Dev. Date:
Established 2016-2017
Revised 2018-2019
Revised 2019-2020
Revised 2020-2021
Revised 2021-2022
Revised 2022-2023

Grade 4

Unit 4 Plant Structure and Function

New Jersey Learning Standards

Established 2016-2017
Revised 2018-2019
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Content Area: Science (NJSLS-S) Grades K - 12
Grade: 4

Dev. Date:
Established 2016-2017
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Marking Period	**Unit Title**	**Recommended Instructional Days**
2	Plant Structure and Function	22

NJSLS - Science: ***TItle***	**NJSLS - Science:** ***Performance Expectations***	**Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-S within Unit**
From Molecules to Organisms: Structures and Processes	**4-LS1-1-** Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. [Clarification Statement: Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.] [Assessment Boundary: Assessment is limited to macroscopic structures within plant and animal systems.]	
FOUNDATION Disciplinary: ***Core Idea***	**FOUNDATION Disciplinary:** ***Statement***	
• **LS1.A: Structure and Function**	• Plants and animals have both internal and external structures that serve various functions in growth,	**Essential Question/s:** • What are some plant parts and how do they function? • How do plants grow and reproduce?

	survival, behavior, and reproduction. (4-LS1-1)	**Activity Description**: • You Solve It- Growing Plants in Different Environments (Online Simulation) [SCI, 21st Century, TECH, SS] • Apply What You Know- Modeling Water Flow in Plants (Page 242) [SCI, 21st Century, PE, ELA] • Hands-On Activity- Hold the Soil (Pages 243-245) [SCI, SEL, 21st Century, MA, ELA] • Apply What You Know- Pollination Models (Page 259) [SCI, 21st Century, PE] • Hands-On Activity- Flying High (Pages 268-270) [SCI, SEL, 21st Century, PE, ART, MA, ELA] • Lego We Do 2.0-Plants and Pollinators [SCI, SEL, 21st Century, PE, TECH] • Unit Project- Plant and Animal Partnerships [SCI, SEL, 21st Century, PE, ELA MA] • Scientist Spotlight-Emmett Chappelle and Percy Lavon Julian [SCI, 21st Century] **Interdisciplinary Connections: Content: NJSLS:** *Connections to NJSLS – English Language Arts* • **W.4.1** Write opinion pieces on topics or texts, supporting a point of view with reasons and information. (4- LS1-1) • **SL.4.5** Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes. (4-LS1-2)
FOUNDATION **Science and Engineering Practices:** ***Core Idea***	**FOUNDATION** **Science and Engineering Practices:** ***Statement***	
• **Developing and Using Models** Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions. • **Engaging in Argument from Evidence** Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s).	• Use a model to test interactions concerning the functioning of a natural system. (4-LS1-2) • Construct an argument with evidence, data, and/or a model. (4- LS1-1)	
FOUNDATION **Crosscutting Concepts:** ***Core Idea***	**FOUNDATION** **Crosscutting Concepts:** ***Statement***	

• **Systems and System Models**	• A system can be described in terms of its components and their interactions. (4-LS1-1), (4-LS1-2)	*Connections to NJSLS – Mathematics* • **4.G.A.3** Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded across the line into matching parts. Identify line-symmetric figures and draw lines of symmetry. (4-LS1-1)
Social and Emotional Learning: ***Competencies***	**Social and Emotional Learning:** ***Sub-Competencies***	
• Responsible Decision-Making • Relationship Skills	• Develop, implement, and model effective problem solving and critical thinking skills. • Identify the consequences associated with one's actions in order to make constructive choices. • Evaluate personal, ethical, safety, and civic impact of decisions. • Utilize positive communication and social skills to interact effectively with others.	

Assessments (Formative) ***To show evidence of meeting the standard/s, students will successfully engage within:***	**Assessments (Summative)** ***To show evidence of meeting the standard/s, students will successfully complete:***
Formative Assessments: • Unit Pretest, Lesson Check, Lesson Roundup, Lesson Quiz, and student responses in Ebook.	**Benchmarks:** • District Assessment

	Summative Assessments: ● Unit 4 Performance Task- Flower Parts (pages 276-277) ● Unit 4 Test ● Written Reports based on hands-on activities and Lego WeDo 2.0

Differentiated Student Access to Content:
Teaching and Learning *Resources/Materials*

Core Resources	**Alternate Core Resources *IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core Resources**
● HMH Workbook ● HMH Science Dimension Kits ● Lego WeDo 2.0 ● Student Chromebooks ● Video Based Projects for each Unit	● Text to Speech Tool on HMH E-Book ● Read-Along Highlight Tool on HMH E-Book ● Leveled Readers ● Vocabulary Card Game for each unit	● Multilingual Glossary on HMH Ed website	● Leveled Readers ● Lego WeDo 2.0 Extension Activities ● You Solve It Simulations ● 21st Century Skills-Technology and Coding

Supplemental Resources

Technology:
- HMH E-Book
- Schoology
- Kahoot!
- Quizlet/Quizlet Live
- Quizizz
- Newsela
- Readworks
- NSTA Lesson Resource-From Molecules to Organisms: Structures and Processes
- Study Jams (Click to Plants)

- You Solve it Simulations

Other:

- Leveled Readers
- Lego WeDo 2.0

Differentiated Student Access to Content:
Recommended *Strategies & Techniques*

Core Resources	**Alternate Core Resources** ***IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core**
• Promote an approach that benefits multiple learning styles exploring phenomena through readings, videos, and collaborative projects. • Establishing proper safety protocols for using specialized equipment and gathering materials. • Establishing communication protocols for collaborative activities to ensure all students properly communicate and involve every student. • Demonstrate that the Engineering Design Process is a flexible cycle that allows for steps to be repeated.	• Utilize a multi-sensory (VAKT) approach during instruction, provide alternate presentations of skills by varying the method (repetition, simple explanations, additional examples, modeling, etc.), modify test content and/or format, allow students to retake tests for additional credit, provide additional times and preferential seating as needed, review, restate and repeat directions, provide study	• Extend time requirements, preferred seating, positive reinforcement, check often for understanding/review, oral/visual directions/prompts when necessary, supplemental materials including use of an online bilingual dictionary, and modified assessment and/or rubric.	• Create an enhanced set of introductory activities, integrate active teaching/learning opportunities, incorporate authentic components, propose interest-based extension activities, and connect students to related talent development opportunities.

	guides, and/or break assignments into segments of shorter tasks.		

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	**Disciplinary Concept:**	
	Core Ideas:	• Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions. • Curiosity and a willingness to try new ideas (intellectual risk-taking)contributes to the development of creativity and innovation skills. • The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.
	Performance Expectation/s:	• 9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6). • 9.4.5.CI.2: Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue (e.g., 6.3.5.CivicsPD.3, W.5.7). • 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a). • 9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process (e.g., W.4.7, 8.2.5.ED.6). • 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

		• 9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1). • 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. • 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.Civics CM.3).
	Career Readiness, Life Literacies, & Key Skills Practices	
	• Hands-on activities provide opportunities for creativity and innovation. Working in small groups will allow students to collaborate with classmates who possess diverse perspectives for innovative solutions. Also, collaboration will enhance their ability to gather data, discover resources, and apply critical thinking skills to solve real-world problems.	

New Jersey Legislative Statutes and Administrative Code (place an "X" before each law/statute if/when present within the curriculum map)									
	X Amistad Law: *N.J.S.A. 18A 52:16A-88*		Holocaust Law: *N.J.S.A. 18A:35-28*		LGBT and Disabilities Law: *N.J.S.A. 18A:35-4.35*		X Diversity & Inclusion: *N.J.S.A. 18A:35-4.36a*		Standards in Action: *Climate Change*