



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

**NATIONAL PACING GUIDE
HORTICULTURE
SENIOR HIGH SCHOOL**

GRADES:10-12

ACADEMIC YEAR 2022 – 2023

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ARTS AND SCIENCE SECTION
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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	TOPIC/CONCEPT	OBJECTIVES	CURRICULUM LINK	TIME SPAN	ASSESSMENT
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 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>	http://www.uwyo.edu/barnbackyard_files/documents/magazine/2009/winter/pruning-winter-2009-final.pdf	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>	https://www.fnsla.org/professional-development/Pruning.pdf	2 Hours	Practice hedging plants on the school compound. Demonstrate correct skill.

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WEEK	TOPIC/CONCEPT	OBJECTIVES	CURRICULUM LINK	TIME SPAN	ASSESSMENT
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	TOPIC/CONCEPT	OBJECTIVES	CURRICULUM LINK	TIME SPAN	ASSESSMENT
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.turffiles.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	TOPIC/CONCEPT	OBJECTIVES	CURRICULUM LINK	TIME SPAN	ASSESSMENT
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	TOPIC/CONCEPT	OBJECTIVES	CURRICULUM LINK	TIME SPAN	ASSESSMENT
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	TOPIC/CONCEPT	OBJECTIVES	CURRICULUM LINK	TIME SPAN	ASSESSMENT
Week 19	USING PLANTS IN THE LANDSCAPE	1. Identify five uses of plants in the landscape. 2. Describe two aspects of plant selection to include general plant qualities and individual plant characteristics. 3. Identify five general plant qualities to consider when choosing a plants to complete a plan.	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	1. Identify four uses of annual flowers. 2. Design a bed layout using annual flowers.	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	3. Explain the steps for preparing the soil for annual flowers. 4. Demonstrate proper planting techniques for annual flowers.	https://hort.ifas.ufl.edu/courses/ap/wkbk.pdf	2 Hours	Propagate annual flowers from seed.

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WEEK	TOPIC/CONCEPT	OBJECTIVES	CURRICULUM LINK	TIME SPAN	ASSESSMENT
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	TOPIC/CONCEPT	OBJECTIVES	CURRICULUM LINK	TIME SPAN	ASSESSMENT
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