Botany Curriculum

This curricula and accompanying instructional materials have been developed to align with the NJSLS and in accordance with the NJ Department of Education's guidelines to include: Curriculum designed to meet grade level expectations, integrated accommodations and modifications for students with IEPs, 504s, ELLs, and gifted and talented students, assessments including benchmarks, formative, summative, and alternative assessments, a list of core instructional and supplemental materials, pacing guide, interdisciplinary connections, integration of 21st century skills, integration of technology, and integration of 21st Century Life and Career standards.

About the Standards

In 1996, the New Jersey State Board of Education adopted the state's first set of academic standards called the Core Curriculum Content Standards. The standards described what students should know and be able to do upon completion of a thirteen-year public school education. Over the last twenty years, New Jersey's academic standards have laid the foundation for local district curricula that is used by teachers in their daily lesson plans.

Revised every five years, the standards provide local school districts with clear and specific benchmarks for student achievement in nine content areas. Developed and reviewed by panels of teachers, administrators, parents, students, and representatives from higher education, business, and the community, the standards are influenced by national standards, research-based practice, and student needs. The standards define a "Thorough and Efficient Education" as guaranteed in 1875 by the New Jersey Constitution. Currently the standards are designed to prepare our students for college and careers by emphasizing high-level skills needed for tomorrow's world.

The New Jersey Student Learning Standards include Preschool Teaching and Learning Standards, as well as nine K-12 standards for the following content areas: **21st Century Life and Careers, Comprehensive Health and Physical Education, English Language Arts, Mathematics, Science, Social Studies, Technology, Visual and Performing Arts, World Languages**

Lower Cape May Regional School District
Botany

Interdisciplinary Connections

SL.11-12.5: Make strategic use of digital media (e.g. textual, graphical, audio, visual, and interactive elements) in presentations to enhance understandings of findings, reasoning, and evidence and to add interest. (HS-LS1-5)
RST.9-10.8: Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem. (HS-LS2-7)
RST.11-12.7: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. (HS-LS2-7)
RST.11-12.8: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. (HS-LS2-7)
WHST.9-12.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. (HS-LS2-7)
MP.2: Reason abstractly and quantitatively. (HS-LS2-7)
HSN.Q.A.1: Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. (HS-LS2-7)
HSN.Q.A.2: Define appropriate quantities for the purpose of descriptive modeling. (HS-LS2-7)
HSN.Q.A.3: Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. (HS-LS2-7)

Integration of Technology
9.4.12.TL.1: Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specified task (e.g., W.11-12.6.). 9.4.12.TL.3: Analyze the effectiveness of the process and quality of collaborative environments. • 9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem (e.g., 7.1.AL.IPERS.6).

21st Century Skills
9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a). 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities (e.g., 1.4.12prof.CR2b, 2.2.12.LF.8).

9.4.12.CI.3: Investigate new challenges and opportunities for personal growth, advancement, and transition (e.g., 2.1.12.PGD.1).
9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice (e.g., 1.1.12acc.C1b, 2.2.12.PF.3).
9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a).
9.4.12.CT.3: Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue (e.g., environmental justice).
9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
9.4.12.IML.1: Compare search browsers and recognize features that allow for filtering of information. •
9.4.12.IML.2: Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources (e.g., NJSLSA.W8, Social Studies Practice: Gathering and Evaluating Sources.

Career Education
9.3.12.AG.1: Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster. 9.3.12.AG.2: Evaluate the nature and scope of the Agriculture, Food & Natural Resources Career Cluster and the role of agriculture, food and natural resources (AFNR) in society and the economy. 9.3.12.AG.3: Examine and summarize the importance of health, safety and environmental management systems in AFNR businesses. 9.3.12.AG.4: Demonstrate stewardship of natural resources in AFNR activities. 9.3.12.AG.5: Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources Career Pathways. 9.3.12.AG.6: Analyze the interaction among AFNR systems in the production, processing and management of food, fiber and fuel and the sustainable use of natural resources. 9.3.12.AG-BIZ.1: Apply management planning principles in AFNR businesses. 9.3.12.AG-BIZ.2: Use record keeping to accomplish AFNR business objectives, manage budgets and comply with laws and regulations. 9.3.12.AG-BIZ.3: Manage cash budgets, credit budgets and credit for an AFNR business using generally accepted accounting principles. 9.3.12.AG-BIZ.4: Develop a business plan for an AFNR business. 9.3.12.AG-BIZ.5: Use sales and marketing principles to accomplish AFNR business objectives. 9.3.12.AG-PL.1: Develop and implement a crop management plan for a given production goal that accounts for environmental factors. 9.3.12.AG-PL.2: Apply the principles of classification, plant anatomy and plant physiology to plant production and management.

9.3.12.AG-PL.3: Propagate, culture and harvest plants and plant products based on current industry standards. 9.3.12.AG-PL.4: Apply principles of design in plant systems to enhance an environment (e.g., floral, forest, landscape and farm).

Lower Cape May Regional School District (Botany) Curriculum	
Content Area: Science	
Course Title: Botany	**Grade level:** 9-12
Unit 1: Introduction to Plants	**Unit Times:** 10-12 weeks (September - December)
Unit 2: Opportunities in Horticulture and its Importance	**Unit Times:** 6-8 weeks (January - March)
Unit 3: Introduction to Floral Design	**Unit Times:** 10-12 weeks (March - April)
Date Created: August 1, 2025	**Board Approved On:**
Date Revised:	

Lower Cape May Regional School District (Botany) Curriculum Unit 1 Overview

Unit Title: Introduction to Plants

Target Course/Grade Level: Botany/9-12

Unit Summary:

This unit explores the fundamental characteristics, diversity, and importance of plants. Students will learn about plant structure, function, and life cycles, gaining a solid foundation in botany. Key topics include plant classification, photosynthesis, reproduction, and adaptation to environments. Through hands-on activities and observations, students will develop skills in identifying plant types and understanding their ecological roles. This unit sets the stage for understanding the organisms students will work with in future units.

Resources:

- Plant Kingdom by Amy Brown Science
- Plant Science by One Less Thing

Learning Targets	
CPI#	**Cumulative Progress Indicators (CPI) for Unit 1**
HS-LS1-3: Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. HS-LS1-5: Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy. HS-LS2-4: Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.	Introduction of Plants Resources: Plant Kingdom by Amy Brown Science Activities: ● Guided Notes ● Plant Chat Lab Stations
AFNR-PS.02.01: Classify plants according to taxonomic systems AFNR-PS.02.02: Apply knowledge of plant anatomy and the functions of plant structures associated with plant systems AFNR-PS.02.03: Apply knowledge of plant physiology and energy conversion to plant systems	Life Cycle of Plants Resources: Plant Science by One Less Thing Activities: ● How Does Your Garden Grow? ● Guided Notes

	• Planting Calendar Project
AFNR-PS.02.01: Classify plants according to taxonomic systems AFNR-PS.02.02: Apply knowledge of plant anatomy and the functions of plant structures associated with plant systems AFNR-PS.02.03: Apply knowledge of plant physiology and energy conversion to plant systems	Plant Structures Resources: Plant Science by One Less Thing Activities: • Guided Notes • Build a Bloom
AFNR-PS.02.01: Classify plants according to taxonomic systems AFNR-PS.02.02: Apply knowledge of plant anatomy and the functions of plant structures associated with plant systems AFNR-PS.02.03: Apply knowledge of plant physiology and energy conversion to plant systems	Classification of Plants Resources: Plant Science by One Less Thing Activities: • Guided Notes • Not So Common Names
AFNR-PS.01.01: Determine the influence of environmental factors on plant growth AFNR-PS.03.01: Demonstrate plant propagation techniques in plant system activities	Seeds and Germination Resources: Plant Science by One Less Thing Activities: • Guided Notes • Seed Study
AFNR-PS.01.01: Determine the influence of environmental factors on plant growth AFNR-PS.03.01: Demonstrate plant propagation techniques in plant system activities	Growth Processes of Plants Resources: Plant Science by One Less Thing Activities: • Guided Notes • Color Changing Carnations
AFNR-PS.02.02: Apply knowledge of plant anatomy and the functions of plant structures associated with plant systems AFNR-PS.02.03: Apply knowledge of plant physiology and energy conversion to plant systems	Photosynthesis and Respiration Resources: Plant Science by One Less Thing Activities:

	• Guided Notes • Photo-Flip
AFNR-PS.02: Apply principles of classification, plant anatomy, and plant physiology to plant production and management AFNR-PS.02.03: Apply knowledge of plant physiology and energy conversion to plant systems	Plant Hormones Resources: Plant Science by One Less Thing Activities: • Guided Notes • Rooting Hormone Recipes
AFNR-PS.03.01: Demonstrate plant propagation techniques in plant system activities AFNR-PS.03.02: Develop and implement a management plan for plant production	Pollination and Fertilization Resources: Plant Science by One Less Thing Activities: • Guided Notes • Be the Bee
AFNR-PS.03.01: Demonstrate plant propagation techniques in plant system activities AFNR-PS.03.02: Develop and implement a management plan for plant production	Asexual Plant Propagation Resources: Plant Science by One Less Thing Activities: • Guided Notes • Division of the (Green)House
AFNR-PS.03.01: Demonstrate plant propagation techniques in plant system activities AFNR-PS.03.02: Develop and implement a management plan for plant production	Plant Breeding Resources: Plant Science by One Less Thing Activities: • Guided Notes • Variety Show
HS-LS4-4: Construct an explanation based on evidence for how natural selection leads to adaptation of populations. HS-LS4-6: Create or revise a simulation	Plant Evolution Resources: Plant Kingdom by Amy Brown Science

to test a solution to mitigate adverse impacts of human activity on biodiversity.	Activities: ● Guided Notes ● Plant Evolution Research Project
Unit Enduring Questions: ● What are the characteristics of plants? ● How does the life cycle determine the type of plant? ● How do plant structures influence their function for plant growth and sustaining life? ● Why do we need plant classification systems? ● How do seeds determine proper conditions for germination? ● Why are secondary processes just as critical to plant growth as primary ones? ● How do photosynthesis and respiration contribute to plant functions? ● How does the role of hormones affect plant production? ● Why is sexual reproduction necessary for plant propagation? ● How does asexual reproduction benefit plants as well as plant producers? ● How does plant breeding utilize genetics to produce the desired outcome? ● How have plants diversified over time?	**Unit Enduring Understandings:** ● Plants share distinct characteristics that define them as a group, such as cell structure, ability to photosynthesize, and growth patterns. ● The type of plant is closely linked to its life cycle, which influences its growth, reproduction, and survival strategies. ● Plant structures are specialized to fulfill specific functions essential for growth, nutrient uptake, reproduction, and sustaining life. ● Classification systems are essential for organizing plant diversity, enabling clear communication, study, and understanding of relationships among species. ● Seeds have specific requirements and mechanisms that determine when and how germination occurs, ensuring successful plant establishment. ● Secondary processes, like nutrient transport and water regulation, are vital and complement primary processes to maintain healthy plant growth. ● Photosynthesis and respiration are interconnected processes that provide energy and support metabolic activities necessary for plant survival. ● Plant hormones regulate growth stages, development, and responses to environmental stimuli, directly influencing productivity. ● Sexual reproduction introduces genetic diversity, which is crucial for adaptation and long-term survival of plant species. ● Asexual reproduction offers efficient ways to propagate plants, benefiting both natural populations and agricultural production. ● Plant breeding applies genetic principles to develop plants with desirable traits, improving yield, resilience, and quality. ● Over time, plants have diversified through evolutionary processes, leading to the vast variety of forms and adaptations seen today.
Unit Objectives: ***Students will know…*** ● How to observe and describe key	**Unit Objectives:** ***Students will be able to…*** ● Make observations on plant characteristics

physical characteristics of plants. ● The different stages in the life cycles of various plants and how to articulate these stages. ● The main plant structures (roots, stems, leaves, flowers, seeds) and their specific functions critical to plant survival and growth. ● How plants are classified scientifically, including the use of taxonomic systems and binomial nomenclature for naming species. ● The anatomy of seeds and the biological processes involved in seed germination. ● The role of secondary processes (such as transpiration, nutrient transport) in supporting plant growth and their overall impact. ● The biochemical processes of photosynthesis and respiration, their differences, and how each contributes to plant growth. ● The influence of plant hormones on growth stages and developmental changes. ● The advantages and disadvantages of sexual reproduction in plants, especially in relation to propagation. ● Practical asexual propagation methods (cuttings, grafting, layering) and how to use them to produce new plants. ● Modern plant breeding techniques, their classification, and practical applications. ● Basic understanding of plant evolution and its significance in the diversity of plant life today.	● Determine and describe the stages of different plant life cycles ● Identify plant structures and discuss their functions for plant life ● Classify plants according to taxonomic systems and apply binomial nomenclature ● Describe the parts of seeds and apply principles of germination ● Discuss the importance secondary processes have on plant growth and illustrate their effects ● Compare and contrast the processes involved in photosynthesis versus respiration in plant growth ● Determine the effects plant hormones have on the stages of plant growth and development ● Describe the benefits and drawbacks of sexual reproduction as a plant propagation method ● Apply a variety of asexual propagation techniques to produce new plants ● Categorize the methods of modern plant breeding and describe how they are applied ● Research plant evolution **<u>Modifications for ELA's Special Education and 504 students:</u>** - Cooperative Learning Groups - Modified Assignments - Modified Texts - Teacher tutoring - Peer tutoring - Differentiated Instruction - Follow all IEP and 504 modifications

Unit Title: Opportunities in Horticulture and its Importance

Target Course/Grade Level: Botany/9-12

Unit Summary:

This unit introduces students to the field of horticulture, highlighting its role in plant cultivation, landscape design, food production, and environmental sustainability. Students will explore diverse career paths within horticulture, including nursery management, landscape architecture, urban farming, and plant breeding. The unit emphasizes the economic, ecological, and social benefits of horticulture in supporting food security, enhancing green spaces, and promoting biodiversity. Through practical applications and case studies, students will understand how horticulture integrates science, technology, and creativity to solve real-world challenges and improve quality of life.

Resources:

- Horticulture Readings by The Awesome Shop
- Plant Science by One Less Thing

Learning Targets	
CPI#	**Cumulative Progress Indicators (CPI) for Unit 2**
CCSS RST.11-12.2: Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.	Introduction to Horticulture Resources: Horticulture by The Awesome Shop Activities: ● What is Horticulture? Reading ● Coloring Page
CRP.01.01: Model personal responsibility in the workplace and community CRP.01.02: Evaluate and consider the near-term and long-term impacts of personal and professional decisions on employers and community before taking action CRP.01.03: Identify and act upon opportunities for professional and civic service at work and in the community CRP.02.01: Apply appropriate academic	FFA Refresh Resources: Plant Science by One Less Thing Activities: ● Symbols of the FFA Crossword ● Guided Notes ● Hello Horticulture

and technical skills CRP.03: Attend to personal health and financial well-being CRP.04: Communicate clearly, effectively and with reason CRP.08: Utilize critical thinking to make sense of problems and persevere in solving them CRP.10.01: Identify career opportunities within a career cluster that match personal interests, talents, goals, and preferences CS.05.02: Examine and choose career opportunities that are matched to personal skills, talents, and career goals in an AFNR pathway of interest	
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CRP.01.01: Model personal responsibility in the workplace and community CRP.01.02: Evaluate and consider the near-term and long-term impacts of personal and professional decisions on employers and community before taking action CRP.01.03: Identify and act upon opportunities for professional and civic service at work and in the community CRP.02.01: Apply appropriate academic and technical skills CRP.03: Attend to personal health and financial well-being CRP.04: Communicate clearly, effectively and with reason CRP.08: Utilize critical thinking to make sense of problems and persevere in solving them CRP.10.01: Identify career opportunities within a career cluster that match personal interests, talents, goals, and preferences CS.05.02: Examine and choose career opportunities that are matched to personal skills, talents, and career goals in an AFNR pathway of interest	Employment and Careers in Horticulture Resources: Plant Science by One Less Thing Activities: ● Guided Notes ● Career Collection
AFNR.PS.04.01: Evaluating, identifying, and preparing plants to enhance an environment	Areas of the Horticulture Industry Resources: Plant Science by One Less Thing Activities: ● Guided Notes ● What the Hort?!
AFNR.PS.04.01: Evaluating, identifying, and preparing plants to enhance an environment	Important Plants and Their Uses Resources: Plant Science by One Less Thing Activities: ● Guided Notes

	● Color By Number Plant Facts
AFNR.PS.04.01: Evaluating, identifying, and preparing plants to enhance an environment	Technology and Conservation Resources: Plant Science by One Less Thing Activities: ● Guided Notes ● Plant Tech Crossword
CRP.01.01: Model personal responsibility in the workplace and community CRP.01.02: Evaluate and consider the near-term and long-term impacts of personal and professional decisions on employers and community before taking action CRP.02.02: Use strategic thinking to connect and apply technical concepts to solve problems in the workplace and community CRP.04.01: Speak using strategies that ensure clarity, logic, purpose and professionalism in formal and informal settings CRP.04.02: Produce clear, reasoned, and coherent written and visual communication in formal and informal settings CRP.04.03: Model active listening strategies when interacting with others in formal and informal settings CRP.06.02: Assess a variety of workplace and community situations to identify ways to add value and improve the efficiency of processes and procedures CRP.08: Utilize critical thinking to make sense of problems and persevere in solving them	Safety in Horticulture Resources: Plant Science by One Less Thing Activities: ● Guided Notes ● Safety Video Tour
<u>Unit Enduring Questions:</u> ● What is horticulture? ● How do all the components of the agriculture education program	**<u>Unit Enduring Understandings:</u>** ● Horticulture is the science and art of growing and managing plants for food, comfort, and beautification. ● Agriculture education programs integrate various

work together to contribute to a student's future career success? ● How can SAEs and CDEs contribute to a student's potential for career success? ● How can the horticulture industry provide skills that can be useful in other jobs? ● How do the areas of horticulture differ? ● How do we utilize plants for living and enjoyment? ● How can technology increase both production and contribute to conservation? ● How do we provide a safe environment for work in horticulture?	components—such as classroom learning, supervised agricultural experiences (SAEs), and career development events (CDEs)—to prepare students for successful careers. ● Participation in SAEs and CDEs builds practical skills, experience, and confidence that enhance career readiness and opportunities. ● Skills gained in horticulture, such as plant care, problem-solving, and technology use, are transferable and valuable in many other professions. ● Different areas of horticulture—such as floriculture, arboriculture, landscape design, and turf management—focus on specialized aspects of plant cultivation and use. ● Plants serve multiple purposes including providing food, improving health and well-being, and offering aesthetic and recreational value. ● Technology plays a crucial role in increasing horticultural productivity while also supporting sustainable practices and conservation efforts. ● Ensuring safety in horticultural work environments is essential to protect workers and maintain efficient, responsible operations.
<u>Unit Objectives:</u> ***Students will know…*** ● The various types and branches of horticulture and the specific focus of each area. ● How participation in FFA (Future Farmers of America) can support personal growth and career success in horticulture. ● Ways to develop and apply career skills through the agriculture education program, including hands-on experiences and leadership opportunities. ● A range of careers and job opportunities available within the horticulture industry. ● The significant roles plants play in human life, including food, health, aesthetics, and environmental benefits. ● Current and emerging	**<u>Unit Objectives:</u>** ***Students will be able to…*** ● Identify the horticulture types that exist ● Describe how FFA can further a student's personal interests and success in a horticulture career ● Describe opportunities to expand and apply career skills through the agriculture education program ● Identify careers and other employment opportunities in the horticulture industry ● Describe the branches of horticulture and what each entails ● Identify ways plants contribute to the lives of humans ● Discuss emerging technologies and their contributions to plant production and conservation ● Identify hazards in the horticulture environment and demonstrate safety measures in the greenhouse and outdoor lab **<u>Modifications for ELA's Special Education and 504 students:</u>** - Cooperative Learning Groups

technologies that enhance plant production efficiency and promote conservation. ● Common hazards encountered in horticultural work environments and appropriate safety practices to maintain a safe workspace in greenhouses and outdoor labs.	- Modified Assignments - Modified Texts - Teacher tutoring - Peer tutoring - Differentiated Instruction - Follow all IEP and 504 modifications

Lower Cape May Regional School District (Botany)
Curriculum Unit 3 Overview

Unit Title: Introduction to Floral Design

Target Course/Grade Level: Botany/9-12

Unit Summary:

This unit introduces students to the art and science of floral design, combining botanical knowledge with creative expression. Students will learn about flower types, plant materials, design principles, and techniques used to create aesthetically pleasing arrangements. Emphasis is placed on understanding color, texture, balance, and proportion in design, as well as the care and handling of fresh flowers. Through hands-on projects, students develop skills in composition, tool use, and floral care, preparing them for further study or careers in horticulture, event planning, and related fields.

Resources:

- https://floranext.com/history-of-flower-arranging/
- https://owlcation.com/humanities/A-Short-History-of-Floral-Design
- https://www.chinaoilpaintinggallery.com/j-jan-brueghel-il-vecchio-c-58_76_920/still-life-with-garland-of-flowers-and-golden-tazza-p-23191
- https://blog.flowersacrossmelbourne.com.au/the-comprehensive-history-of-flower-arranging/
- https://www.alamy.com/stock-photo-palermo-april-8-byzantine-mosaic-from-church-of-santa-maria-dell-ammiraglio-59161051.html
- http://javiemelissa.blogspot.com/2016/07/european-influences-on-modern-day.html
- http://blogs.getty.edu/iris/the-ancient-origins-of-the-flower-crown/
- Hunter, Norah T., The Art of Floral Design Second Edition Delmar 2000. Chapter 10.
- The American Institute of Floral Designers. The AIFD Guide to Floral Design. Terms, Techniques, and Traditions. The Intelvid Group 2005.
- CAERT Curriculum. 2005 Unit B. Floriculture. Problem Area 2--Floral Design. Lesson 2. Caring for Fresh Flowers and Foliage

- Floral Design Course by For Young Aggies
- Floral Design by Ag Teacher Life

Learning Targets	
CPI#	**Cumulative Progress Indicators (CPI) for Unit 2**
PS.04.01.02.a.: Discuss the applications of art in agriculture/horticulture.	History of Floral Design Resources: ● https://floranext.com/history-of-flower-arranging/ ● https://owlcation.com/humanities/A-Short-History-of-Floral-Design ● https://www.chinaoilpaintinggallery.com/j-jan-brueghel-il-vecchio-c-58_76_920/still-life-with-garland-of-flowers-and-golden-tazza-p-23191 ● https://blog.flowersacrossmelbourne.com.au/the-comprehensive-history-of-flower-arranging/ ● https://www.alamy.com/stock-photo-palermo-april-8-byzantine-mosaic-from-church-of-santa-maria-dell-ammiraglio-59161051.html ● http://javiemelissa.blogspot.com/2016/07/european-influences-on-modern-day.html ● http://blogs.getty.edu/iris/the-ancient-origins-of-the-flower-crown/ Activities: ● Guided Notes ● History of Floral Design Research Project
PS.02.01.02.c.: Design, implement, and evaluate a plan to maintain optimal conditions for plant growth	Flower Care and Handling Resources: ● Hunter, Norah T., The Art of Floral Design Second Edition Delmar 2000. Chapter 10. ● The American Institute of Floral Designers. The AIFD Guide to Floral Design. Terms, Techniques, and Traditions. The Intelvid Group 2005.

	• CAERT Curriculum. 2005 Unit B. Floriculture. Problem Area 2--Floral Design. Lesson 2. Caring for Fresh Flowers and Foliage Activities: • Guided Notes • Care and Handling Experiment
PS.04.01.01.c.: Select plants, hardgoods, supplies and other materials for use in a design based on a range of criteria.	Tools and Safety Resources: • Floral Design Course by For Young Aggies • Floral Design by Ag Teacher Life Activities: • Guided Notes • Safety Practice
PS.04.01.01.a.: Define design and identify design elements. PS.04.01.01.b.: Explain design elements of line, form, texture, and color and express the visual effect each has on the viewer.	Principles and Elements of Design Resources: • Floral Design Course by For Young Aggies Activities: • Guided Notes • Principles of Design Practice • Good vs. Bad Presentation
PS.04.01.01.c.: Select plants, hardgoods, supplies and other materials for use in a design based on a range of criteria. PS.04.01.02.c.: Create and implement designs by following established principles of art.	Seasonal and Special Event Designs Resources: • Floral Design Course by For Young Aggies Activities: • Guided Notes • Wedding Flower Planner
ABS.06.01.01.a.: Investigate the meaning	Marketing and Pricing

and methods of marketing in AFNR as related to agricultural commodities, products and services and to agricultural goods in domestic and international markets.	Resources: ● Floral Design Course by For Young Aggies Activities: ● Guided Notes ● Pricing Practice ● Marketing Research Project
PS.04.01.01.c.: Select plants, hardgoods, supplies and other materials for use in a design based on a range of criteria. PS.04.01.02.c.: Create and implement designs by following established principles of art.	Floral Business Resources: ● Floral Design by Ag Teacher Life Activities: ● Flower Shop Project
<u>Unit Enduring Questions:</u> ● What is the history of floral design? ● How can flowers be properly cared for and handled? ● What tools are used in floral design? ● What principles and elements are followed in floral design? ● How are flowers involved in special occasions? ● How does the floral industry market and price designs? ● What makes a successful floral business?	**<u>Unit Enduring Understandings:</u>** ● Floral design has a rich history that reflects cultural traditions, artistic movements, and evolving styles over time. ● Proper care and handling of flowers are essential to maintain their freshness, longevity, and visual appeal. ● Specific tools are used in floral design to shape, arrange, and secure plant materials effectively and safely. ● Successful floral designs follow established principles and elements such as balance, proportion, color harmony, and texture. ● Flowers play important roles in special occasions by conveying emotions, symbolism, and enhancing atmosphere. ● The floral industry uses marketing strategies and pricing models to promote products and sustain profitable businesses. ● Running a successful floral business requires knowledge of design, customer service, inventory management, and market trends.
<u>Unit Objectives:</u> ***Students will know…*** ● The historical and cultural importance of floral design across	**<u>Unit Objectives:</u>** ***Students will be able to…***

different time periods and societies. ● The ideal conditions required to preserve flowers and maintain their freshness for floral arrangements. ● The common tools used in floral design, along with safe and proper techniques for using them. ● The key principles and elements that guide effective and aesthetically pleasing floral designs. ● The role of floral design in enhancing special occasions and conveying meaning. ● Various marketing strategies used in the floral industry to promote and sell designs. ● How to create a comprehensive business plan for a successful floral business, including planning, management, and marketing.	● Recognize the significance of floral design during different historical periods and in different cultures ● Observe ideal conditions for optimal floral preservation ● Identify tools used in floral design and practice using them safely ● Identify the principles and elements in floral design ● Recognize the significance of floral design in special occasions ● Research marketing techniques used to sell floral designs ● Develop a successful floral business plan **<u>Modifications for ELA's Special Education and 504 students:</u>** - Cooperative Learning Groups - Modified Assignments - Modified Texts - Teacher tutoring - Peer tutoring - Differentiated Instruction - Follow all IEP and 504 modifications

Lower Cape May Regional School District (Botany) Curriculum

Evidence of Learning

Specific Formative Assessments Utilized in Daily Lessons, including, but not limited to:

- Interactive review games (Blooket, Kahoot, Quizizz, etc.)
- Warm-Ups
- Exit Tickets
- Graphic Organizers
- Observations
- Self-Assessments
- Peer reviews
- Quizzes
- Oral Questioning
- Interactive Notebooks

Summative Assessment Utilized throughout Units:

- Research Projects
- Business Proposal
- Portfolios

Modifications for ELL's:

- Visual Supports
- Simplified Language
- Bilingual Resources
- Chunk Instructions
- Peer Support
- Pre-Teaching Vocabulary
- Use of Technology
- Allow Extra Time
- Alternative Assessments
- Follow all IEP and 504 modifications

Modifications for Special Education

- Provide Notes
- Simplify Instructions
- Provide checklists
- Extended Time
- Use of Assistive Technology
- Frequent Check-Ins and Feedback
- Adapted Materials
- Flexible Grouping
- Alternative Assessments
- Environmental Supports
- Follow all IEP and 504 modifications

Modifications for 504

- Extended Time
- Preferential Seating
- Written and Verbal Instructions
- Break Tasks into Steps
- Use Visual Aids
- Frequent Breaks
- Access to Assistive Tools
- Flexible Deadlines
- Clarify Expectations
- Follow all IEP and 504 modifications

Modifications for Students at Risk of Failure

- Parent/Teacher Log
- Frequent Check-Ins
- Provide Clear, Step-by-Step Instructions
- Use Graphic Organizers and Visual Aids
- Offer Additional Practice Opportunities
- Peer Tutoring or Small Group Support
- Flexible Deadlines and Retakes
- Scaffolded Assignments
- Encourage Goal Setting and Self-Monitoring

- Positive Reinforcement

Modifications for Gifted and Talented Students

- Enrichment Projects
- Leadership Roles
- Advanced Technology Use
- Competitions and Exhibitions
- Flexible Pacing
- Problem-Solving Challenges

Vocabulary:

In-text vocabulary should be incorporated into every unit. Word journals, vocabulary walls, and/or various other activities should be utilized by the instructor to teach vocabulary.

The Research Process:

The research process must be integrated within each course curriculum. Students will be provided with opportunities to investigate issues from thematic units of study. As the NJSLS indicate, students will develop proficiency with MLA or APA format as applicable.

Technology:

- Google (Search engine, Classroom, Docs, Slides, etc.)
- Review Games (Kahoot, Blooket, Quizizz, etc.)
- Pear Assessment
- Edpuzzle
- Youtube

Curriculum development Resources/Instructional Materials:

- Plant Kingdom by Amy Brown Science
- Plant Science by One Less Thing
- Horticulture Readings by The Awesome Shop
- https://floranext.com/history-of-flower-arranging/

- https://owlcation.com/humanities/A-Short-History-of-Floral-Design
- https://www.chinaoilpaintinggallery.com/j-jan-brueghel-il-vecchio-c-58_76_920/still-life-with-garland-of-flowers-and-golden-tazza-p-23191
- https://blog.flowersacrossmelbourne.com.au/the-comprehensive-history-of-flower-arranging/
- https://www.alamy.com/stock-photo-palermo-april-8-byzantine-mosaic-from-church-of-santa-maria-dell-ammiraglio-59161051.html
- http://javiemelissa.blogspot.com/2016/07/european-influences-on-modern-day.html
- http://blogs.getty.edu/iris/the-ancient-origins-of-the-flower-crown/

- Hunter, Norah T., The Art of Floral Design Second Edition Delmar 2000. Chapter 10.

- The American Institute of Floral Designers. The AIFD Guide to Floral Design. Terms, Techniques, and Traditions. The Intelvid Group 2005.

- CAERT Curriculum. 2005 Unit B. Floriculture. Problem Area 2--Floral Design. Lesson 2. Caring for Fresh Flowers and Foliage

- Floral Design Course by For Young Aggies

- Floral Design by Ag Teacher Life

Board of Education Approved Text(s)