



**DEPARTMENT OF EDUCATION
ARTS AND SCIENCES SECTION
AGRICULTURAL SCIENCE UNIT**

**NATIONAL PACING GUIDE
HORTICULTURE
SENIOR HIGH SCHOOL**

GRADES:10-12

ACADEMIC YEAR 2023 – 2024

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| WEEK | TOPIC/CONCEPT | OBJECTIVES | CURRICULUM LINK | TIME SPAN | ASSESSMENT |
|---------------|--|---|---|------------------|--|
| Week 1 | INTRODUCTION TO HORTICULTURE | 1. State a brief definition of Horticulture. 2. Identify and describe four major branches of horticulture to include Pomology, Olericulture, Floriculture, Landscape and nursery industry, | http://www.lwtchort.com/branches-of-horticulture.html | 2 Hours | Prepare a chart to distinguish between the branches of Horticulture. |
| Week 2 | INTRODUCTION TO HORTICULTURE | 1. Discuss the Horticulture Industry in The Bahamas. 2. Evaluate the economic importance of Horticulture. | Bahamas Landscape Association Ministry of Tourism | 2 Hours | Group Project on local horticulture businesses. |
| Week 3 | CAREERS IN HORTICULTURE | 1. Identify at least 6 careers in the horticulture industry. 2. Discuss the requirement for five (5) specific jobs in the Horticulture Industry. | https://www.seedyourfuture.org/careers | 2 Hours | Survey the local market and select 5 specific jobs in the horticulture industry. List the skills needed for the job and describe how to prepare for the job. |
| Week 3 | INTRODUCTION TO/CAREERS IN HORTICULTURE | Unit Test | | 1 Hour | |

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| Week 4 | PLANT TAXONOMY | 1. Differentiate between scientific and common plant names. 2. Explain the binomial system of naming plants. 3. Explain the difference between genus, species and variety. | Biology for life Agricultural Science A Course for Secondary Schools in the Caribbean. Longman bk.1 | 2 Hours | Research genus, species and varieties of common plants used in the Bahamian landscape. |
| Week 5 | HORTICULTURAL CLASSIFICATION OF PLANTS | 1. Classify plants based on morphology, growth habits, period of their lifecycles and seasonal and climatic adaptations. | https://www.agrihortieducation.com/2016/07/classification-of-horticultural-plants.html?m=1 https://www.ndsu.edu/pubweb/chiwonlee/plsc210/topics/chap2-classification/chapt%202-classification.pdf | 2 Hours | Create a chart to classify plants based on morphology, growth habits, period of their lifecycles and seasonal and climatic adaptations. |

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| Week 6 | PLANT PARTS AND FUNCTION | <p>1. Identify and describe the parts of a typical flowering plant</p> <p>2. Explain the functions of each part of the flowering plant.</p> | <p>Agricultural Science A Course for Secondary Schools in the Caribbean. Longman bk. 1</p> <p>Agricultural Science A Junior Secondary Course for the Caribbean. Bk. 1</p> | 2 Hours | <p>Draw and label parts of the flowering plant.</p> <p>Investigate the passage of water in plants. Write a report</p> |
| Week 7 | PLANT PARTS AND FUNCTION | <p>3. Differentiate between the shoot and the root system.</p> <p>4. Examine the growth patterns of various shoot systems to include trees, shrubs, runners, climbers, twines and grasses</p> | Agricultural Science A Course for Secondary Schools in the Caribbean. Longman bk. 1 | 2 Hours | <p>Look for examples of the following kinds of shoot system; trees, shrubs, twines, runners, climbers and grasses. Create a chart and explain their growth pattern.</p> |
| Week 8 | PLANT PARTS AND FUNCTION | <p>5. Explain the functions of the reproductive parts of the flowering plant.</p> <p>6. Describe the process of pollination and fertilization.</p> | Agricultural Science A Course for Secondary Schools in the Caribbean. Longman bk. 1 | 2 Hours | <p>Dissect a flower. Sketch and label all parts.</p> <p>View online an animation of the process of pollination and fertilization in flowering plants. Observe and report the process.</p> |

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| Week 9 | PLANT PARTS AND FUNCTION | 7. Differentiate between monocotyledons and dicotyledons 8. Review plant structures common to each including flowers, leaves, seeds and roots. | Agricultural Science A Course for Secondary Schools in the Caribbean. Longman bk.1 | 2 Hours | Carefully dig up one example of a monocotyledon plant and a dicotyledon plant. Observe both plants and state the main differences between them. Report observations. |
| Week 9 | | Unit Test | | 1 Hour | |
| Week 10 | BIOTIC FACTORS AFFECTING PLANT GROWTH | 1. Explain what is meant by biotic factors in the environment. 2. Identify and explain the biotic factors affecting horticulture including weeds, insects, mammals, birds, microorganisms, viruses. | Agricultural Science A Course for Secondary Schools in the Caribbean. Longman bk.1 | 2 Hour | Make a pressed collection of weeds. Identify them and state their effects on plants. Research information on biotic factors on horticulture, Prepare a PowerPoint presentation. |
| Week 11 | BIOTIC FACTORS AFFECTING PLANT GROWTH | 3. Describe some methods of controlling the negative effects of biotic factors. 4. Demonstrate methods used to mitigate against the effects. | Agricultural Science | 2 Hours | Practice methods used to mitigate against the effects of biotic factors. |

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| Week 12 | ABIOTIC FACTORS AFFECTING PLANT GROWTH | 1. Explain the relationships between Horticulture and abiotic factors in the environment. 2. Identify common abiotic factors including air, wind, temperature, water, sunlight and humidity. 3. Explain the effects of abiotic factors. | Agricultural Science A Course for Secondary Schools in the Caribbean. bk.1 | 2 Hours | Research the impact of climate change on horticulture. Make a rain gauge to measure rainfall on your island. Measure and record the amount of rainfall over a specified period. |
| Week 13 | ABIOTIC FACTORS AFFECTING PLANT GROWTH | 4. Determine the optimum temperature required for plant growth. 5. Discuss the importance of light in plant growth | Agricultural Science A Course for Secondary Schools in the Caribbean. bk.1 | 2 Hours | Using potted plants, investigate the optimum temperature for plant growth. Complete lab report. Grow seeds under controlled conditions using low and high temperatures. Complete report. |
| Week 14 | ABIOTIC FACTORS AFFECTING PLANT GROWTH | 6. Discuss the importance of water in plant growth 7. Determine the amount of water needed for optimal plant growth. | Agricultural Science A Course for Secondary Schools in the Caribbean. bk.1 | 2 Hours | Setting up rain gauge to measure rain fall. Experiment to show the effects of water shortage on plants |
| Week 14 | | Unit Test | | 1 Hour | |

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| Week 15 | SOIL SCIENCE | 1. Identify and discuss the factors that affect the roots of plants 2. Identify the four (4) main types of soil | Junior Secondary – Agriculture for the Caribbean bk. 1 Junior Secondary – Agriculture for the Caribbean Book 2. | 2 Hours | Soil analysis to determine composition of soil and its origin. Write report Experiment to show that soil has air, texture, structure, water and their effects on plant roots particularly in the absence of air. Lab report |
| Week 16 | SOIL SCIENCE | 3. Identify the four (4) main types of soil. 4. Discuss the texture, structure, water retention capacity and characteristics of the four main types of soil. | Agricultural Science for the Caribbean bk. 2 Ralph Persad. Junior Secondary Agriculture for The Caribbean. bk. 2 I. Mohammed and Ferdinand. | 2 Hours | Collect samples of the four (4) different types of soil. Demonstrate by way of experiment the procedure to determine water retention capacity. Write report |
| Week 17 | SOIL SCIENCE | 5. State the components used to improve soil conditions. 6. Analyze the benefits of soil improvements | Agricultural Science bk. 2 Ian Elliott and Orville Wolsey | 2 Hours | Observations, reports, graphs to show effects of plant growth in improved soil. Experiment comparing the rate of water drainage in each |

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| Week 17 | SOIL SCIENCE | 7. Compare the rate of water drainage in four soil types to include, silt, loam, clay, sand. | | | soil type. Observe and report observation Application methods of incorporating inorganic manure. Observe and record soil improvement. |
| Week 18 | SOIL SCIENCE | 7. Identify and discuss sources of soil moisture 8. State the advantages and disadvantages of proper drainage. | Agricultural Science bk.1 Ian Elliott and Orville Wolsey | 2 Hours | Experiment to show capillary movement of water via the drains to the beds. Observe and record Set up experiments to demonstrate advantages and disadvantages of drainage. Observe and record |
| Week 19 | SOIL SCIENCE | 9. Define soil pH 10. Explain how soil acidity and alkalinity is measured 11. Identify the causes of soil acidity and describe how it is corrected. | Agricultural Science for the Caribbean bk.2 Ralph Persad. | 2 Hours | Experiment to test pH value of various types of soil. Observe and record. Design experiments to show the effects of pH on soil/plants. Observe and record. Design an experiment to Adjust the pH value in soil. Record |
| Week 19 | SOIL SCIENCE | Unit Test | | 1 Hour | |

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| Week 20 | HORTICULTURE TOOLS | 1. List simple tools and equipment used in horticulture. 2. State the use of some tools and equipment used in horticulture | https://farmer.gov.in/dacdivison/Machinery1/chap9.pdf https://snv.org/assets/explore/download/eth_garden_tools_and_their_use_banner.pdf Agricultural Science A Course for Secondary Schools in the Caribbean. bk.1 | 2 Hours | Make a poster or slide presentation of the different kinds of tools and implements. |
| Week 21 | HORTICULTURE TOOLS | 3. Describe the proper care and handling of tools and equipment. 4. Explain proper storage and maintenance of horticulture tools and equipment. | Agricultural Science A Course for Secondary Schools in the Caribbean. bk.1 | 2 Hours | Demonstrate proper care and handling of tools and equipment. Assess proper skills. |
| Week 22 | HORTICULTURE TOOLS | 5. List some important implements and give their use including cultivators, ploughs, lawn mowers, weed Wacker. | Agricultural Science A Course for Secondary Schools in the Caribbean. bk.1 | 2 Hours | Research horticulture implements. Create a slide presentation. View a video showing horticulture implements. Describe the use of each implement. |
| Week 22 | | Unit Test | | 1 Hour | |

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| Week 23- Week 24 | HORTICULTURE STRUCTURES | 1. Identify types of protected structures and their components 2. Identify five factors to consider when selecting a specific greenhouse design. 3. Classify greenhouses based on cost, shape, materials used and climate control mechanisms. 4. Construct a low tunnel with locally available materials. | https://ncert.nic.in/vocational/pdf/kepc102.pdf | 4 Hours | Research types of protected structures. Write a report Create a chart to classify greenhouses. Construct a low tunnel. Skill based assessment |
| Week 25 | HORTICULTURE STRUCTURES | Unit Test | | 1 Hour | |
| Week 25 | HEALTH AND SAFETY | 1. Explain the importance of safety in horticulture. 2. Define the term personal protective equipment. 3. Identify five safety symbols in horticulture | https://www.acpsd.net/cms/lib/SC02209457/Centricity/Domain/3256/Sports%20Turf%20Safety.pdf Agricultural Science bk. 2 | 2 Hours | Research examples of personal protective equipment and create a slideshow. Create safety symbols and mount them. |

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| Week 26 | HEALTH AND SAFETY | 4. Explain how to prepare, apply, store and transport chemicals. 5, Demonstrate safety precautions necessary when handling, applying and storing chemicals. 6. State the effects of chemical misuse. | https://www.acpsd.net/cms/lib/SC02209457/Centricity/Domain/3256/Sports%20Turf%20Safety.pdf Agricultural Science bk. 2 | 2 Hours | Demonstrate various precautions. Skill based assessment. Research chemical misuse. Write a report. |
| Week 27 | | 5. Demonstrate basic first aid techniques. 6. Demonstrate safe lifting of heavy equipment and items. | https://www.education.vic.gov.au/school/students/beyond/Pages/horticulturemodule.aspx | 2 Hours | Assess skills Practice safe lifting. Assess skills |
| Week 27 | HEALTH AND SAFETY | Unit Test | | 1 Hour | |

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|---------------|--------------------------|---|--|------------------|--|
| Week 1 | PLANT PROPAGATION | <p>1. Define the term plant propagation and state the importance of plant propagation.</p> <p>2. State and explain the main methods of plant propagation.</p> <p>3. Define the terms sexual and asexual reproduction.</p> | https://extension.umaine.edu/gardening/manual/propagation/plant-propagation/ | 2 Hours | Research how plants used in the horticulture industry are propagated. Write a report. |
| Week 2 | PLANT PROPAGATION | <p>4. Discuss the advantages and disadvantages of sexual propagation</p> <p>5. Propagate plants sexually</p> | http://www.jnkvv.org/PDF/0704202017511907.%20Sexual%20Propagation-%20Advantages%20and%20Disadvantages%20(1).pdf | 2 Hours | Plant different types of seed in different, medium. Record observations. |
| Week 3 | PLANT PROPAGATION | <p>6. Discuss the advantages and disadvantages of asexual propagation.</p> <p>7. Identify the different types of natural asexual reproduction giving examples to include rhizomes, suckers, corms, bulbs, tubers and runners.</p> | <p>https://study.com/academy/lesson/asexual-reproduction-in-plants-advantages-disadvantages-types.html</p> <p>Agricultural Science bk1</p> | 2 Hours | <p>Research plants propagated by various asexual methods. Prepare a report or slideshow.</p> <p>Propagate plants using these plant parts. Make observations of growth. Record observations</p> |

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| Week 4 | PLANT PROPAGATION | <p>7. Identify the types of artificial asexual reproduction or vegetative propagation including budding, grafting, layering, cuttings</p> <p>8. Describe the different types of vegetative reproduction.</p> | <p>Persad bk. 3 A.I. Henry bk.1 Junior Secondary Agriculture for the Caribbean bk. 3</p> | 2 Hours | <p>Worksheet.</p> <p>Research. Create a PowerPoint presentation.</p> |
| Week 5 | PLANT PROPAGATION | <p>9. Differentiate between Natural vegetative reproduction and artificial vegetative reproduction.</p> <p>10. Explain the purpose of natural and artificial reproduction,</p> <p>11. Describe the tools and materials needed to carry out natural and artificial vegetative reproduction</p> | <p>Agricultural Science bk. 2</p> <p>Junior Secondary Agriculture for The Caribbean bk. 3</p> | 2 Hours | <p>Create a video presentation.</p> <p>Select proper tools. Demonstrate use.</p> |

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| Week 6 | PLANT PROPAGATION | <p>12. Select and prepare suitable planting materials to propagate plants using vegetative plant parts.</p> <p>13. Propagate plants using specialized organs including suckers, corms, rhizomes, bulbs, runners, stolons, tubers or buds.</p> | <p>Junior Secondary Agriculture for The Caribbean bk. 3</p> <p>Agricultural Science bk. 2</p> | 2 Hours | Propagate plants using specialized organs. Observe and record. |
| Week 7 | PLANT PROPAGATION | <p>14. Select plants suitable for propagating by use of cuttings and determine if the maturity of the wood is correct for optimum rooting.</p> <p>15. List plants commonly propagated by softwood, semi-hardwood and hardwood cuttings.</p> | <p>Junior Secondary Agriculture for The Caribbean bk. 3</p> | 2 Hours | Propagate softwood, semi-hardwood and hardwood plants by stem cuttings. Observe and record. |

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| Week 8 | PLANT PROPAGATION | 16. Identify other types of softwood cuttings to include leaf cuttings, leaf bud cuttings, mallet cuttings and root cuttings 17. Describe how plants are propagated by stem cuttings. | Agriculture for the Caribbean bk. 3 Ralph Persad | 2 Hours | Propagate plants using leaf cuttings, leaf bud cuttings, mallet cuttings and root cuttings. |
| Week 9 | PLANT PROPAGATION | 13. State the principles of budding and grafting. 18. Identify the three types of budding to include shield or patch inverted T and chip budding. 19. Describe the seven steps in the budding process. | Junior Secondary Agriculture for the Caribbean bk. 3 Caribbean Agricultural Science bk. 1 Agriculture for the Caribbean bk. 3 Ralph Persad | 2 Hours | Propagate plants by T-budding, chip budding and shield budding. Observe and record plant growth, |
| Week 10 | PLANT PROPAGATION | 20. Identify the four types of grafting to include veneer, cleft, approach and saddle and side. 21. Describe the seven steps in the grafting process. | Junior Secondary Agriculture for the Caribbean bk. 3 Caribbean Agricultural Science bk. 1 | 2 Hours | Propagate plants by veneer, cleft, approach, saddle and side grafting. Observe and record plant growth |

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| Week 11 | PLANT PROPAGATION | 22. State the principles of layering. 23. Identify the two common types of layering to include simple and air layering. 24. Describe eight steps in the layering process. | Junior Secondary Agriculture for the Caribbean bk. 3 Caribbean Agricultural Science bk. 1 Agriculture for the Caribbean bk. 3 | 2 Hours | Propagate plants by simple and air layering. Observe and record plant growth. |
| Week 12 | TISSUE CULTURE | 1.. Formulate a definition for tissue culture (callus cells) 2. Discuss conditions necessary for tissue culture. 3. Research online cloning procedure in tissue culture | https://passel2.unl.edu/view/lesson/54f48d0cd240/4 | | Examine meristematic tissue (growing point) of specific plants e.g. leaf, buds. Sketch and record observation. |
| Week 13 | TISSUE CULTURE | 4. Investigate how plants are propagated by tissue culture. 5. Examine the advantages and disadvantages of tissue culture 6. Propagate plants using tissue culture | https://passel2.unl.edu/view/lesson/54f48d0cd240/4 | | Propagate plants using tissue culture. Observe and record. Research |
| Week 13 | | Unit Test | | 1 Hour | |

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| Week 14 | IRRIGATION | 1. Define the term irrigation. 2. State the importance of irrigation. 3. Identify various types of irrigation to include overhead, furrow, sprinkler, flooding and drip irrigation, | Agricultural Science for the Caribbean bk2. Ralph Persad. | 2 Hours | Collect materials and equipment needed to set up a model of an irrigation system. |
| Week 15 | IRRIGATION | 4. Identify sources of water used for irrigation in The Bahamas 5. Identify types of irrigation systems practiced in The Bahamas 6. Discuss the advantages of water to plant growth and production. | The Ministry of Agriculture | 2 Hours | Collect water from each source and test for salinity. Observe and report. Research and demonstrate each system. Complete a report. Set up experiments with different variables and observe. |
| Week 16 | IRRIGATION | 6. Explain the importance of the water cycle to horticulture. 7. Trace the steps of the water cycle to include evaporation, transpiration, condensation, precipitation, surface run-off, infiltration and percolation. | Agricultural Science, A Course for Secondary Schools in the Caribbean Bk. 2 | 2 Hours | Draw and label diagram depicting water cycle. Collect and measure rainfall in school garden |
| Week 16 | IRRIGATION | Unit Test | | 1 Hour | |

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| Week 17 | PEST MANAGEMENT | 1. Define pests 2. Identify and classify types of pests 3. Collect, and label examples of common types of pests | A.I. Henry bk. 1 | 2 Hours | Project on collection and mounting of pests. Group project. |
| Week 18 | PEST MANAGEMENT | 4. Identify the effects of pests on ornamental plants. 5. Describe the methods of pest control to include biological, chemical and mechanical. | A.I. Henry bk. 1 | 2 Hours | Make a chart showing harmful and useful insects. Take photos of plants affected by pest in the neighborhood and school compound. Control plant pest using various methods. |
| Week 19 | PEST MANAGEMENT | 6. Identify parts of typical insects 7. Explain the life cycle of insects being identified (metamorphosis) | Agricultural Science for the Caribbean bk. 1 Ralph Persad. | 2 Hours | Draw and label the parts of a typical insect. Draw and label the lifecycle of insects. Mount a presentation of insects at different stages in their lifecycle. |

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| Week 20 | PEST MANAGEMENT | 8. Classify insects according to feeding habits. 9. Draw and label stages of complete and incomplete modes of metamorphosis | Agricultural Science for the Caribbean bk. 1 Ralph Persad | 2 Hours | Associate damage of crops with mouth parts of insects. Worksheet. |
| Week 22 | PEST MANAGEMENT WEEDS | 10. Describe control methods of insects. 11. List and describe both the beneficial and harmful effects of insects. | Agricultural Science for the Caribbean Bk. 1 | 2 Hours | Practice methods of controlling insects. Record methods |
| Week 23 | PEST MANAGEMENT WEEDS | 12. Definition of weeds 13. Identification of weeds based on lifespan and growth habit | Integrated Science by Book 1 (pg 120-123 by Ralph Persuad A.I Henrey bk. 1 | 2 Hours | Project – collection, pressing and displaying weed. |
| Week 24 | PEST MANAGEMENT WEEDS | 14. Describe methods of weed dispersal 15. Discuss methods of weed control e.g. Biological, cultural (using cutlass); and chemicals 16. State the effects of weeds on crops. | Integrated Science by Book 1 (pg 120-123 by Ralph Persuad A.I Henrey bk. 1 | 2 Hours | Research: Compare physical structure of weeds relative to dispersal. Investigate other methods used to control weeds. Report |

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| Week 25 | PEST MANAGEMENT MICROBES | 17. Define the term microbes. 18. List the different types of microbes. | Junior Secondary Agriculture for the Caribbean bk. 3 | 2 Hours | Participate in discussion Examine plants for microbes. Create a chart showing crops attacked by microbes. |
| Week 26 | PEST MANAGEMENT MICROBES | 19. Describe the structure of fungus and state how they are reproduced. 20. Describe the harmful effects of micro-organisms on plant growth. | Junior Secondary Agriculture for the Caribbean bk. 3 | 2 Hours | Conduct experiments to show the effects of disease infestation on plants e.g. photosynthesis, transpiration, Observe and record. |
| Week 27 | PEST MANAGEMENT MICROBES | 21. Identify signs and symptoms of diseases caused by microbes. 22. State the methods used to control microbes | Junior Secondary Agriculture for the Caribbean bk. 3 | 2 Hours | Set up experiments utilizing different methods of control of microbes on ornamental plants. Observe and record. |
| Week 28 | PEST MANAGEMENT PEST CONTROL STRATEGIES | 24. Discuss the principles of pest control strategies. 25. Compare and contrast the various systems used to control pests. | Junior Secondary Agriculture for the Caribbean bk. 3 | 2 Hours | Students set-up areas of plot and apply the different principles. Record growth rate in the various systems. |
| Week 28 | | Unit Test | | 1 Hour | |

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| WEEK | TOPIC/CONCEPT | OBJECTIVES | CURRICULUM LINK | TIME SPAN | ASSESSMENT |
|---------------|----------------------|--|---|------------------|--|
| Week 1 | PRUNING | 1. Define the term pruning. 2. List six reasons for pruning. 3. State why timing for pruning is important. | https://extension.purdue.edu/xtmedia/fnr/fnr-506-w.pdf | 2 Hours | Observe plants and state reasons for pruning them. Report findings |
| Week 2 | PRUNING | 4. Identify pruning equipment. 5. Demonstrate safe and proper use of pruning equipment 6. Demonstrate proper maintenance of pruning equipment. | https://images.homedepot-static.com/catalog/pdfImages/83/838bf732-a767-4cda-878d-a951c610a8f6.pdf | 2 Hours | Demonstrate proper use of pruning equipment. Demonstrate maintenance of pruning equipment |
| Week 3 | PRUNING | 7. Identify and describe five (5) types of pruning methods. 8. Demonstrate the Procedures for the various Pruning methods | https://www.fn gla.org/professional-development/Pruning.pdf | 2 Hours | Demonstrate various pruning methods. |

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|---------------|----------------------|---|---|------------------|---|
| Week 4 | PRUNING | <p>9. Demonstrate proper pruning cuts to include pruning stems at the proper angle. (Techniques)</p> <p>10. Differentiate between correct and incorrect pruning cuts.</p> | <p>https://www.fnsla.org/professional-development/Pruning.pdf</p> <p>https://static.colostate.edu/client-files/csfs/pdfs/613.pdf</p> | 2 Hours | Practice making pruning cut on branches that have been obtained for practice. Demonstrate correct skill |
| Week 5 | PRUNING | <p>11. Differentiate between correct and incorrect pruning cuts.</p> <p>12. Discuss and illustrate consequences of improper pruning</p> <p>13. Describe the pruning techniques used for flowering shrubs.</p> | <p>http://www.uwyo.edu/barnbackyard_files/documents/magazine/2009/winter/pruning-winter-2009-final.pdf</p> | 2 Hours | <p>Observe trees in urban and residential areas and consider, whether they are properly pruned.</p> <p>Observe pruning of flowering shrubs at a plant nursery.</p> <p>Compare flowering shrubs to pruning requirements</p> <p>Report observations as journal entries.</p> |
| Week 6 | PRUNING | <p>14. Demonstrate the proper way to shear a hedge</p> <p>15. Identify various hedging shapes</p> | <p>https://www.fnsla.org/professional-development/Pruning.pdf</p> | 2 Hours | Practice hedging plants on the school compound. Demonstrate correct skill. |

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|---------------|---------------------------|---|---|------------------|--|
| Week 7 | PRUNING | 16. Differentiate between the various hedging shapes 17. State whether hedging shapes are good, acceptable, poor, and informal. | https://www.fnsla.org/professional-development/Pruning.pdf | 2 Hours | Compare hedging shapes to determine whether they are good etc. Practical evaluation and report. |
| Week 8 | PRUNING | 18. Explain how growth patterns and habits of trees influence the method of pruning 19. Identify and discuss appropriate time for pruning trees and shrubs | https://www.fnsla.org/professional-development/Pruning.pdf | 2 Hours | Practical observation - Have students prune half of an established hedge in January and the other half in May. Have students compare and discuss. Report observations. |
| Week 8 | PRUNING | Unit Test | | 1 Hour | |
| Week 9 | LAWN ESTABLISHMENT | 1. List three reasons for establishing a lawn. 2. Explain how lawns are established and maintained. 3. Identify the six factors used in the comparison of different turf grasses. | Agricultural Science A Course for Secondary Schools in the Caribbean bk. 3 Longman. | 2 Hours | Grow grasses in classroom and compare fine leaf and broad leaf types. Report observation. Mount and display samples of lawn seeds. Describe differences and comparison. |

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|----------------|---|--|--|------------------|---|
| Week 10 | CLASSIFICATION OF TURF GRASSES | 1. Difference between cool and warm season turfs. 2. List common turf grasses used in The Bahamas | http://www.carlisle.k12.ky.us/userfiles/937/classes/629/e-unit.pdf https://www.turfgrass.ncsu.edu/grasses/ | 2 Hours | Project and Report on Internet Search |
| Week 11 | SOIL REQUIREMENTS FOR TURF GRASS | 1. Determine the soil types for good turf growth. 2. Describe how soil is prepared for turf grass establishment. | Agricultural Science A Course for Secondary Schools in the Caribbean bk. 3 Longman. | 2 Hours | Prepare soil to establish turf grass on the school campus. Observe and report observations. |
| Week 12 | SOIL REQUIREMENTS FOR TURF GRASS | 3. Describe the importance of soil fertility in turf grass management. 4. List three types of materials used to increase the organic content in a new lawn. 5. Demonstrate fertilizer application. | Agricultural Science A Course for Secondary Schools in the Caribbean bk. 3 Longman. | 2 Hours | Demonstrate application of fertilizer by broadcasting, flooding, spraying. |
| Week 13 | SOIL REQUIREMENTS FOR TURF GRASS | 6. Determine the pH of the soil 7. Determine the amount of soil to apply per square footage | Agricultural Science A Course for Secondary Schools in the Caribbean bk. 3 Longman. | 2 Hours | Test for soil acidity and alkalinity. Lab report |

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|----------------|--------------------------|--|---|------------------|--|
| Week 14 | STARTING THE LAWN | 1. Describe the two methods of lawn installation. 2. List 8 items that must be included on a seed label 3. Demonstrate five steps in seeding the lawn. 4. Demonstrate proper care and maintenance of the lawn after seeding to include covering, mulching and watering. | Agricultural Science A Course for Secondary Schools in the Caribbean bk. 3 Longman. | 2 Hours | Practical – demonstrate steps in seeding the lawn and proper care and maintenance. Observe and report. |
| Week 15 | STARTING THE LAWN | 5. Identify and describe five methods of vegetative planting. 6. State the advantages of vegetative planting | Agricultural Science A Course for Secondary Schools in the Caribbean bk. 3 Longman. | 2 Hours | Demonstrate vegetative planting. |
| Week 16 | STARTING THE LAWN | 7. Identify the different types of lawns originated from each vegetative method. 8. Outline the procedure for planting each type of vegetative cutting. | Agricultural Science A Course for Secondary Schools in the Caribbean bk. 3 Longman. | 2 Hours | Matching grass with method. Evaluate ability to successfully complete activity. Demonstrate how to plant on experimental (yard) plot (practical) Evaluate plot. |

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|----------------|--------------------------|---|---|------------------|---|
| Week 17 | STARTING THE LAWN | <p>9. Describe when (how often) grass should be mowed.</p> <p>10. Describe the importance of proper fertilization to the health and vigor of the grass.</p> <p>11. Determine the best time to apply fertilizer to the lawn,</p> | https://sfyl.ifas.ufl.edu/lawn-and-garden/groundcovers-and-lawngrasses/ | 2 Hours | Demonstrate proper fertilization of lawn. Skill. |
| Week 18 | STARTING THE LAWN | <p>12. Demonstrate how to set the mowing height to a rotary mower.</p> <p>13. Identify factors which contribute to lawn failure</p> <p>14. Describe ways to improve lawn</p> | https://www.lowes.com/n/how-to/troubleshoot-lawn-damage-and-disease | 2 Hours | <p>Proper demonstration on how to set the mowing height to a rotary mower.</p> <p>Research and submit a report.</p> |
| Week 18 | STARTING THE LAWN | Unit Test | | 1 Hour | |

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|----------------|--|--|---|------------------|---|
| Week 19 | USING PLANTS IN THE LANDSCAPE | <p>1. Identify five uses of plants in the landscape.</p> <p>2. Describe two aspects of plant selection to include general plant qualities and individual plant characteristics.</p> <p>3. Identify five general plant qualities to consider when choosing a plants to complete a plan.</p> | https://www.canr.msu.edu/uploads/resources/pdfs/a_guide_for_the_selection_and_use_of_plants_in_the_landscape_(e2941).pdf | 2 Hours | Research and report. |
| Week 20 | USING PLANTS IN THE LANDSCAPE ANNUAL BEDDING PLANTS | <p>1. Identify four uses of annual flowers.</p> <p>2. Design a bed layout using annual flowers.</p> | https://hort.ifas.ufl.edu/courses/ap/wkbk.pdf | 2 Hours | Design a flower bed using annual flowers. |
| Week 21 | USING PLANTS IN THE LANDSCAPE ANNUAL BEDDING PLANTS | <p>3. Explain the steps for preparing the soil for annual flowers.</p> <p>4. Demonstrate proper planting techniques for annual flowers.</p> | https://hort.ifas.ufl.edu/courses/ap/wkbk.pdf | 2 Hours | Propagate annual flowers from seed. |

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|----------------|--|---|--|------------------|--|
| Week 22 | USING PLANTS IN THE LANDSCAPE PERENNIALS, ORNAMENTAL | 1. Identify five perennial flowers used in the landscape. 2. Explain the steps for preparing the soil for perennial flowers. | https://hort.ifas.ufl.edu/course/s/ap/wkbk.pdf | 2 Hours | Research and report |
| Week 23 | USING PLANTS IN THE LANDSCAPE PERENNIALS ORNAMENTAL | 3. Design a layout for a perennial border. 4. Demonstrate proper planting techniques for perennial flowers. | https://hort.ifas.ufl.edu/course/s/ap/wkbk.pdf | 2 Hours | Evaluate layout for a perennial border Propagate perennial flowers from seed. |
| Week 24 | USING PLANTS IN THE LANDSCAPE GRASSES, VINES AND BAMBOO | 1. Identify three ornamental grasses, vines and bamboos 2. Explain the steps for preparing the soil for ornamental grasses, vines and bamboos. | https://hgic.clemson.edu/factsheet/ornamental-grasses-and-grass-like-plants/ https://www.johnson.k-state.edu/docs/lawn-and-garden/in-house-publications/perennials/Perennial%20Vines_REV.pdf | 2 Hours | Demonstrate steps for preparing the soil. |
| Week 25 | | | | | |

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|-------------------|--|---|---|------------------|--|
| Week 25 | USING PLANTS IN THE LANDSCAPE GRASSES, VINES AND BAMBOO | 3. Identify places in the landscape where ornamental grasses, vines and bamboos can be planted. 2. Propagate grasses, vines and bamboos. | http://eprints.utar.edu.my/2434/1/Landscaping_with_tropical_bamboos.pdf | 2 Hours | Ability to review landscape designs and identify sections where ornamental grasses, vines and bamboos can be planted. Propagate grasses, vines and bamboos. |
| Week 25 | | Unit Test | | 1 Hour | |
| Week 26 | LANDSCAPE DESIGN | 1. Create designs in landscaping. 2. State the steps used in clearing and preparing the land for landscaping. | Caribbean Agricultural Science by A. I. Henry bk. 1 | 2 Hours | Sketch various landscape designs./plans. Plant a landscape using a basic plan. |
| Week 27-28 | LANDSCAPE DESIGN | 3. List the activities involved in maintaining a landscaped area. 4. Demonstrate activities involved in maintaining a landscaped area | Caribbean Agricultural Science by A. I. Henry bk. 1 | 4 Hours | Demonstrate activities involved in maintaining a landscaped area |
| Week 28 | LANDSCAPE | Unit Test | | 1 Hour | |

RESOURCE

Hort 5.5 Landscaping

https://www.coabnau.in/uploads/1632999998_Hort.5.5LandscapingTheoryNoteFinal-converted.pdf