests and diseases that affect rabbits.

Grade 8 Agricultural Science project

Research on any of the following Artificial Vegetative Propagation methods.

- Tube cutting Tissue culture
- Runner/ Stolon Ground layering

1. Brief description of method chosen (2 marks)
2. Description of how the method is carried out and should include pictures (10 marks)
3. Resources required to carry out chosen method (5 marks)
4. Creativity (3 marks)

Total marks (20 marks)

Growing crops in open and controlled field environment

1. Define open field environment
2. Discuss advantages and disadvantages of growing crops in an open field environment.
3. Define controlled environment
4. Discuss advantages and disadvantages of growing in a controlled environment.
5. Identify and make a list of resources needed to grow given crops in an open field environment.
6. Identify and make a list of resources needed to grow given crops in a controlled environment.

Soil formation

1. Define soil formation
2. Describe the processes individual in soil formation
3. Define weathering
4. List the agents of weathering
5. List and describe the types of weathering

Soil profile

1. List the major compound of soil
2. Define soil profile
3. Draw and label the soil profile
4. Describe the layers of the soil profile.

Soil fertility

1. Define soil fertility
2. List the characteristics of a fertile soil.
3. List and explain ways in which soil fertility can be improved

4. Define crop rotation
5. Explain the process of crop rotation
6. Draw a crop rotation diagram.

Fertilizers

1. Define the term fertilizer
2. List and describe the type of fertilizers: organic fertilizer
 - Composting
 - Inorganic fertilizer
 - Straight
 - Mixed
3. Discuss how fertilizers are to be stored
4. List and explain methods of fertilizer application.

Soil Erosion

1. Define soil erosion
2. List and explain the types of soil erosion
3. List and discuss the agents of soil erosion.
4. List and explain the types of water erosion.
5. Describe the effects of soil erosion.

Soil Conservation

1. Define soil conservation
2. List and describe the types of soil conservation
3. List and explain the soil conservation measures.

Record keeping

1. Definition of a record.
2. List the common record on a farm.
3. Explain each of the record.

Agriculture Economics

1. Define a farm
2. List the economic activities on a farm
3. Define the term production as it relates to a farm
4. List and explain the types of production.
5. List and explain the factors of production.

Marketing

1. Define the term marketing
2. Define the term consumption
3. State who is a consumer.
4. List ways to improve marketing
5. List distribution problems in marketing
6. List and explain marketing services.

Demand

1. Define the term demand
2. Construct a demand curve
3. List the characteristics of a demand curve

4. State the law of demand
5. List the factors affecting demand

Supply

1. Define supply
2. Construct supply curve
3. List the characteristics of a supply curve
4. State the law of supply
5. List the factors affecting supply

Equilibrium price

1. Give a definition for equilibrium price
2. Construct a graph showing the equilibrium price for an item

Decision making process and budgeting

1. List and explain the practices and principles in the decision making process
2. Define a budget
3. List the types of budgets
4. List the things to be considered when making a budget.
5. Explain the types of budget
6. Construct the different types of budget

Crop protection

1. Define plant protection
2. Define the term pest
3. List different types of pests

4. Define the term weed
5. List the reasons for survival of weeds
6. List and discuss the harmful effects of weeds
7. List the ways in which weeds are spread
8. List and explain method of weed control

Insect Pests

1. List the significance of pest
2. List common disease causing organism and their diseases
3. Define insect
4. Draw and label a diagram of an insect
5. List and explain the cycle of an insect.
6. List the reasons for the successful survival of insects.
7. List the harmful effects of insects.

Control of pests and diseases

1. List the chemical used for plant protection
2. List and explain the methods of pest control
3. Label the parts of a spray pan.

Digestion in farm animals

1. Define digestion
2. List and explain the types of digestion
3. Explain the digestion process in pigs

4. Draw and label the digestive system of the pig.

Digestion in poultry

1. Discuss the digestive process in a fowl (Poultry)
2. Draw and label the digestive system of a fowl

1. Discuss the digestive process in the cow.
2. Draw and label the digestive system of a cow.

Term 1: Grade 9 Agricultural Science project

Construct weed album using four (4) weeds from the list given below.

Weed album should include the following heading:

1. Introduction of project (1 marks)
2. Table of content (1 marks)
3. What is a weed? (2 marks)
4. Discuss at least three (3) harmful effects of weeds on the environment. (6 marks)
5. Pictures of four weeds including their common name, botanical name, life span and habitat. (20 marks)

| | |
|-------------------|-----------------|
| Vervain | fowl foot grass |
| Milk weed | burr bush |
| Devils horse whip | love bush |
| Shame lady plan | nut grass |
| Red head | broom weed |
| Water grass | Spanish needle |

Total marks 30

Term 2: Grade 9 Agricultural Science project

Research three (3) methods of soil conservation practices commonly use in Jamaica. Your research should include the following heading:

1. Introduction of project (2 marks)
2. Short summary explaining what is soil conservation (5 marks)
3. Explain three (3) methods of soil conservation practices (9 marks)
4. Discuss at least three (3) positive effects of soil conservation for each method explained. (9 marks)
5. Each soil conservation method explained should include pictures (3 marks)
6. At least two references properly cited (2 marks)

Total marks 30