



GOVERNMENT OF SIERRA LEONE  
*Ministry of Basic and Senior Secondary Education*

# THE NEW BASIC EDUCATION CURRICULUM FOR SIERRA LEONE (With Effect from November 2020)

## AGRICULTURE (Class 1 – Form 3)

This subject curriculum is based on the *National Curriculum Framework and Guidelines for Basic Education*. It was prepared by national curriculum specialists, subject experts, and teachers; through a series of nationwide consultations and technical workshops in June 2015, as reviewed in 2020. It also takes account of an “accelerated learning curriculum” prepared for reopening of schools (2020-2021) after the shut-down due to Corona Virus (Covid-19).

UNICEF supported and facilitated the preparation of the basic curriculum framework and its accompanying syllabuses. Technical expertise was provided by the Free Education Project of the World Bank, and oversight provided by the Research and Curriculum Development Directorate of the Ministry of Basic and Senior Secondary Education (MBSSE)



# CONTENT

<ul style="list-style-type: none"><li>1. <b>A Message to all Teachers Implementing the New Curriculum</b></li> <li>2. <b>Rationale and Justification for Agriculture in Basic Education</b></li> <li>3. <b>General Learning Outcomes</b><ul style="list-style-type: none"><li>3.1. <b>First Stage (Class 1 – Class 3)</b></li><li>3.2. <b>Second Stage (Class 4 – Class 6)</b></li><li>3.3. <b>Third Stage (Form 1 – Form 3)</b></li></ul></li> <li>4. <b>Specific learning Outcomes by Grade (Class or Form)</b><ul style="list-style-type: none"><li>4.1. <b>First Grade (Class 1)</b></li><li>4.2. <b>Second Grade (Class 2)</b></li><li>4.3. <b>Third Grade (Class 3)</b></li><li>4.4. <b>Fourth Grade (Class 4)</b></li><li>4.5. <b>Fifth Grade (Class 5)</b></li><li>4.6. <b>Sixth Grade (Class 6)</b></li><li>4.7. <b>Seventh Grade (Form 1)</b></li><li>4.8. <b>Eighth Grade (Form 2)</b></li><li>4.9. <b>Ninth Grade (Form 3)</b></li></ul></li></ul>	<ul style="list-style-type: none"><li>5. <b>Outline Teaching Syllabus for First Stage of Basic Education</b><ul style="list-style-type: none"><li>5.1. <b>Class 1</b></li><li>5.2. <b>Class 2</b></li><li>5.3. <b>Class 3</b></li></ul></li> <li>6. <b>Outline Teaching Syllabus for Second Stage of Basic Education</b><ul style="list-style-type: none"><li>6.1. <b>Class 4</b></li><li>6.2. <b>Class 5</b></li><li>6.3. <b>Class 6</b></li></ul></li> <li>7. <b>Outline Teaching Syllabus for Third Stage of Basic Education</b><ul style="list-style-type: none"><li>7.1. <b>Form 1 (JSS 1)</b></li><li>7.2. <b>Form 2 (JSS 2)</b></li><li>7.3. <b>Form 3 (JSS 3)</b></li></ul></li> <li>8. <b>Syllabus Implementation Guidelines (Pacing Guide for Schools to Complete)</b></li></ul>
--	--

## A MESSAGE TO ALL TEACHERS IMPLEMENTING THE NEW CURRICULUM

It is an exciting time for all teachers, school heads and other education professionals who want to see positive change in Sierra Leone. You are the professionals who have the challenging duty to shape the future for the next generation of young Sierra Leoneans. The future of our children and our nation is in your hands!

As part of the curriculum reform process the Ministry of Basic and Senior Secondary Education (MBSSE) has issued a key reference document to guide future strategies and activities. The ***National Curriculum Framework and Guidelines for Basic Education*** is the basis for designing each subject syllabus in the curriculum. Teachers are urged to access this framework document at MBSSE website: <https://mbsse.gov.sl> or borrow a copy from their Headteacher's or Principal's office. It highlights key principles underlying the new curriculum and outlines strategies for the reform of basic education, as well as providing specific guidance on structure, pedagogy, prescribed subjects, time allocation, etc.

The main reform elements in the new curriculum include: a learner-centered approach; learner-friendly schools; equity and a chance for every child to learn; a focus on learning (not just teaching); support for professional development of teachers; a focus on making schools accountable to local communities (not just MBSSE); support for learning beyond memorizing cognitive content for examinations; a focus on empowering learners to make choices and thrive through the joys of learning; an approach that encourages local interpretation of the syllabus to achieve the prescribed learning outcomes through various methods and with a variety of resources.

There are also five key reform issues that have been made part of an advocacy and popularisation campaign to win support from the public for this type of education reform. These reform issues, which hold great promise for education for development in Sierra Leone, are: **Assessment & Accountability; Equity & Inclusion; Partnerships; Quality & Integrity; and Social Cohesion & Peace Building**. To facilitate popular discussion around these topics MBSSE has issued Advocacy and Guidance Notes on each one, and these can be used to conduct radio discussions and other forms of popular engagement with the public. Teachers can find these notes in the Basic Education Curriculum Framework.

The new Basic Education Curriculum has been structured in three broad stages, so the teaching syllabus for each subject area is designed for Stage 1 (Class 1- Class 3), Stage 2 (Class 4 – Class 6), and Stage 3 (Form 1 – Form 3). We hope this will help teachers to focus on links between different subjects in a particular stage. Teachers may then see more clearly how these subjects combine to help their students achieve the outcomes relating to that stage. This should help teachers move away from a “class-by-class” and “subject-by-subject” view of their job. Instead, teachers will develop a stage-by-stage view of how children develop and learn across subjects. It also gives teachers a sense of what children need to achieve at each stage before moving to the next stage. We hope teachers also see the need to work together like a “Relay Team in Sports”. Each teacher has an obligation to the teacher of the next class to prepare students

well and make sure they are ready for that class. In turn, the teacher of the next class has a duty to help learners make up for weak areas from their previous class, as well as to prepare them for progressing to yet another next class. Teachers also have a duty to challenge and stretch Gifted and Talented learners through more advanced content, resources and assessment.

The three broad stages of Basic Education also help teachers to understand that schools have three years in each stage to help learners achieve certain outcomes. So for children who do not learn well in Class 1, there is still a chance to help them catch up in Class 2 and Class 3, so that they can achieve the learning outcomes prescribed for the first stage (Class 1-3) of Basic Education. This means that instead of failing these children and asking them to repeat Class 1 or Class 2, they can be allowed to proceed to the next class where they should be given help with areas in which they are weak.

However, at the end of each of the three stages there are national assessments which will determine if children are ready to proceed to the next stage. Based on their performance in these examinations, there are two options to consider. Children may be asked to repeat a class in order to retake the examination. Alternatively, they may be allowed to proceed, on condition that they are given remedial support in areas of weakness when they start the next stage. This applies to NPSE and BECE as well as national assessment on reading and mathematics (EGRA and EGMA) at the end of Class 3. Children who do not perform well in EGRA and EGMA may be asked to repeat Class 3 in order to retake these early grade assessments; or they may be allowed to proceed to Stage 2 on condition that they are given remedial support in reading and mathematics during the first year of Stage 2 (i.e., in Class 4).

Keeping these guidelines in mind the outline curriculum and teaching syllabus have been structured along the lines of four key elements that are important for quality in teaching and learning. These elements are outlined briefly below, and teachers are asked to note that they are inter-related. This has been considered by curriculum development practitioners in preparing the outline teaching syllabus to guide teachers on quality classroom practices that reflect the key elements as follows:

- ✧ **Learning Outcomes:** There are different levels of learning outcomes in the document and teachers should note the differences. There are: *General learning Outcomes*, which state what learners are expected to achieve in this subject at the end of each of the three stages; *Specific Learning Outcomes by Grade*, which state what learners are expected to achieve in this subject at the end of each Class/Form in the 9-year Basic Education Cycle; and there are *Specific learning Outcomes by Topic*, which state what learners should achieve in this subject at the end of each of the suggested topics/themes/units (i.e. content) for each grade. Based on the resources at their disposal and the background of their students, teachers may adapt the suggested content to make the lesson more familiar to learners. Content selected in different parts of the country should enable learners to achieve the specified learning outcomes. **It is the learning outcomes that are important, and content is just a way of achieving learning.**

- ✧ **Assessment Methods:** These suggest various ways in which teachers can test to find out how far learners have been able to achieve the expected learning outcomes during, and at the end of, a period of teaching and learning. These assessment methods must match the learning outcomes as an appropriate way of testing for the required results. E.g., testing for ***recall*** of the memorized definition of a concept cannot tell us if a learner really ***understands*** or ***can make correct use of*** that concept.
- ✧ **Teaching Styles or Pedagogy:** These suggest how teachers can go about teaching and organising learning such that the learners have a good chance of achieving the expected learning outcomes during, and at the end of, a period of teaching and learning. The teaching style used must be closely linked to the learning outcome and assessment method.
- ✧ **Learning & Teaching Resources** which suggest a wide variety of learning materials and teaching aids that can be used to help teachers do their job and to help learners achieve the expected learning outcomes.

## **AGRICULTURE CURRICULUM**

### **If you can't explain it simply, you don't understand it well enough!**

“Some subjects are difficult for pupils. Teachers may know their subject very well, but it is important to see that subject from a pupil's perspective, and to not necessarily assume prior knowledge or skills. As a teacher, you should try to place yourself in the frame of mind of a novice learner, and only by doing this will you be able to fully comprehend your own studies.” Albert Einstein

### **General Learning Outcomes (The learning students should acquire by end of each Basic Education Stage)**

The General Learning Outcomes of a subject tell us what learners ***should know or understand*** and what they ***should be able to do or demonstrate***, as well as what they ***should value or reflect in their attitudes/behaviour***. These are the things that learners should achieve by the time they complete each of the three stages of Basic Education. Teachers may use general learning outcomes as a guide to check if the learners are on track for success at the end of each stage of Basic Education.

#### **1 First Stage of Basic Education (Class 1 to Class 3)**

The learners will be able to demonstrate:

- a) An understanding of farming, food security and the environment
- b) An awareness of the basic concept of food production.
- c) A basic knowledge of soil.
- d) Basic knowledge of the forest, plants animals.

## 2 Second Stage of Basic Education (Class 4 to Class 6)

The learners will be able to:

- a) Name the farming tools and differentiate them
- b) Describe the forest and land resources and show the importance of these resources in agriculture
- c) Describe the need for careful use of resources and care for the environment.
- d) Show the different modes of farming

## 3 Third Stage of Basic Education (Form 1 to Form 3)

The learner will be able to:

- a) Understand how food security is important to the people
- b) Describe how simple tools are used to farm in Sierra Leone
- c) Demonstrate awareness of the need to produce rice and other food crops
- d) Practice the basic farming in the school gardens
- e) Develop skills in critical, creative, and computational thinking, decision making, and problem-solving in agriculture

## Specific Learning Outcomes by Class/Grade Level

Specific learning outcomes of a topic or theme indicate what learners ***should know or understand*** and what they ***should be able to do or demonstrate***, as well as what they ***should value or reflect in their attitudes/behaviour***. These are the things that learners should achieve by the time they complete the specific topic or theme. Teachers should be guided by specific learning outcomes when planning assessments and tests to check that learners have achieved what is expected of them.

**AGRICULTURE (CLASS 1- FORM 3)**  
**AGRICULTURAL SCIENCE AND FOOD SECURITY**

**Outline Teaching Syllabus for the First Stage of Basic Education (class 1)**

**1<sup>ST</sup> TERM**

<b>SUGGESTED TOPICS/THEMES/UNITS</b>	<b>SPECIFIC LEARNING OUTCOMES</b>	<b>RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES</b>	<b>ASSESSMENT METHODS</b>	<b>SUGGESTED TEACHING AND LEARNING RESOURCES</b>
<b>Unit -1: - Agriculture and the Environment</b>	After completing this unit learners will be able to: <ul style="list-style-type: none"> <li>- Study the environment</li> <li>- Identify and draw things they see in the environment</li> <li>- Identify and draw plants seen in the environment</li> <li>- Identify and draw some domestic animals seen in the environment</li> </ul>	<ul style="list-style-type: none"> <li>a) Take learners into the school compound, village/town community and tell them to observe the things around.</li> <li>b) Guide them to identify the crop plants and domestic animals they see.</li> <li>c) A follow-up discussion on what they saw.</li> <li>d) Ask them to draw the crops, plants and animals they see.</li> </ul>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers.</li> <li>b) Let children draw for themselves</li> <li>c) Observe the children identify what they have drawn</li> </ul>	Agricultural textbooks  Things within the environment like: plants, leaves, sticks, soils, stones etc

<b>Unit 2: - Farm tools</b>	Learners will be able to use knowledge to: - - Identify, describe and draw some simple farm tools - Identify and draw some simple farm machines	a) Display the tools from the tools store in the school. b) Identify one or two of the tools displayed and ask learners to identify the rest of the tools c) Display a chart showing some simple farm machines	a) Oral questioning and answers b) Allow the children to name and point at the	Agricultural textbooks  Simple farm tools like: hoes, cutlasses,
	- Go out and identify tools and draw them	d) Guide learners to identify the farm machines e) Ask learners to draw some of the tools and machines.	tools in front of them c) Observe the children and grade theme	shovels, rake etc

## 2<sup>ND</sup> TERM

<b>Unit 3: - Manure</b>	After completing this unit, learners will be able to use knowledge to: - - Identify organic manure and explain the way it is made - Identify some organic animal manure and explain how they are formed - Identify some inorganic manure (fertilizers)	a) Display the following: (i) Organic plant manure e.g., Compost and encourage children to know the component (ii) Organic animal /manure e.g., Poultry/pig/cow/goat manure explain the part of animal that becomes manure b) Guide learners to identify the various manures.	a) Oral questioning and answers b) Allow the children to name and point at the materials that form the plant or animal manure c) Observe the children and grade them	Agricultural textbooks  Materials that make up plants and animal manure
-----------------------------	---	--	--	---



<b>Unit 4: - Soil</b>	Learners will be able to use knowledge to: - - Define and describe the types of soil - Identify the main types of soil e.g., Sandy, clayey, and loamy soils	a) Bring and display soil samples in class b) Guide learners to define and describe the type of soil c) Ask pupils to identify the soil samples by naming them d) Take learners into the school garden and encourage them to see crops growing in the soil	a) Oral questioning and answers b) Allow the children to name and point at the different types of soils c) Observe the children and grade them	Agricultural textbooks  Bring different types of Soil samples in the class. e.g., Sandy, clayey, and loamy soils
-----------------------	---	---	--	--

### 3<sup>RD</sup> TERM

<b>Unit 5: - Crop Pests</b>	Learners will be able to use knowledge to: - - Define and describe a crop pest - Identify and describe crop pests eg. Grass hoppers, crickets, locusts, army worms birds, monkeys, roots etc.	a) Display samples of real crop pests or chart of crop pests in the class b) Guide learners to define and describe crop pests c) Encourage the learners to name and describe the crop pests in small groups.	a) Oral questioning and answers b) Allow the children to name and describe crop pest in small groups c), Observe the children and grade them d) Allow the pupils to ask critical questions	Agricultural textbooks  Photo books of insects & other pests in the environs like cockroaches, mice, grasshoppers etc
<b>Unit 6: - The Forest</b>	Learners will be able to use knowledge to: - - Define forest and explain its importance - Identify forests of Sierra Leone e.g., Gola Forest, peninsula forest, Otamba Kilimi forest reserve etc.	a) Display a forest on a chart b) Help learners to know the importance of forests c) Guide learners to define forest d) Guide them to name the forests of Sierra Leone. e) Ask them to draw the forest (esp, one from the chart)	a) Oral questioning and answers b) Allow the children to name and point at the different types of forests on the chart c) Allow them to state the importance of a forest to man and the environment d) Observe the children and grade them	Agricultural textbooks  A picture showing a forest, nearby forests/bushes,  Environmental books

## OUTLINE OF TEACHING SYLLABUS FOR THE FIRST STAGE OF BASIC EDUCATION (CLASS 2) 1<sup>st</sup> TERM)

SUGGESTED TOPICS/ THEME /UNIT	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES	ASSESSMENT METHODS	SUGGESTED TEACHING AND LEARNING RESOURCES (CORE/SUPPLEMENT)
Unit 1: - Agriculture and the environment	After completing this units, learners will be able to use the knowledge to: - - Identify, draw and name some items in the environment such as water, soil, plants, animals, stones etc. - Identify, draw and describe some specific domestic animals (Chickens, goat, dog etc) - Identify, draw and name some plants in the garden (cassava potato, lettuce, okra etc).	a) Take learners into the school compound, village/town community and tell them to observe the things around b) Ask learners to identify items seen around the environment. c) Allow them to describe what they see around d) Tell learners to name the domestic animals and plants they see e) Tell learners to draw the animals and plants they see.	a) Oral questioning and answers b) Allow the children to name and point at what they see in the school environment c) Ask pupils to name animals and plants around the school environment Observe the children and grade them	Agricultural textbooks  Things you see in the school environment  Different things that make up the environment
Unit 2: - Farm Tools	Learners will able to use knowledge to: - - List some farm tools used in crop production e.g., Cutlass, hoe, shovel etc. - List same simple farm tools used in livestock production e.g., Rake, bucket, feeder, drinker etc.)	a) Display tools from school store or chart b) Ask pupils /learners to name /identify them c) Display livestock tools On a chart or from the livestock unit. d) Ask learners to name/identify tools and draw them.	a) Oral questioning and answers b) Allow the children to name and point at the tools in front of them a) Observe the children and grade theme	Agricultural textbooks  Simple farm tools like: hoes, cutlasses, shovels, rake etc  Photos of mechanized tools and machines

## 2<sup>ND</sup> TERM

<p><b>Unit 3: - Manure</b></p>	<p>Learners will be able to use knowledge to: -</p> <ul style="list-style-type: none"> <li>- Name some organic plant manure e.g., Decomposed plant materials</li> <li>- Name some organic animal manure e.g., Chicken, goat manure</li> <li>- Identify the different forms and colours of inorganic manure e.g., urea, potash, NPK, 151515, 202020</li> </ul>	<ul style="list-style-type: none"> <li>a) Display organic manure               <ul style="list-style-type: none"> <li>(i) Organic plant manure e.g., compost</li> <li>(ii) Organic animal manure e.g., chicken /pig/goat manure</li> <li>(iii) Inorganic manure e.g., urea, potash, 151515, 202020 NPK etc.</li> </ul> </li> <li>b) Discuss the manures with the learners</li> <li>c) Help the pupils to differentiate organic and inorganic manure</li> </ul>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to name and point at the different types of inorganic manure</li> <li>c) Ask the pupils to differentiate organic and inorganic manure</li> <li>d) Observe the children and grade them</li> </ul>	<p>Agricultural textbooks</p> <p>Materials used to make both organic and inorganic manure</p>
<p><b>Unit 4: - Soils</b></p>	<p>Learners will be able to use knowledge to: -</p> <ul style="list-style-type: none"> <li>- Name the main soil types e.g., Sandy, clayey and loamy soils.</li> <li>- State the properties of each soil type e.g.,               <ul style="list-style-type: none"> <li>(i) Sandy soil is loose, has high drainage, coarse in texture etc.</li> <li>(ii) Clayey soil is tightly packed, has poor drainage, smooth in texture etc</li> <li>(iii) Loamy soil is rich in humus, has good drainage, rich in crop nutrients etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>a) Display samples of main soil types</li> <li>b) Encourage learners to examine and feel the various soil samples</li> <li>c) Guide learners to come out with the obvious properties of the samples</li> <li>d) Carry out activities in class to determine/demonstrate properties like drainage, consistency and texture</li> </ul>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to name and point at the different types of soils</li> <li>c) Observe the children and grade them</li> </ul>	<p>Agricultural textbooks</p> <p>Soil samples in the class. e.g., Sandy, clayey, and loamy soils</p>

### 3<sup>RD</sup> TERM

<p><b>Unit 5: - Crop Pests</b></p>	<p>Learners will be able to use knowledge to: -</p> <ul style="list-style-type: none"> <li>- Name crop pests</li> <li>- State the control methods of crop pests e.g.</li> </ul> <p>(i) Chemical method –application of chemicals like pesticides</p> <p>(ii) Biological control method – allowing natural predators to feed on the pests</p> <p>(iii) Cultural control method – hand picking and killing pests, crop rotation, planting on time, etc., harvesting on time etc.</p>	<p>a) Display crop pests on a chart or otherwise</p> <p>b) Ask learners to name the crop pests displayed on the chart</p> <p>c) Guide learners to state the various methods of controlling crop pests.</p> <p>d) Take learners to the school garden and apply these control methods with them.</p>	<p>a) Oral questioning and answers</p> <p>b) Allow the children to name and describe crop pest in small groups</p> <p>c), Observe the children and grade them</p> <p>d) Allow the pupils to ask critical questions</p>	<p>Agricultural textbooks</p> <p>Photo books of insects &amp; other pests in the environs like cockroaches, mice, grasshoppers etc</p>
<p><b>Unit 6: - The Forest</b></p>	<p>Pupils will be able to use knowledge to: -</p> <ul style="list-style-type: none"> <li>- Name the forests of Sierra Leone.</li> <li>- Locate the areas where the reserves occur in Sierra Leone e.g.</li> </ul> <p>(i) Gola forest is in Kenema, in the Eastern Region</p> <p>(ii) Peninsula Forest reserve is in Freetown in the Western Region</p> <p>(iii) Otamba Kilimi Forest reserve is in Kamakwie in the North/West Region</p>	<p>a) Guide pupils to name the forest reserves of Sierra Leone</p> <p>b) Guide pupils to locate the Areas/Regions where the various Forest reserves occur in Sierra Leone.</p>	<p>e) Oral questioning and answers</p> <p>f) Allow the children to name and point at the different types of forests on the chart</p> <p>g) Allow them to state the importance of a forest to man and the environment</p> <p>(a) Observe the children and grade them</p>	<p>Agricultural textbooks</p> <p>A picture showing a forest, nearby forests/bushes,</p> <p>Environmental books</p>

## OUTLINE OF TEACHING SYLLABUS FOR THE FIRST STAGE OF BASIC EDUCATION (CLASS 3) 1<sup>ST</sup> TERM

SUGGESTED TOPICS/THEMES/ UNITS	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES	ASSESSMENT METHODS	SUGGESTED TEACHING & LEARNING RESOURCES (CORE/SUPPLEMENT)
<b>Unit 1: - Agriculture and the Environment</b>	After this unit is completed, learners will be able to use the knowledge to: - <ul style="list-style-type: none"> <li>- State the use of some items in the environment such soil, water, insects etc.</li> <li>- Name the use of some crop plants e.g. Food, medicine timber etc.</li> <li>- Name the of some domestic animals e.g., food, medicine, transport, income etc.</li> </ul>	<ol style="list-style-type: none"> <li>a) Tell learners to name some items in their immediate environment and state the uses of each</li> <li>b) Ask learners to name some crops and domestic animals in their surrounding and state the uses of each of them</li> <li>c) Display a chart(s) showing crop and domestic animals and discuss them with learners.</li> <li>d) Organize practical lesson and encourage pupils to bring to class various food stuffs.</li> </ol>	<ol style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to name and point at what they see in the school environment</li> <li>c) Ask pupils to name animals and plants around the school environment</li> <li>d) Observe the children and grade them</li> </ol>	Agricultural textbooks  Things you see in the school environment  Different things that make up the environment

<b>Unit 2: - farm tools</b>	After completing this unit learners will be able to use the knowledge to: - - State the uses of some simple farm tools used in crop farming e.g., cutlass, rake, head pan, hoe etc. - State the uses of some simple farm tools used in livestock farming e.g., Feeder, rape, drinker etc.	a) Display simple farm tools used in crop farming and those used in livestock farming using a chart(s) or fools from the crop and livestock units of the school. b) Ask pupils to name each tool and give its uses.	c) Oral questioning and answers d) Allow the children to name and point at the tools in front of them Observe the children and grade theme	Agricultural textbooks  Farm tools like: hoes, cutlasses, shovels, rake etc  Photos of mechanized tools and machines

## 2<sup>ND</sup> TERM

<b>Unit 3: - Manure</b>	Learners will be able to use the knowledge to: - - State the uses of organic manures. - State the uses of inorganic manures. - State some application methods of manures e.g. Broadcasting, drilling etc.	a) Display samples of organic and inorganic manures and tell pupils to give the uses of each. b) Ask pupils to give the methods of applying each type manure to crops/soil c) Organize practical lessons/classes for pupils to make compost using locally available materials	e) Oral questioning and answers f) Allow the children to name and point at the different types of inorganic manure g) Ask the pupils to differentiate organic and inorganic manure - Observe the children and grade them	Agricultural textbooks  Materials used to make both organic and inorganic manure
<b>Unit 4: - Soils</b>	Learners will be able to use knowledge to: - - Name the main soil types - State the uses of the soil in agriculture e.g., Anchors or holds crops firmly, supplies crop nutrients, home for some micro and macro-organisms, supplies water to crops etc.	a) Display samples of soil b) Tell learners to name the main soil types c) Ask learners to observe crops growing in the school garden d) Guide learners to state the uses of the soil in agriculture.	a) Oral questioning and answers b) Allow the children to name and point at the different types of soils c) Observe the children and grade them d) Ask learning to demonstrate how crop grows	Agricultural textbooks  Soil samples in the class. e.g., Sandy, clayey, and loamy soils

### 3RD TERM

SUGGESTED TOPICS/ THEMES/ UNITS	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES	ASSESSMENT METHODS	SUGGESTED TEACHING AND LEARNING RESOURCES
<b>Unit 5: - Crop Pests</b>	Learners will be able to use knowledge to: <ul style="list-style-type: none"> <li>- Identify crop pests e.g., Grasshopper, crocket, locusts, Army worms, birds, monkeys, rats etc.</li> <li>- Name crops and the pests that damage/destroy it e.g.               <ul style="list-style-type: none"> <li>(i) Cassava – grasshopper, cutting grass, rats etc.</li> <li>(ii) Rice – birds, rats etc.</li> <li>(iii) Maize/corn – birds, monkeys, rats, squirrels etc.</li> </ul> </li> <li>- Name the parts of the crops that are damaged.</li> </ul>	<ul style="list-style-type: none"> <li>a) Display samples of crop pests in a chart or otherwise</li> <li>b) Encourage pupils to name the pests displayed.</li> <li>c) Guide pupils to state the parts of the various crops that are damaged by the various crop pests</li> <li>d) Take pupils to the school garden and encourage them to name the crop pests they find there.</li> </ul>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to name and describe crop pest in small groups</li> <li>c), Observe the children and grade them</li> <li>d) Allow the pupils to ask critical questions</li> </ul>	Agricultural textbooks  Photo books of insects & other pests in the environs like cockroaches, mice, grasshoppers etc
<b>Unit 6: - The forest</b>	Learners will be able to use knowledge to: - <ul style="list-style-type: none"> <li>- Name the forests of Sierra Leone and locate their positions in Sierra Leone. e.g.               <ul style="list-style-type: none"> <li>(i) Gola Forest reserve in Kenema in the Eastern Region</li> <li>(ii) Peninsula Forest reserve in Freetown in the Western Region</li> <li>(iii) Otamba Kilimi forest reserve in Kamakwie in the North/West Region.</li> </ul> </li> <li>State uses of the forest to man e.g. The forest is a source of: -               <ul style="list-style-type: none"> <li>Fuel, food, dyes, timber, rain clouds home of wildlife etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>a) Ask learners to name the forest reserves in Sierra Leone</li> <li>b) Guide learners to state the uses of the forest to man</li> <li>c) Display a chart showing the forest reserves in Sierra Leone and discuss it with the learners</li> </ul>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to name and point at the different types of forests on the chart</li> <li>c) Allow them to state the importance of a forest to man and the environment</li> <li>d) Observe the children and grade them</li> </ul>	Agricultural textbooks  A picture showing a forest, nearby forests/bushes,  Environmental books

## OUTLINE OF TEACHING SYLLABUS FOR THE FIRST STAGE BASIC EDUCATION (CLASS 4) 1<sup>st</sup> TERM

SUGGESTED TOPICS/ THEMES/ UNITS	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES	ASSESSMENT METHODS	SUGGESTED TEACHING AND LEARNING RESOURCES
<b>Unit 1: Concept of Agriculture And The Environment</b>	After completing this unit, learners will be able to use knowledge to: - <ul style="list-style-type: none"> <li>- Understand the concept definition) of agriculture</li> <li>- Importance of agricultural science</li> <li>- Know the various branches of agriculture</li> </ul>	<ul style="list-style-type: none"> <li>a) Display a chart showing people doing some agricultural activities likes ploughing, sowing seeds, harvesting etc.</li> <li>b) Discuss the concept and agriculture and the environment</li> <li>c) Ask learners to identify the activities going on in the displayed chart</li> <li>d) Ask learners to give a single word that can stand for all the activities they see in the chart. E.g., the word is agriculture</li> <li>e) Guide the learners to define agriculture</li> <li>f) Discuss the importance of e.g., Provision of food, income etc.</li> <li>g) Discuss the various branches of agriculture with the learners e.g., Agronomy, animal science, crop science, agricultural engineering etc.</li> </ul>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to list farming activities in chronological order</li> <li>c) Ask the pupils to explain the concept of agriculture</li> <li>d) Ask pupils to list the branches of Agriculture</li> <li>e) Observe the children and grade them</li> </ul>	Agricultural textbooks  Photos of types of agriculture  Different things that make up the environment



<b>Unit 2: - Farm Machinery/ Tools and Structures</b>	After completing this unit, learners will be able to use knowledge to: - - Farm mechanization and use of modern farm tools - Farm structures and their uses Farm tools and their uses	a) Display two charts: - (i) One showing people using simple farm tools to do farm work (ii) Another showing somebody using a machine like a tractor in farm work b) Ask learners to identify the type of agriculture practiced in each of the charts displayed. c) Ask learners to define farm Mechanization d) Discuss farm structures and their uses with the learners	a) Oral questioning and answers b) Ask pupils to name and point at farm tools in the photo book c) Ask pupils to name and point at farm machines in the photo book d) In small groups, ask pupils to list the use of tool and machines in agriculture	Agricultural textbooks Photo book with simple and complex farm tools Photos of mechanized tools and machines Farm tools from the school store
		e) Display farm tools from the school tools store f) Ask learners to identify each tool and give its uses.	e) Observe the children and grade theme	
<b>Unit 3: - Crop Production</b>	Learners will be able to use knowledge to: - -) Identify and demonstrate the use of different crops cultivated in Sierra Leone -) Understand and appreciate the different cash crops grown for export -) Understand the contribution of crops to food and nutrition security	a) Take learners to the school garden and ask them to identify the crops that are growing there b) Ask learners to identify the different crops that one cultivated in Sierra Leone c) Discuss the different cash crops grown for export with learners. d) Discuss the meaning of food and nutrition security with learners Ask learners to identify the contributions of crops to food and nutrition security	a) Oral questioning and answers b) Ask pupils to name crops and show their uses in Sierra Leone c) Ask pupils to name and point at farm products in the photo book d) In small groups, ask pupils to explain what food and nutrition security is about e) Observe the children and grade theme	Agricultural textbooks Photo book with food items Photos of food crops grown in Sierra Leone Photo of the use of food items

## 2<sup>ND</sup> TERM

<p><b>Unit 4: - Organic and Inorganic Manure</b></p>	<p>Learners will be able to use the knowledge to: -</p> <ul style="list-style-type: none"> <li>- Use both organic and inorganic manures in the school garden</li> <li>- Demonstrate some application methods of manures e.g., mulching, broadcasting, drilling, etc.</li> <li>- Understand the differences between organic and inorganic manures</li> </ul>	<ul style="list-style-type: none"> <li>d) Display samples of organic and inorganic manures in the class.</li> <li>e) Allow pupils to apply organic and inorganic manures</li> <li>f) Organize practical lessons/classes for pupils to make compost using locally available materials</li> <li>g) Categorize organic and inorganic manures</li> </ul>	<ul style="list-style-type: none"> <li>h) Oral questions and answers</li> <li>i) Ask pupils to name and point at the different types of organic and inorganic manures</li> <li>j) Ask the pupils to differentiate organic and inorganic manures</li> <li>h) Ask pupils to give the methods of applying each type manure to the crops/soil</li> </ul>	<p>Agricultural textbooks</p> <p>Materials used to make both organic and inorganic manure</p>
<p><b>Unit 5: - Soils</b></p>	<p>Learners will be able to use knowledge to: -</p> <ul style="list-style-type: none"> <li>- Name and point at the main types of soil</li> <li>- Uses of the soil in agriculture e.g., Anchors or holds crops firmly, supplies crop nutrients, home for some micro and macro-organisms, supplies water to crops etc.</li> <li>- Understand the importance of water in plant life</li> </ul>	<ul style="list-style-type: none"> <li>a) Display samples of soil</li> <li>b) Tell learners to name the main soil types</li> <li>c) Encourage learners to observe crops growing in the school garden</li> <li>d) Guide learners to state the uses of the soil in agriculture.</li> </ul>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to name and point at the different types of soils</li> <li>c) Observe the children and grade them</li> </ul>	<p>Agricultural textbooks</p> <p>Soil samples in the class. e.g., Sandy, clayey, and loamy soils</p>

<b>Unit 6: - Soil Water</b>	Learners will be able to use knowledge to: - - Understand how water is used in crop production - Explain why more water is needed in swamp farming than upland farming	a) Display samples of soil waters b) Tell learners to name the main types of soil waters c) Encourage learners to observe crops growing in the school garden d) Allow pupils to water their crops as they grow in the school garden e) Guide learners to state the uses of water in agriculture.	a) Oral questions and answers b) Allow the children to name the different types of soil waters - Observe the children and grade them	Agricultural textbooks  Soil water samples in the class.  Photo books
-----------------------------	--	--	--	---

### 3RD TERM

SUGGESTED TOPICS/ THEMES/ UNITS	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES	ASSESSMENT METHODS	SUGGESTED TEACHING AND LEARNING RESOURCES
<b>Unit 7: - Crop Pests</b>	Learners will be able to use knowledge to: - Identify crop pests e.g., Grasshopper, cricket, locusts, Army worms, birds, monkeys, rats etc. - Name crops and the pests that damage/destroy it e.g. (iv) Cassava – grasshopper, cutting	e) Display samples of crop pests in a chart or otherwise f) Encourage pupils to name the pests displayed. g) Guide pupils to state the parts of the various crops that are damaged by the various crop	a) Oral questioning and answers b) Allow the children to name and describe crop pest in small groups c), Observe the	Agricultural textbooks  Photo books of insects & other pests in the environs like cockroaches, mice, grasshoppers etc
	grass, rats etc. (v) Rice – birds, rats etc. (vi) Maize/corn – birds, monkeys, rats, squirrels etc. - Name the parts of the crops that are damaged.	pests h) Take pupils to the school garden and encourage them to name the crop pests they find there.	children and grade them d) Allow the pupils to ask critical questions	

<p>Unit 8: - The forest</p>	<p>Learners will be able to use knowledge to: -</p> <ul style="list-style-type: none"> <li>- Name the forests of Sierra Leone and locate their positions in Sierra Leone. E.g.</li> <li>(i) Gola Forest reserve in Kenema in the Eastern Region</li> <li>(ii) Peninsula Forest reserve in Freetown in the Western Region</li> <li>(iii) Otamba Kilimi Forest reserve e in Kamakwie in the North/West Region.</li> </ul> <p>State uses of the forest to man e.g.</p> <p>The forest is a source of: -</p> <ul style="list-style-type: none"> <li>Fuel, food, dyes, timber, rain clouds</li> <li>home of wildlife etc.</li> </ul>	<ul style="list-style-type: none"> <li>d) Ask learners to name the forest reserves in Sierra Leone</li> <li>e) Guide learners to state the uses of the forest to man</li> <li>f) Display a chart showing the forest reserves in Sierra Leone and discuss it with the learners</li> </ul>	<ul style="list-style-type: none"> <li>e) Oral questioning and answers</li> <li>f) Allow the children to name and point at the different types of forests on the chart</li> <li>g) Allow them to state the importance of a forest to man and the environment</li> <li>h) Observe the children and grade them</li> </ul>	<p>Agricultural textbooks</p> <p>A picture showing a forest, nearby forests/bushes,</p> <p>Environmental books</p>
-----------------------------	--	--	---	--

## OUTLINE OF TEACHING SYLLABUS FOR FIRST STAGE BASIC EDUCATION (CLASS 5) 1<sup>ST</sup> TERM

SUGGESTED TOPICS/ THEMES/ UNITS	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES	ASSESSMENT METHODS	SUGGESTED TEACHING AND LEARNING RESOURCES
<b>Unit 1: - Concept of Agriculture and The Environment</b>	After completing this unit learners will be able to use knowledge to: - <ul style="list-style-type: none"> <li>- Use modern technology in agricultural development e.g., Tractors, combined harvesters etc.</li> <li>- Identify and describe issues affecting agricultural development in Sierra Leone</li> <li>- Use natural resources (land and water) for crop and livestock farming</li> <li>- Identify and use appropriate soils for farming</li> </ul>	<ol style="list-style-type: none"> <li>a) Discuss the meaning of Technology with learners.</li> <li>b) Identify together with the learners the various modern technologies that are used in agriculture</li> <li>c) Take learners to an established and modern farm to enable learners to see modern technologies in use.</li> <li>d) Discuss the factors that affect agricultural development in Sierra Leone</li> <li>e) Discuss with learners the use of natural resources like land and water in crop and livestock farming</li> <li>f) Display various soil samples and ask pupils/ learners to feel and observe samples</li> <li>g) Together with learners classify the soils and state the uses of the soil.</li> </ol>	<ol style="list-style-type: none"> <li>a) Oral question and answers</li> <li>b) Explain the concept of modern farming Ask children the describe factors that affect agriculture in Sierra Leone</li> <li>d) Ask pupils to list and demonstrate the use of natural resources in agriculture Ask learners to identify the soil samples e.g., Sandy clayey and loamy soils</li> </ol>	Text books Pictures of farm machine Soils

<b>Unit 2: - Farm Machinery/ Tools and Structures</b>	Learners will be able to use knowledge to: - <ul style="list-style-type: none"> <li>- Understand the maintenance of farm tools</li> <li>- Construct simple farm structures e.g., Nursery boxes, compost boxes, goat pens etc.</li> <li>- Fabricate simple farm tools</li> </ul>	<ul style="list-style-type: none"> <li>a) Ask learners to state how to maintenance farm tools</li> <li>b) Take learners to a carpenter's workshop to observe how the carpenter constructs various items using wood/ timber Tell</li> <li>c) learners to report on the visit to the carpenter's workshop.</li> <li>d) Engage learners in practical construction of simple farm structures in school /carpenter's workshop</li> <li>e) Take learners to a blacksmiths workshop to see, how simple farm tools are constructed.</li> <li>f) Discuss the steps in constructing simple</li> </ul>	<ul style="list-style-type: none"> <li>a) Oral question and answers</li> <li>b) Pupils explain the procedures in maintenance of farm tools</li> <li>c) Ask pupils to list and explain the use of carpentry products</li> <li>d) Ask pupils to list and demonstrate the use of local farm tools</li> </ul>	Text books Pictures of farm machine cal tools
		<ul style="list-style-type: none"> <li>farm tools with learners</li> <li>g) Engage learners in the practical construction of farm tools in the school using a resource person or in blacksmiths workshop</li> </ul>		
<b>Unit 3: - Crop Production</b>	Learners will be able to use knowledge to: - <ul style="list-style-type: none"> <li>- Understand the various farming systems e.g., Crop rotation, mixed farming, mono cropping etc.</li> <li>- Understand and compare commercial and subsistence farming</li> <li>- Compare urban and periurban agriculture to rural farming</li> </ul>	<ul style="list-style-type: none"> <li>a) Discuss the various farming systems with the learners</li> <li>b) Make a trip with the learners to a place(s) where some of the farming systems are practiced.</li> <li>c) Discuss the meanings of commercial and subsistence farming with learners.</li> <li>d) Ask learners to identify the types of crops that are grown in urban, peri-urban and rural areas</li> <li>e) Compare learners from urban and Periurban agriculture to those rural farming communities</li> <li>f) Gide learners to define food insecurity</li> <li>g) Discuss with learners the causes of food insecurity and how to overcome it.</li> </ul>	<ul style="list-style-type: none"> <li>a) Oral questioning and tests</li> <li>b) Ask learners to state the farming systems that are common in their communities</li> <li>c) Ask learners to state the type of farming that is practiced in their communities</li> <li>d) Ask learners to state the type of farming they like and why</li> <li>e) Ask learners to give the meanings of urban, peri- urban and rural areas.</li> </ul>	Text books, Pictures of urban and peri-urban Machinery Various food item

## 2<sup>nd</sup> TERM

SUGGESTED TOPICS/ THEMES/ UNITS	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES	ASSESSMENT METHODS	SUGGESTED TEACHING AND LEARNING
<b>Unit 4: - Farm Machinery /Tools and Structures</b>	Learners will be able to use knowledge to: - - Use of machines in commercial farming (combined harvesters, drillers, etc.) - Use of machines and the environment - Do Practical use of farm machinery for crop and livestock production	a) Tell learners to identify the machines that are used in commercial farming. b) Discuss the uses of each of the machines in farming c) Take the learners to government agricultural engineering department /garage at Kissy Dockyard to see some of the machines d) Discuss with learners the effect the use of machines in agriculture has on the environment e.g., Air pollution, the pollution of sources of water etc.	Practical demonstration by students, oral questions and answers	Text books Pictures of farm machines Photos of the environment
<b>Unit 5: - Crop Production</b>	Learners will be able to use knowledge to: - - Contributions of urban and peri-urban agriculture to food and nutrition security - Understand the various modern techniques used in crop production - Understand the problems of grazers and farmers in the use of natural resources - Do vegetable production - Perform rice production	a) Tell learners to identify the contributions of urban and peri-urban agriculture to food and nutritional security e.g., Supply a lot of various types of vegetables, farm animals like chicken, pigs etc. b) Discuss with learners the various modern techniques used in crop production e.g., Bonding terracing, contour ploughing in land preparation, use of agro-chemicals in pest and disease control, use of fertilizers, improved variety of crops etc. c) Discuss the cultivation of assorted vegetables: e.g., Okra, pepper, eggplant, onion, tomato, lettuce etc. d) Take learners to places where vegetables are cultivated so as to see the practices involved in the cultivation processes e)	a) Oral questioning b) Tests c) Ask learners to tell the modern techniques farmers use in crop production in their community /village /town d) Ask learners to identify the problems grazers and farmers have in the use of natural resources e.g., Farmers get row with livestock men over damages caused to crops by livestock e) Ask learners whether grazers and farmers in their community or villages experience such problems	Text books, Potos of local farmers, farm products, and farm animals

		Discuss the cultivation of rice with learners		
		f) Lead the pupils to visit a poultry and a piggery		

### 3<sup>RD</sup> TERM

SUGGESTED TOPICS/ THEMES/ UNITS	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES	ASSESSMENT METHODS	SUGGESTED TEACHING AND LEARNING RESOURCES
Unit 6: - Agricultural Environment And soil science	At the end of this unit, learners will be able to use knowledge to: a) Appreciate the various components of the weather b) Appreciate the various agricultural activities affecting the environment Identify and differentiate the various soil types and their characteristics.	a) Take learners outside to observe the atmosphere and guide them to define weather and state its components e.g., Rainfall, sunlight, temperature, cloud cover etc. b) Take learners to agricultural sites and encourage them to identify various farm activities and how each affects the environment e.g., (i) Brushing and burning of trees may cause erosion (ii) Application of agro-chemicals may cause environmental pollution etc. c) Display soil samples and ask pupils to identify the samples and state their characteristics e.g.,	All the pupils to demonstrate brushing, ploughing and harrowing  Conduct quizzes  Test them on cropping  Assignments Exams Oral questioning Presentations	Farm tools, Text books, Picture books Tools Machinery



Unit 7: - Agro-forestry	At the end of this unit, learners will be able to use knowledge to: a) Explain the concept of afforestation and deforestation b) Identify and locate the different agroclimatic zones e.g., Temperate climatic zone, tropical climatic zone etc. c) Map out the various agro-ecological zones e.g., Up land, swamp, etc. d) List the various products (e.g., Boards	a) Guide learners to define agro-forestry, afforestation and deforestation b) Take learners to forest sites to see practices like deforestation etc. and tell them to present reports on the visit c) Discuss the climatic and ecological zones with the learners. d) Tell learners to give the various products that are derived from the forest	Quizzes Tests Assignments Exams Oral questioning Presentations	Text books, Picture books
	rapes, fruits, medicine etc.) got from the forest.			

## OUTLINE OF TEACHING SYLLABUS FOR FIRST STAGE BASIC EDUCATION (CLASS 6)

### 1<sup>ST</sup> TERM

SUGGESTED TOPICS/ THEMES/ UNITS	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES	ASSESSMENT METHODS	SUGGESTED TEACHING AND LEARNING
<b>Unit 1: - Concept of Agriculture and The Environment</b>	After completing this unit, learners will be able to use knowledge to: - a) Design strategies that develop agriculture in Sierra Leone – a) Understand agriculture productivity and the environment - c) Participate in land preparation, utilization and soil conservation – e) Identify the contribution of agriculture to national development f) Understand the concept of food and nutritional security in Sierra Leone h) Identify ways to achieve food and nutritional security in Sierra Leone e.g., Increased budgetary allocation to the agriculture sector, mechanization of agriculture in Sierra Leone etc.	a) Ask learners to identify ways of developing agriculture in Sierra Leone e.g., Promotion of agriculture education, provision of loans and subsidies to worthy farmers, support to agricultural research institutions etc. b) Discuss with learners the ways agricultural productivity /activities impact the environment (e.g., Erosion and mud slides, pollution of water sources, destruction of forests etc) and how to address the problems. c) Discuss with learners how to prepare land for agricultural purposes, how to use land and conserve the soil e.g., Do bonding, terracing and contour ploughing on slopes, grow forests on slopes, grow cover crops etc. d) Ask learners to define food and nutritional security e) Take learners to areas in their communities or outside their communities where agricultural productivity/activities are impacting the environment and ask them to give reports on the visit.	a) Oral question and answers b) Explain the ways of developing agriculture c) Ask children to describe productivity ana the impact on the environment d) Ask pupils to list and demonstrate the use of natural resources in agriculture e) Ask learners to identify the soil samples e.g., Sandy clayey and loamy soils f) Ask learners to identify the contributions of agriculture to national development g) Ask learners to state and differentiate farming communities	Text books Pictures of farms Photos of the environment

<b>Unit 2: - Farm Machinery /Tools and Structures</b>	Learners will be able to use knowledge to: - <ul style="list-style-type: none"> <li>- Use of machines in commercial farming (combined harvesters, drillers, etc.)</li> <li>- Use of machines and the environment</li> <li>- Do Practical use of farm machinery for crop and livestock production</li> </ul>	<ul style="list-style-type: none"> <li>e) Tell learners to identify the machines that are used in commercial farming. Discuss</li> <li>f) the uses of each of the machines in farming</li> <li>g) Take the learners to government agricultural engineering department /garage at Kissy Dockyard to see some of the machines</li> <li>h) Discuss with learners the effect the use of machines in agriculture has on the environment e.g., Air pollution, the pollution of sources of water etc.</li> </ul>	Practical demonstration by students, oral questions and answers	Text books Pictures of farm machines Photos of the environment
<b>Unit 3: - Crop Production</b>	Learners will be able to use knowledge to: - <ul style="list-style-type: none"> <li>- Contributions of urban and peri-urban agriculture to food and nutrition security</li> <li>- Understand the various modern techniques used in crop production</li> <li>- Understand the problems of grazers and farmers in the use of natural resources</li> <li>- Do vegetable production</li> <li>- Perform rice production</li> </ul>	<ul style="list-style-type: none"> <li>g) Tell learners to identify the contributions of urban and peri-urban agriculture to food and nutritional security e.g., Supply a lot of various types of vegetables, farm animals like chicken, pigs etc.</li> <li>h) Discuss with learners the various modern techniques used in crop production e.g., Bonding terracing, contour ploughing in land preparation, use of agro-chemicals in pest and disease control, use of fertilizers, improved variety of crops etc. Discuss</li> <li>i) the cultivation of assorted vegetables: e.g., Okra, pepper, eggplant, onion, tomato, lettuce etc.</li> <li>j) Take learners to places where vegetables are cultivated so as to see the practices involved in the cultivation processes</li> <li>k) Discuss the cultivation of rice with learners Lead the pupils to visit a poultry and a piggery</li> <li>l)</li> </ul>	<ul style="list-style-type: none"> <li>f) Oral questioning</li> <li>g) Tests</li> <li>h) Ask learners to tell the modern techniques farmers use in crop production in their community /village /town</li> <li>i) Ask learners to identify the problems grazers and farmers have in the use of natural resources e.g., Farmers get row with livestock men over damages caused to crops by livestock</li> <li>j) Ask learners whether grazers and farmers in their community or villages experience such problems</li> </ul>	Text books, Photos of local farmers, farm products, and farm animals

## 2<sup>ND</sup> TERM

<p><b>UNIT 4: FOREST</b></p>	<p>After completing this unit, pupils will be able to: -</p> <ul style="list-style-type: none"> <li>- Define deforestation</li> <li>- Identify the identify places in their communities that are or have experienced deforestation</li> <li>- Identify reasons for deforestation</li> </ul> <p>State the disadvantages of deforestation e.g. climate change soil erosion and mud slide, destruction of roofs of houses in towns and villages by heavy wind etc.</p>	<ul style="list-style-type: none"> <li>a) Guide pupils to define deforestation</li> <li>b) Identify with pupils areas in Sierra Leone or in local communities where deforestation is going on or has taken place</li> <li>c) Ask pupils to give reasons for deforestation.</li> <li>d) Discuss the disadvantages of deforestation</li> <li>e) Take pupils to areas especially in their local communities where deforestation is going on or has taken place</li> <li>f) Ask them to present a report on the trip</li> </ul>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to name and point at the different types of forests on the chart Allow them to state the importance of a forest to man and the environment</li> <li>c) Observe the children and grade them</li> </ul>	<p>Agricultural textbooks</p> <p>A picture showing a forest, nearby forests/bushes,</p> <p>Environmental books</p>
<p><b>UNIT 5: - SOILS</b></p>	<p>After completing this unit pupils will be able to: -</p> <p>Identify the importance of organic matter in the soil e.g., it improves the water – holding capacity of the soil, it is a rich source of plant nutrients</p>	<ul style="list-style-type: none"> <li>a) Ask the pupils to identify the components of the soil</li> </ul> <p>Discuss with pupils the importance of organic matter in the soil.</p>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to name and point at the different types of soils</li> <li>c) Observe the children and grade them</li> </ul>	<p>Agricultural textbooks</p> <p>Soil samples in the class. e.g., Sandy, clayey, and loamy soils</p>
<p><b>UNIT 6: - FOREST</b></p>	<p>after completing this unit, pupils will be able to: -</p> <p>Identify how to maintenance and manage the forest reserve e.g., only mature trees should be harvested, grow more trees where trees are harvested, grow trees with high ability to regenerate etc.</p>	<ul style="list-style-type: none"> <li>a) Discuss with pupils how to manage the forest reserve</li> <li>b) Take pupils to a forest reserve and encourage them to observe the management processes of the reserve</li> </ul> <p>Ask them to give a report on their observations during the trip to the reserve</p>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to name and point at the different types of forests on the chart Allow them to state the importance of a forest to man and the environment</li> <li>c) Observe the children and grade them</li> </ul>	<p>Agricultural textbooks</p> <p>A picture showing a forest, nearby forests / bushes,</p> <p>Environmental books</p>

### 3<sup>RD</sup> TERM

<p><b>UNIT 7: - FOREST</b></p>	<p>after completing this unit, pupils will be able to: -</p> <ul style="list-style-type: none"> <li>- Define afforestation</li> <li>- Identify the importance or advantages of forestation eg. minimizes climate change prevents drought, prevents soils erosion and mud slide etc</li> <li>- Identify reasons for deforestation</li> </ul> <p>State the disadvantages of deforestation e.g. climate change soil erosion and mud slide, destruction of roofs of houses in towns and villages by heavy wind etc.</p>	<ul style="list-style-type: none"> <li>a) Guide pupils to define deforestation</li> <li>b) Identify with pupils areas in Sierra Leone or in local communities where deforestation is going on or has taken place</li> <li>c) Ask pupils to give reasons for deforestation</li> <li>d) Discuss the disadvantages of deforestation</li> <li>e) Take pupils to areas especially in their local communities where deforestation is going on or has taken place</li> </ul> <p>Ask them to present a report on the trip.</p>	<ul style="list-style-type: none"> <li>a) Oral questioning and answers</li> <li>b) Allow the children to name and point at the different types of forests on the chart</li> <li>c) Allow them to state the importance of a forest to man and the environment</li> <li>d) Observe the children and grade them</li> </ul>	<p>Agricultural textbooks</p> <p>A picture showing a forest, nearby forests/bushes,</p> <p>Environmental books</p>
<p>Unit 8: - Agricultural Environment and soil science</p>	<p>At the end of this unit, learners will be able to use knowledge to:</p> <ul style="list-style-type: none"> <li>c) Appreciate the various components of the weather</li> <li>d) Appreciate the various agricultural activities affecting the environment</li> </ul> <p>Identify and differentiate the various soil types and their characteristics.</p>	<ul style="list-style-type: none"> <li>a) Take learners outside to observe the atmosphere and guide them to define weather and state its components eg. Rainfall, sunlight, temperature, cloud cover etc.</li> <li>b) Take learners to agricultural sites and encourage them to identify various farm activities and how each affects the environment e.g.,             <ul style="list-style-type: none"> <li>(iii) Brushing and burning of trees may cause erosion</li> <li>(iv) Application of agro-chemicals may cause environmental pollution etc.</li> </ul> </li> <li>c) Display soil samples and ask pupils to identify the samples and state their characteristics eg.</li> </ul>	<p>All the pupils to demonstrate brushing, ploughing and harrowing</p> <p>Conduct quizzes</p> <p>Test them on cropping</p> <p>Assignments Exams Oral questioning Presentations</p>	<p>Farm tools, Text books, Picture books Tools Machinery</p>

Unit 9: - Agro-forestry	At the end of this unit, learners will be able to use knowledge to:	a) Guide learners to define agroforestry, afforestation and	Quizzes Tests	Text books, Picture books
	e) Explain the concept of afforestation and deforestation f) Identify and locate the different agro-climatic zones e.g., Temperate climatic zone, tropical climatic zone etc. g) Map out the various agroecological zones e.g., Up land, swamp, etc. h) List the various products (e.g., Boards rapes, fruits, medicine etc.) got from the forest.	deforestation b) Take learners to forest sites to see practices like deforestation etc. and tell them to present reports on the visit c) Discuss the climatic and ecological zones with the learners. d) Tell learners to give the various products that are derived from the forest	Assignments Exams Oral questioning Presentations	

## JUNIOR SECONDARY SCHOOL – JSS I 1<sup>ST</sup> TERM

SUGGESTED TOPICS/THEMES /UNITS	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACHES	ASSESSMENT METHODS	SUGGESTED TEACHING AND LEARNING RESOURCES.
<b>Unit: -1 Agricultural Development</b>	After completing this unit, learners will be able to use the knowledge to: - <ul style="list-style-type: none"> <li>- Understand the scientific concept of agricultural science and the various branches</li> <li>- Appreciate the causes of agricultural under development and the mitigating factors that will lead to development</li> <li>- Appreciate the contributions of agriculture to GDP and</li> </ul>	a) Tell learners that scientific discoveries and innovations are applied in agricultural production e.g., Crop and livestock breeding, manufacture and use of various fertilizers, production and use of chemicals in crop protection etc. b) Discuss the various branches of agriculture with the learners e.g., Crop science, A – agronomy, Agric. Engineering etc. c) Guide learners to state the causes of under development of agriculture in S/Leone and factors that will lead to agricultural development e.g.	Quizzes Tests Assignments Exams Oral questioning	Text books agric. Science junior secondary agriculture for Sierra Leone book 1-3 by Oreilly etal  Success in agricultural science for BECE by Ola Dixon and J. Oreilly  West African

	national development	<p>(i) Causes of agric. under-development lack of capital poor education, etc.</p> <p>(ii) Development factors</p> <ul style="list-style-type: none"> <li>- Revisit the land tenure system in Sierra Leone,</li> <li>- Provision of loans and subsidies to farmers etc.</li> </ul> <p>d) Discuss the contributions of agriculture to the Gross Domestic product (GDP) and national development of Sierra Leone. E.g., Agriculture provides a high percentage of export /foreign earnings, it is the greatest sector that provides employment /earnings for over 65% of the population of Sierra Leone</p> <p>e) Take pupils to agricultural sites like Torma Bum, Wallah, Gambia Oil Mill etc. so that they can see for themselves.</p>		<p>Agriculture by Kwateng and Towler A guide to success – agricultural science by Sembu Kanu</p> <p>Junior secondary Agricultural for Sierra Leone Book 1-3 by J. Oreilly etal</p>
<b>Unit – 2: - Farm Tools and Machinery</b>	<p>Learners will be able to use knowledge to: -</p> <ul style="list-style-type: none"> <li>- Identify, describe and state the uses of various farm tools</li> <li>- Understand the modern scientific machines used in the farm eg. Tractor, power tiller, combined harvester, thresher, winnower etc.</li> </ul> <p>Use various methods of cleaning and maintaining tools eg. Wash and dry, apply oil /grease/paint to metal parts, lighten screws and nuts, sharpen tools with sharp blades,</p>	<p>a) Display farm tools and ask pupils to identify and give the uses of each</p> <p>b) Take learners to a farm or garage with modern farm machines and see the machines at work.</p> <p>c) Ask pupils to present a report on their experiences during the visit</p> <p>d) Tell pupils to state the methods of cleaning and maintaining farm tools.</p>	<p>Quizzes Tests Assignments Exams Oral questioning</p>	<p>Farm tools, Text books, Pictures Tools Machinery</p>



Unit 3: - Agricultural	At the end of this unit, learners will be able to use knowledge to: e) Appreciate the various	d) Take learners outside to observe the atmosphere and guide them to define weather and state its components e.g.,	All the pupils to demonstrate brushing, ploughing	Farm tools, Text books, Picture books
Environment And soil science	components of the weather f) Appreciate the various agricultural activities affecting the environment Identify and differentiate the various soil types and their characteristics.	Rainfall, sunlight, temperature, cloud cover etc. e) Take learners to agricultural sites and encourage them to identify various farm activities and how each affects the environment e.g., (v) Brushing and burning of trees may cause erosion (vi) Application of agro-chemicals may cause environmental pollution etc. f) Display soil samples and ask pupils to identify the samples and state their characteristics e.g.,	and harrowing  Conduct quizzes  Test them on cropping  Assignments Exams Oral questioning Presentations	Tools Machinery

## 2<sup>ND</sup> TERM

Unit 4: - Agro-forestry	At the end of this unit, learners will be able to use knowledge to: a) Explain the concept of afforestation and deforestation b) Identify and locate the different agro-climatic zones e.g., Temperate climatic zone, tropical climatic zone etc. c) Map out the various agro-ecological zones e.g., Upland, swamp, etc. d) List the various products (e.g., Boards rapes, fruits, medicine etc.) got from the forest.	a) Guide learners to define agro-forestry, afforestation and deforestation b) Take learners to forest sites to see practices like deforestation etc. and tell them to present reports on the visit c) Discuss the climatic and ecological zones with the learners. d) Tell learners to give the various products that are derived from the forest	Quizzes Tests Assignments Exams Oral questioning Presentations	Text books, Picture books
----------------------------	--	--	---	------------------------------

Unit 5: - Crop production	At the end of this unit, learners will be able to use knowledge to: a) Identify and describe the different crops grown in Sierra Leone	a) Tell learners to list the different crops that are grown in S/Leone. E.g., Rice, maize, okra, pepper, coffee, cacao, oil palm etc.	Quizzes Tests Assignments Exams	Text books, Picture books
	b) Describe the different farming systems in Sierra Leone c) Describe the different agro-ecologies used for farming,	b) Discuss the various farming systems in Sierra Leone with the learners e.g. – shifting cultivation c) Ration mixed cropping, mixed farming, mono-cropping etc. c) encourage the learners to describe the different agro-ecologies that are used for farming.eg. dry/up land, swamp, boil, mangrove swamp	Oral questioning Presentations	
Unit 6: - Livestock Production And agriculture	Learners will be able to use knowledge to a. Appreciate the different types of livestock and fishes reared in Sierra Leone b. Name the different livestock feeds and their sources c. State the different production systems for different categories of livestock and fishes.	a) Display samples of livestock and fishes that are reared in Sierra Leone on a chart b) Ask learners to identify the different livestock and fishes displayed e.g., Chicken, goat, sheep, cattle etc. and fishes like tilapia, carp, trout etc. c) Display samples of local sources of livestock feeds e.g., Corn, cassava, pawpaw, bread fruit, mango, gari, fish, palm kernel cake etc d) Guide learners to name the livestock feeds e.g., Production feed, maintenance feed etc e) Discuss the different production systems of livestock with the learners. The extensive/free rage system, semi-intensive system and the intensive system f) Take learners to livestock production site so that they can see the various systems in operation.	- Quizzes Tests Assignments Exams Oral questioning Presentations	Text books, Picture books Charts

### 3<sup>RD</sup> TERM

<p>Unit 7: - Farm business and marketing (entrepreneurial skills)</p>	<p>Learners will be able to use knowledge to: - d. Factors necessary for establishing a business e. Develop a simple agro-business plan f. Understand the concept of agriculture value chain</p>	<p>a) Encourage learners to define (i) Farm business and (ii) Marketing b) Ask learners to list the necessary factors for establishing a business c) Develop a simple business plan with the learners d) Discuss the concept of agriculture value chain with the learners e.g. The successive improvement in the value of an agricultural product from one level to the after through successive processing</p>	<p>-Quizzes, Tests Assignments Exams -Oral questioning -Presentation</p>	<p>Textbooks Business reports The Internet Photo books Marketable farm products</p>
<p>Unit 8: - ICT in agriculture</p>	<p>Learners will be able to use knowledge to: - a. Identify various communication systems (mass media, mobile, WhatsApp, etc.) b. Basic computer skills</p>	<p>a) Ask learners to give the meaning/expanded form of ICT and state its importance in agriculture Tell b) learners to list the various communication systems that are useful in agriculture c) Discuss the importance of basic computer skills in agriculture and encourage the learners to acquire those skills.</p>	<p>Quizzes, Tests -Assignments, Exams -Oral questioning -Presentation</p>	<p>Textbooks Computers Printers Scanners The Internet Photo books</p>

Unit 9: Farm Tools and Machinery	By the end of this topic learners will be able to use knowledge to: - Fabricate simple farm tools. -operate some basic farm machines to undertake some farming activities such as ploughing, harrowing, etc	-Take learners to a local blacksmith workshop to see how simple farm tools like hoes, cutlasses etc are made. -Do follow-up discussion on what they have seen. -Tell learners to explain the steps involved in making some of the simple farm tools. -Discuss with learners on how some basic farm machines operates. -Take learners to a farm site where these machines operate.	Oral questioning and written tests	Text books, resource persons
		d) -Tell learners to write and present a report on the trip.		

**AGRICULTURAL SCIENCE  
AND FOOD SECURITY COURSE OUTLINE FOR JUNIOR LEVEL – JSS 2  
1ST TERM**

TOPIC	SPECIFIC LEARNING OUTCOMES	RECOMMENDED TEACHING STYLES OR PEDAGOGICAL APPROACH	ASSESSMENT METHODS	SUGGESTED TEACHING /LEARNING RESOURCE CORE/ SUPPLEMENTARY
Topic 1 Agricultural development	<p>By the end of this topic learners will be able to use knowledge to:</p> <p>a) State/ list the contribution of science and technology to agricultural development</p> <p>b) Explain the concept of food and nutritional security and its causes and how to mitigate food insecurity.</p> <p>c) State the effects of science and technology to the environment.</p>	<p>-Discuss the role of science and technology in the development of agriculture eg provision or manufacturing of chemicals (herbicides fertilizers, pesticides fungicides etc.</p> <p>-Discuss the contribution of agricultural to nutritional and food security discuss the causes and solutions to food insecurity -Discuss the effect of science and Technology to the environment.</p> <p>-Field trips to large commercial farms</p>	<p>Oral questions and answers. Tests Assignment Exams</p>	<p>Text books, resource persons</p>
Topic 2 Farm tools and machines	<p>By the end of this topic learners will able to use knowledge to:</p> <p>a) Operate and maintain farm tools and machines</p> <p>b) Give the speak function of each tool and machine and the safety precautions required to operate them</p>	<p>-Teacher takes pupils to the school garden with some farm tools to demonstrate the use of some of these tools and how to maintain the in after use discuss the safety precautions in operating such tools and machines</p>	<p>Tests, Exams Practical work/oral questions and answers etc.</p>	<p>Text books, Field trips contact resource persons</p>

<p>Topic 3 Agricultural environment and soil science</p>	<p>By the end of this topic, learners will be able to use knowledge to:</p> <ul style="list-style-type: none"> <li>a) Identify the different climate change patterns</li> <li>b) Explain the various environmental problems affecting agricultural productivity</li> <li>c) Appreciate the different types of soil characteristics and their suitability of crop and livestock production</li> <li>d) Identify the processes that lead to soil formation</li> </ul>	<p>-Discuss the meaning of climate with pupils and its elements like rain fall, temperature, humidity, wind, sunshine</p> <p>-Discuss the environmental factors that affect agricultural productivity e.g., pests, diseases etc.</p> <p>-Discuss the different types of soils and their characteristics, including their suitability for crop and livestock production identify the processes that lead to soil formation physical weathering Chemical weathering and biological weathering</p>	<p>Tests Exams Oral questions and answers test books Test, exams, oral questions and answers Assignment</p>	<p>Text books, Field trips, Resource persons</p>
--	---	---	---	--

## 2<sup>ND</sup> TERM

<p>Topic 4 Agro-forestry</p>	<p>By the end of this topic learners will be able to use knowledge to:</p> <ul style="list-style-type: none"> <li>a) Identify and list the effects of deforestation on climate</li> <li>b) Identify and list the effects of afforestation on climate</li> <li>c) Detail the uses of some forest products.</li> </ul>	<p>-Discuss the effects of deforestation on climate -Identify and list the effects of afforestation on climate</p> <p>List the uses of some forest products such as boards for making furniture</p>	<p>Test, exams, oral questions and answers Assignment Test, exams assignment oral questions and answers etc.</p>	<p>Field trip resource person pictures or charts etc. Test books contact resource person etc</p>
----------------------------------	--	---	--	--

Topic 5 Crop Production	By the end of this topic, learners will be able to use knowledge to: a) Establish vegetable farms or gardens b) grow various indigenous crops c) To establish a nursery farm for various export crops including coffee, cocoa ginger cashew etc	-Discuss the establishment of a vegetable farm or garden. -Take pupils to the school garden where vegetables are grown.  -Demonstrate the steps involved in the cultivation of indigenous crops such as roots and tubers, cereals, spices, pulses, and export crops like coffee cocoa, rubber, cashew etc. demonstrate the establishment of a nursery for export crops such as coffee, cacao, cashew etc. ask pupils to observe the process	Tests, Exams Oral questions Assignment	Field trips involve a demonstrator or a resource person
Topic 6 Livestock production and agriculture	By the end of this topic, learners will be able to use knowledge to: a) Establish and manage a poultry production farm. b) Establish small ruminants and large ruminant production farms.	-Discuss the establishment of a poultry production farm.  Explain all what is involved in the process to do demonstration lesson or practical lessons on swine, small ruminants like goats, sheep and also for large ruminants like cattle.	Tests Exams Quires Oral question and answers	Organize a field trip to a swine and ruminants production farms. Involve resource persons, use test books

### 3<sup>RD</sup> TERM

Topic 7 Farm business and marketing (entrepreneurs hip)	By the end of this topic, learners will be able to use knowledge to: a) Identify market situations b) Appreciate the relevance of value addition to agricultural products c) Describe simple agricultural value chains	-Teacher assist pupils to identify market situations -Teacher explain the relevance of value addition to agricultural products.  -Teacher helps pupils to describe simple agricultural value chains e.g., poultry eggs, gari etc.	Tests, exams, quiz, - Oral presentations	Field trips text books contact reduce
Topic 8 ICT in	By the end of this topic learners will be able to use knowledge to:	-Discuss the importance of ICT in dissemination of agricultural information e.g.,	Test, Exams	Textbooks, resource persons like

		the		
agriculture	<ul style="list-style-type: none"> <li>a) Use ICT in dissemination of agricultural information</li> <li>b) Disseminate the advantages and disadvantages of the use of ICT <ul style="list-style-type: none"> <li>(i) Identify the target groups, social dynamics.</li> </ul> </li> </ul>	<p>use of internet to seek and disseminate information</p> <p>-Discuss the advantages and disadvantages of using ICT to disseminate information help pupils to determine the target groups social dynamics e.g., ethnicity, education livelihood etc.</p>	Quires Assignment	computer specialists use internet facilities etc.
Unit 9: - Farm business and marketing (Entrepreneurial skills)	<p>Learners will be able to use knowledge to: -</p> <ul style="list-style-type: none"> <li>g. Factors necessary for establishing a business</li> <li>h. Develop a simple agrobusiness plan</li> <li>i. Understand the concept of agriculture value chain</li> </ul>	<ul style="list-style-type: none"> <li>e) Encourage learners to define <ul style="list-style-type: none"> <li>(iii) Farm business and</li> <li>(iv) Marketing</li> </ul> </li> <li>f) Ask learners to list the necessary factors for establishing a business</li> <li>g) Develop a simple business plan with the learners</li> <li>h) Discuss the concept of agriculture value chain with the learners e.g. The successive improvement in the value of an agricultural product from one level to the after through successive processing</li> </ul>	<ul style="list-style-type: none"> <li>-Quizzes,</li> <li>Tests</li> <li>Assignments</li> <li>Exams</li> <li>-Oral questioning</li> <li>-Presentation</li> </ul>	<ul style="list-style-type: none"> <li>Textbooks</li> <li>Business reports</li> <li>The Internet</li> <li>Photo books</li> <li>Marketable farm products</li> </ul>



## Outline Teaching Syllabus for the First Stage of Basic Education (JSS III) 1<sup>ST</sup> TERM

Suggested Topics/Theme/Units	Specific Learning Outcomes	Recommended Teaching Styles or Pedagogical Approaches	Assessment Methods	Suggested Learning and Teaching Resources
<b>Unit 1: Agricultural Development</b>	By the end of this topic learners will be able to use knowledge to: -appreciate strategies to develop agricultural productivity in Sierra Leone	Discuss with pupils strategies that could be used to develop and improve agricultural productivity in Sierra Leone e.g., mechanized farming,	-Oral questioning and answers. - Tests	Text books: Junior Secondary Agriculture for
		commercial agriculture etc		Sierra Leone
<b>Unit 2: Farm Tools and Machinery</b>	By the end of this topic learners will be able to use knowledge to: - Fabricate simple farm tools. -operate some basic farm machines to undertake some farming activities such as ploughing, harrowing, etc	-Take learners to a local blacksmith workshop to see how simple farm tools like hoes, cutlasses etc are made. -Do follow-up discussion on what they have seen. -Tell learners to explain the steps involved in making some of the simple farm tools. -Discuss with learners on how some basic farm machines operates. -Take learners to a farm site where these machines operate. -Tell learners to write and present a report on the trip.	Oral questioning and written tests	Text books, resource persons

<b>Unit 3: Agricultural Environment and Soil Science</b>	<p>By the end of this topic learners will be able to use knowledge to:</p> <ul style="list-style-type: none"> <li>-appreciate various soil conservation methods</li> <li>-understand and apply mitigating strategies to address climate change -</li> <li>understand the various climatic factors affecting agricultural productivity, and the environment</li> </ul>	<ul style="list-style-type: none"> <li>-Tell learners to define soil conservation.</li> <li>-Discuss the various soil conservation methods with the learners. E.g., avoid deforestation, grow cover crops on slopes, avoid indiscriminate bush burning and over grazing etc</li> <li>-Discuss with the learners' ways to mitigate climate change e.g., grow more trees and avoid deforestation etc.</li> <li>-Discuss with learners the various climatic factors that affect agricultural productivity and the environment e.g., rainfall, sun shine, wind, temperature etc</li> <li>-Ask learners to give the various soil conservation techniques and strategies e.g., crop rotation, growing cover crops etc</li> </ul>	<p>Questions and answers</p>	<p>Text books: Charts, pictures</p>

## 2<sup>ND</sup> TERM

<p><b>Unit 4: AgroForestry</b></p>	<p>By the end of this topic learners will be able to use knowledge to:</p> <ul style="list-style-type: none"> <li>-Identify the ecological players in the forest</li> <li>-Establish forest reservations.</li> <li>-Identify various adapted local trees to be used for afforestation.</li> <li>-Identify specific horticultural and ornamental crops and their importance</li> </ul>	<ul style="list-style-type: none"> <li>-Take the learners to a forest reserve or displace a forest on a chart.</li> <li>-Ask learners to identify what they see in the forest reserve or the chart eg various trees, animals, birds etc -</li> <li>Discuss with the learners how to establish a forest reserve.</li> <li>-Tell the learners to give adapted local trees to be used for afforestation. -</li> <li>Identify specific horticultural and ornamental crops with learners and discuss their importance.</li> </ul>	<p>-Assignments, tests</p>	<p>Charts, text books</p>
<p><b>Unit 5: Crop Production</b></p>	<p>By the end of this topic learners will be able to use knowledge to:</p> <ul style="list-style-type: none"> <li>-Identify the problems crop production e.g., pests and diseases, soil type, varying climatic condition.</li> <li>-Solve crop production problems using modern techniques like application of fertilizers and manures, pruning, mulching etc</li> <li>-Undertake basic modern crop production techniques like budding and grafting, marcotting etc</li> </ul>	<ul style="list-style-type: none"> <li>-Discuss with the learners the problems of crop production. -</li> <li>Guide the learners to come up with ways to solve the problems of crop production.</li> <li>-Discuss basic modern crop production techniques such as budding and grafting, marcotting etc with the learners.</li> <li>-Use a resource person to demonstrate to learners the processes of budding and grafting etc</li> </ul>	<p>Practical demonstration by students, oral questions and answers</p>	<p>Text books, resource persons</p>
<p><b>Unit 6: Livestock Production and Agriculture</b></p>	<p>By the end of this topic learners will be able to use knowledge to:</p> <ul style="list-style-type: none"> <li>-Identify livestock production problems like pests and diseases affecting livestock and how to mitigate the problem.</li> <li>-Solve livestock nutritional problems</li> </ul>	<ul style="list-style-type: none"> <li>-Ask learners to state the problems of livestock production.</li> <li>-Discuss with learners how to solve livestock nutritional problems eg feed combinations using local resources. -</li> <li>Use a resource person to demonstrate</li> </ul>	<p>Demonstrations, questions and answers</p>	<p>Text books, resource persons</p>

	<p>through feed combination using local resources.</p> <ul style="list-style-type: none"> <li>-Undertake basic livestock routine and occasional operations e.g., castration, teeth clipping culling etc.</li> <li>-Establish and practicalize animal feed conservation techniques such as making silage and hay</li> </ul>	<p>basic livestock routine like castration, teeth clipping, duckling etc.</p> <ul style="list-style-type: none"> <li>-Ask learners to identify animal feed conservation techniques e.g., silage and hay.</li> <li>-Carry out silage and hay preparation practical</li> </ul>		
--	--	--	--	--

### 3<sup>RD</sup> TERM

<p><b>Unit 7: Farm Business and Marketing (Entrepreneurial Skills)</b></p>	<p>By the end of this topic learners will be able to use knowledge to:</p> <ul style="list-style-type: none"> <li>-Engage in marketing agricultural products e.g., local restaurant, hotels etc</li> <li>-Identify and mitigate factors affecting marketing of agricultural products. - Explore both local and international market for agricultural products.</li> </ul>	<ul style="list-style-type: none"> <li>-Discuss with the learners the marketing of agricultural products like vegetables to restaurants, hotels. -Ask learners to identify factors that affect the marketing of agricultural products and state ways of mitigating these factors.</li> <li>-Explore with learners both local and international markets for agricultural products</li> </ul>	<p>Questions and answers</p>	<p>Text books, internet</p>
<p><b>Unit 8: ICT in Agriculture</b></p>	<p>By the end of this topic learners will be able to use knowledge to:</p> <ul style="list-style-type: none"> <li>-Explore effective communication channels.</li> <li>Analyze stake holders and engagement strategies for effective communication. - Effective communication of specific agricultural information packages e.g., introduction of new crop varieties, control of animal diseases, application of fertilizers etc</li> </ul>	<ul style="list-style-type: none"> <li>-Ask the learners to identify effective communication channels</li> <li>-Identify with the learners the communication service providers for effective communication e.g., Airtell, Africell etc</li> </ul>	<p>-Questions and answers assignments</p>	<p>Text books internet</p>

<b>Unit 9: - Farm Machinery /Tools and Structures</b>	Learners will be able to use knowledge to: - <ul style="list-style-type: none"> <li>- Use of machines in commercial farming (combined harvesters, drillers, etc.)</li> <li>- Use of machines and the environment</li> <li>- Do Practical use of farm machinery for crop and livestock production</li> </ul>	<ul style="list-style-type: none"> <li>a) Tell learners to identify the machines that are used in commercial farming.</li> <li>b) Discuss the uses of each of the machines in farming</li> <li>c) Take the learners to government agricultural engineering department /garage at Kissy Dockyard to see some of the machines</li> <li>d) Discuss with learners the effect the use of machines in agriculture has on the environment e.g., Air pollution, the pollution of sources of water etc.</li> </ul>	Practical demonstration by students, oral questions and answers	Text books Pictures of farm machines Photos of the environment