

Winslow Township School District

Grade 3 Science

Unit 4: Living Things Interact

Overview: In this unit of study, students acquire an understanding that organisms have different inherited traits and that the environment can also affect the traits that an organism develops. Students will develop an understanding of the similarities and differences in organisms’ life cycles. In addition, students use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. Students demonstrate grade appropriate proficiency in developing and using models and constructing explanations and designing solutions.

Overview	Standards for Science	Unit Focus	Essential Questions
<p>Unit 4</p> <p>Living Things Interact</p>	<ul style="list-style-type: none"> ● 3-LS1-1 ● 3-LS3-1 ● 3-LS3-2 ● 3-LS4-2 ● WIDA 1,4 	<ul style="list-style-type: none"> ● Sorting and classifying natural phenomena using similarities and differences. ● Analyzing and interpreting data to make sense of phenomena using logical reasoning. ● Analyzing and interpreting data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. ● Identifying cause-and-effect relationships in order to explain change. ● Using evidence (e.g., observations, patterns) to support an explanation that traits can be influenced by the environment. ● Developing models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. ● Using evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. 	<ul style="list-style-type: none"> ● What kinds of traits are passed on from parent to offspring? ● What environmental factors might influence the traits of a specific organism? ● How can you describe the variations of different animals’ life cycles? ● How do different traits provide unique advantages?
<p>Unit 4: Enduring Understandings</p>	<ul style="list-style-type: none"> ● Plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. ● Cause-and-effect relationships are routinely identified and used to explain change. ● Other characteristics, which can range from diet to learning, result from individuals’ interaction with the environment. ● Science findings are based on recognizing patterns. ● Similarities and differences in patterns can be used to sort and classify natural phenomena. ● Patterns of change can be used to make predictions. ● Reproduction is essential to the continued existence of every kind of organism. ● Plants and animals have unique and diverse life cycles. ● Cause-and-effect relationships are routinely identified and used to explain change. ● Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. 		

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Curriculum Unit 4	Standards		Pacing	
			Days	Unit Days
Unit 4: Living Things Interact	3-LS1-1	Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death	10	45
	3-LS3-1	Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.	10	
	3-LS3-2	Use evidence to support the explanation that traits can be influenced by the environment	10	
	3-LS4-2	Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing	10	
	Assessment, Re-teach and Extension		5	

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Disciplinary Core Ideas	Indicator #	Indicator
<p>LS1.B: Growth and Development of Organisms Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS1-1)</p> <p>LS3.A: Inheritance of Traits Many characteristics of organisms are inherited from their parents. (3-LS3-1) Other characteristics result from individuals' interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. (3-LS3-2)</p> <p>LS3.B: Variation of Traits Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1) The environment also affects the traits that an organism develops. (3-LS3-2)</p> <p>LS4.B: Natural Selection Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2)</p>	3-LS1-1	Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death
	3-LS3-1	Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.
	3-LS3-2	Use evidence to support the explanation that traits can be influenced by the environment
	3-LS4-2	Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing

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• Assessment Plan

- Class discussions
- Independent & group work/projects
- Teacher and/or book series provided quizzes, tests, and a performance task to assess student mastery
- Homework monitor and assess class work
- Benchmark assessments
- Teacher Observations
- Performance Tasks

- Short Constructed Responses
- Observe patterns in events generated due to cause-and-effect relationships.
- Construct an argument with evidence to support a claim.
- Construct an argument with evidence that some changes caused by heating or cooling can be reversed, and some cannot. Examples of reversible changes could include materials such as water and butter at different temperatures. Examples of irreversible changes could include cooking an egg, freezing a plant leaf, or heating paper.

Resources

- Chromebooks
- HSP Science Teacher Manual
- Lab Explorations
- Big Books pg.
- Leveled Readers
- Activity book
- Vocab activities and cards
- Group discussions
- Manipulatives
- SMARTboard / Mimio Technology
- Google Applications (Documents, Forms, Spreadsheets, Presentation)
- Linkit
- Readworks website
- [NJ Department of Education](#)
- Harcourt HSP New Jersey Science textbook
- HSP Lab Manual
- HSP New Jersey Science-Teacher's Inquiry Tool Kit
- Lesson Planner Resource Pages
- Science Leveled Readers and Science Guides
- HSP Science eBook
- Chromebooks
- Anchor Charts
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Activities

- [Mystery Plant Mystery](#): Student use a simulation activity to discover that plants that look alike can have different types of roots, that plants with different types of roots can thrive in soils that have different amounts of moisture, and that plants can adapt their root type to their environment over time.
- [Mystery Plant Adaptation](#): Students perform a simulated investigation that models how thriving species are of an organism are adapted to their environments and that variation in a species can help the species adapt to changes in that environment.
- [Phenomena: Color Changing Chameleon](#): A ninety second video of a chameleon changing from a dark blue-green to a bright orange-yellow color. This resource evaluation suggests how teachers might use the phenomena of color changing chameleons to introduce the concept of adaptations.
- [Natural Selection](#): Students are introduced to the concept of interdependence in an ecosystem and its effect on the evolution of populations through a family of rabbits that include five offspring: one small rabbit, three medium sized rabbits, and one large rabbit.

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Instructional Best Practices and Exemplars

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| <ol style="list-style-type: none"> 1. Identifying similarities and differences 2. Summarizing and note taking 3. Reinforcing effort and providing recognition 4. Homework and practice 5. Nonlinguistic representations | <ol style="list-style-type: none"> 6. Cooperative learning 7. Setting objectives and providing feedback 8. Generating and testing hypotheses 9. Cues, questions, and advance organizers 10. Manage response rates |
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9.1 Personal Financial Literacy, 9.2 Career Awareness, Exploration, Preparation and Training & 9.4 Life Literacies and Key Skills

- 9.4.5.CI.3:** Participate in 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.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.CivicsCM.3).
- 9.4.5.IML.2:** Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).
- 9.4.5.IML.3:** Represent the same data in multiple visual formats in order to tell a story about the data.
- 9.4.5.IML.6:** Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions (e.g., RI.5.7, 6.1.5.HistoryCC.7, 7.1.NM.IPRET.5).
- 9.4.5.TL.2:** Sort and filter data in a spreadsheet to analyze findings.
- 9.4.5.TL.3:** Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.
- 9.4.5.TL.4:** Compare and contrast artifacts produced individually to those developed collaboratively (e.g., 1.5.5.CR3a).
- 9.4.5.TL.5:** Collaborate digitally to produce an artifact (e.g., 1.2.5CR1d).

The implementation of the 21st Century skills and standards for students of the Winslow Township District is infused in an interdisciplinary format in a variety of curriculum areas that include, English language Arts, Mathematics, School Guidance, Social Studies, Technology, Visual and Performing Arts, Science, Physical Education and Health, and World Language.

Additional opportunities to address 9.1, 9.2 & 9.4:

Philadelphia Mint

<https://www.usmint.gov/learn/kids/resources/educational-standards>

Different ways to teach Financial Literacy.

<https://www.makeuseof.com/tag/10-interactive-financial-websites-teach-kids-money-management-skills/>

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Modifications for Special Education/504

Students with special needs: The students' needs will be addressed on an individual and grade level using a variety of modalities.

Accommodations will be made for those students who need extra time to complete assignment. Support staff will be available to aid students related to IEP specifications. 504 accommodations will also be attended to by all instructional leaders. Physical expectations and modifications, alternative assessments, and scaffolding strategies will be used to support this learning. The use of Universal Design for Learning (UDL) will be considered for all students as teaching strategies are considered.

- Small group instruction
- Audio books/ Text-to-speech platforms
- Leveled texts/Vocabulary Readers
- Leveled informational texts via online
- Modeling and guided practice
- Read directions aloud
- Repeat, rephrase and clarify directions
- Extended time as needed
- Break down assignments into smaller units
- Provide shortened assignments
- Modify testing format
- Repeat directions as needed
- Graphic organizers
- Study Guides, Study Aids and Re teaching as needed

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Modifications for At-Risk Students

Formative and summative data will be used to monitor student success. At first signs of failure, student work will be reviewed to determine support. This may include parent consultation, basic skills review and differentiation strategies. With considerations to UDL, time may be a factor in overcoming developmental considerations

- Audio books and Text-to-speech platforms
- Leveled texts/Vocabulary Readers
- Leveled informational texts via online
- Extended time as needed
- Read directions aloud
- Assist with organization
- Use of computer
- Emphasize/highlight key concepts
- Recognize success
- Provide timelines for work completion
- Break down multi-step tasks into smaller chunks
- Provide copy of class notes and graphic organizer

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English Language Learners	Modifications for Gifted Students
<p>All WIDA Can Do Descriptors can be found at this link: https://wida.wisc.edu/teach/can-do/descriptors</p> <p><input type="checkbox"/> Grade 3 WIDA Can Do Descriptors:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Listening <input type="checkbox"/> Speaking <input type="checkbox"/> Reading <input type="checkbox"/> Writing <input type="checkbox"/> Oral Language <p>Students will be provided with accommodations and modifications that may include:</p> <ul style="list-style-type: none"> • Relate to and identify commonalities in science studies in student’s home country • Assist with organization • Use of computer • Emphasize/highlight key concepts • Teacher Modeling • Peer Modeling • Label Classroom Materials - Word Walls 	<p>Students excelling in mastery of standards will be challenged with complex, high level challenges related to the topic.</p> <ul style="list-style-type: none"> • Raise levels of intellectual demands • Require higher order thinking, communication, and leadership skills • Differentiate content, process, or product according to student’s readiness, interests, and/or learning styles • Provide higher level texts • Expand use of open-ended, abstract questions • Critical and creative thinking activities that provide an emphasis on research and in-depth study • Enrichment Activities/Project-Based Learning/ Independent Study <p>Additional Strategies may be located at the links:</p> <ul style="list-style-type: none"> ❖ Gifted Programming Standards ❖ Webb’s Depth of Knowledge Levels and/or Revised Bloom’s Taxonomy ❖ REVISED Bloom’s Taxonomy Action Verbs

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Interdisciplinary Connections

Interdisciplinary Connections:

ELA Standards:

RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3- PS2-1),(3-PS2-3)

RI.3.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. (3- PS2-3)

RI.3.8 Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence). (3-PS2-3)

W.3.7 Conduct short research projects that build knowledge about a topic. (3-PS2-1),(3-PS2-2)

W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. (3-PS2- 1),(3-PS2-2)

SL.3.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. (3-PS2-3)

Integration of Computer Science and Design Thinking NJSL 8

8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.

8.1.5.DA.3: Organize and present collected data visually to communicate insights gained from different views of the data.

8.1.5.DA.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data.

8.2.5.ETW.1: Describe how resources such as material, energy, information, time, tools, people, and capital are used in products or systems.

8.2.5.ETW.2: Describe ways that various technologies are used to reduce improper use of resources.

8.2.5.ETW.3: Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved.

8.2.5.ETW.4: Explain the impact that resources, such as energy and materials used to develop technology, have on the environment.

8.2.5.ETW.5: Identify the impact of a specific technology on the environment and determine what can be done to increase positive effects and to reduce any negative effects, such as climate change.