Dev. Date:
Established 2016-2017
Revised 2018-2019
Revised 2019-2020
Revised 2020-2021
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Grade 4

Unit 2 Plant and Animal Structure and Function and Introduction to STEM Challenge Projects

New Jersey Learning Standards

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Revised 2023-2024
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Content Area: Science (NJSLS-S) Grades K - 12
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Trimester	**Unit Title**	**Recommended Instructional Days**
Trimester 3	Plant and Animal Structure and Function and Introduction to Scientific Research	Plant and Animal Structure and Function (45 Days) Introduction to STEM Challenge Projects (15 Days)

NJSLS - Science: ***TItle***	**NJSLS - Science:** ***Performance Expectations***	**Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-S within Unit**
Plant and Animal Structure and Function	**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.] **4-LS1-2-** Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in	

	different ways. [Clarification Statement: Emphasis is on systems of information transfer.] [Assessment Boundary: Assessment does not include the mechanisms by which the brain stores and recalls information or the mechanisms of how sensory receptors function.]	
FOUNDATION Disciplinary: ***Core Idea***	**FOUNDATION Disciplinary:** ***Statement***	
• **LS1.A: Structure and Function** • **LS1.D: Information Processing**	• Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1) • Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions. (4-LS1-2)	**Essential Question/s:** • What are some plant parts and how do they function? • How do plants grow and reproduce? • What are some external structures of animals? • What are some internal structures of animals? • How do senses work? **Activity Description:** • You Solve It- Break It Down (Online Simulation) [SCI, 21st Century, TECH, ELA] • Hands-On Activity- Flower Power [SCI, PE, ELA] • Hands-On Activity- Slurp [SCI, PE ART, ELA] • Hands-On Activity- Dinner Is Served [SCI, PE, ELA] • Hands-On Activity- Courtship Displays [SCI, 21st Century, TECH, ELA] • Hands-On Activity- Touch Test [SCI, SEL, 21st Century, PE, MA,
FOUNDATION Science and Engineering Practices:	**FOUNDATION Science and Engineering**	

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Core Idea	**Practices:** ***Statement***	ELA] • Hands-On Activity- No Smell, No Taste, No See [SCI, SEL, PE, ELA • Unit Project- Plant and Animal Partnerships [SCI, SEL, 21st Century, PE, ELA MA] • Unit Performance Task- Communication of the Wild [SCI, 21st Century, TECH, ELA] • Introduction to STEM Challenge Projects (STEM Fair Practice) [SCI, 21st Century, TECH, ELA] • Scientist Spotlight- Emmett Chappelle, Percy Lavon Julian, Temple Grandin, Jane Goodall, Margaret Collins, Charles Henry Turner, and Marie Daly [SCI, 21st Century]
• **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)	**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 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)

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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 Project- Plant and Animal Partnerships ● Unit Performance Task- Communication of the Wild ● Unit 2 Test

	• Written Reports and Google Slides Presentations for Scientific Research

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 Into Science Kits • 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 • Language Development Worksheet for each unit	• Multilingual Glossary on HMH Ed website	• Leveled Readers • You Solve It Simulations

Supplemental Resources

Technology:
- HMH E-Book
- Schoology
- Kahoot!
- Quizlet/Quizlet Live
- Quizizz
- Readworks
- Mystery Science
- NSTA Lesson Resource-Engineering Design
- You Solve it Simulations

Other:

- Leveled Readers

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

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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*