

Winslow Township School District
Grade 2 Science
Unit 3: Our Earth and Homes for Living Things

Overview: In this unit of study, students develop an understanding of what plants need to grow and how plants depend on animals for seed dispersal and pollination. Students also compare the diversity of life in different habitats. The concepts of cause and effect and structure and function are also explored. Students demonstrate grade-appropriate proficiency in planning and carrying out investigations and developing and using models.

Overview	Standards for Science	Unit Focus	Essential Questions
<p><u>Unit 3</u></p> <p>Our Earth and Homes for Living Things</p>	<ul style="list-style-type: none"> • 2-LS2-1 • 2-LS2-2 • 2-LS4-1 • K-2-ETS1-1 • WIDA 1,4 	<ul style="list-style-type: none"> • Determining cause and effect relationships between plants and animals • Researching different kinds of habitats • Comparing similarities within a habitat and across different habitats • Contrasting differences within a habitat and across different habitats • Creating a model or sketch to represent findings about habitats and plant/animal relationships • Looking for patterns and order when making observations about the world • Describing how shape and stability of structures are related to their function • Obtaining information using various texts, text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) and other media that will be useful in answering a scientific question. • Developing a model to represent patterns in the natural world. • Developing a model to represent the kinds of changes that occur to land and bodies of water in an area. • Using information from several sources to provide evidence that Earth events can occur quickly or slowly. • Comparing multiple solutions to a problem. 	<ul style="list-style-type: none"> • What is an environment? • How do living things survive in different places? • What are food chains and food webs? • How can we describe the different kinds of plant and animal life in different habitats? • How do animals help plants grow and spread? • How can people use natural resources?
<p><i>Unit 3: Enduring Understandings</i></p>	<ul style="list-style-type: none"> • There are factors that influence the growth of living things. • Animals live in different environments and they adapt to their environments. • Plants and animals within an environment are interdependent. • Different kinds of life can be found in particular habitats. 	<ul style="list-style-type: none"> • How can people harm natural resources? • How can people protect natural resources? 	

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Curriculum Unit 3	Standards		Pacing	
			Days	Unit Days
Unit 3: Our Earth and Homes for Living Things	2-LS2-1	Plan and conduct an investigation to determine if plants need sunlight and water to grow.	10	45
	2-LS2-2	Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.	10	
	2-LS4-1	Make observations of plants and animals to compare the diversity of life in different habitats.	10	
	K-2-ETS1-1	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.	10	
	Assessment, Re-teach and Extension		5	

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Disciplinary Core Ideas	Indicator #	Indicator
<p>LS2.A: Interdependent Relationships in Ecosystems Plants depend on water and light to grow. (2-LS2-1) Plants depend on animals for pollination or to move their seeds around. (2-LS2-2)</p> <p>LS4.D: Biodiversity and Humans There are many different kinds of living things in any area, and they exist in different places on land and in water. (2-LS4-1)</p> <p>ETS1.A: Defining and Delimiting Engineering Problems A situation that people want to change or create can be approached as a problem to be solved through engineering. (K-2-ETS1-1) Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1) Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1)</p>	2-LS2-1	Plan and conduct an investigation to determine if plants need sunlight and water to grow.
	2-LS2-2	Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
	2-LS4-1	Make observations of plants and animals to compare the diversity of life in different habitats.
	K-2-ETS1-1	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

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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
- Make observations of plants and animals to compare the diversity of life in different habitats.
- Plan and conduct an investigation to determine whether plants need sunlight and water to grow.
- Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
- Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

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

Activities

- [Do Plants Need Sunlight?](#) Students will explore the importance sunlight for a plant's survival by conducting an investigation. Each group of students will cover parts of plants' leaves with black construction paper and make observations of the plant's leaves over several days.
- [Who Needs What?](#) Students identify the physical needs of animals. Through classroom discussion, students speculate on the needs of plants. Students then design an experiment that can take place in the classroom to test whether or not plants need light and water in order to grow.
- [I Scream, You Scream, We All Scream for Vanilla Ice Cream!](#) Students will design a vanilla plant pollinator by first viewing a video that tells about the problems with pollinating vanilla by hand. The students pretend to be employees of Ben and Jerry's ice cream company and help to plan and design a pollinator for the vanilla plant so that the great vanilla flavored ice cream can continue to be produced.
- [The Bug Chicks-Mission: Pollination \(Episode 5\):](#) The Bug Chicks' five-minute video provides a fun, animated way of learning about the fascinating world of pollination and insects. In this video, the students observe interesting museums and habitats to look at lesser known insect pollinators. The student challenge at the end leads students into their environment to look for other pollinators and encourages them to bring their observations back to the classroom to discuss.

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Instructional Best Practices and Exemplars

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| <ul 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 | <ul 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

- 9.4.2.CI.1:** Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
- 9.4.2.CI.2:** Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
- 9.4.2.CT.2:** Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).
- 9.4.2.CT.3:** Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
- 9.4.2.DC.7:** Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).
- 9.4.2.IML.1:** Identify a simple search term to find information in a search engine or digital resource.
- 9.4.2.IML.2:** Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10).
- 9.4.2.IML.3:** Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults (e.g., 6.3.2.GeoGI.2, 6.1.2.HistorySE.3, W.2.6, 1-LSI-2).
- 9.4.2.IML.4:** Compare and contrast the way information is shared in a variety of contexts (e.g., social, academic, athletic) (e.g., 2.2.2.MSC.5, RL.2.9).
- 9.4.2.TL.2:** Create a document using a word processing application.
- 9.4.2.TL.3:** Enter information into a spreadsheet and sort the information.
- 9.4.2.TL.4:** Navigate a virtual space to build context and describe the visual content.
- 9.4.2.TL.5:** Describe the difference between real and virtual experiences.
- 9.4.2.TL.6:** Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).
- 9.4.2.TL.7:** Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts (e.g., W.2.6., 8.2.2.ED.2).

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 2 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:

W.2.7 Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (2-LS2-1)

W.2.8 Recall information from experiences or gather information from provided sources to answer a question. (2-LS2-1)

SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. (2-LS2-2)

Math Standards:

MP.2 Reason abstractly and quantitatively. (2-LS2-1)

MP.4 Model with mathematics. (2-LS2-1),(2-LS2-2)

MP.5 Use appropriate tools strategically. (2-LS2-1)

2.MD.D.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems. (2-LS2-2)

2.MD.D.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems. (2-LS4-1)

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Integration of Computer Science and Design Thinking NJSL 8

- 8.1.2.CS.1:** Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
- 8.1.2.NI.1:** Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network.
- 8.1.2.NI.2:** Describe how the Internet enables individuals to connect with others worldwide.
- 8.1.2.IC.1:** Compare how individuals live and work before and after the implementation of new computing technology.
- 8.1.2.DA.1:** Collect and present data, including climate change data, in various visual formats
- 8.1.2.DA.2:** Store, copy, search, retrieve, modify, and delete data using a computing device.
- 8.1.2.DA.3:** Identify and describe patterns in data visualizations.
- 8.1.2.DA.4:** Make predictions based on data using charts or graphs.
- 8.2.2.ED.2:** Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.
- 8.2.2.ED.3:** Select and use appropriate tools and materials to build a product using the design process.
- 8.2.2.ED.4:** Identify constraints and their role in the engineering design process.
- 8.2.2.ITH.1:** Identify products that are designed to meet human wants or needs.
- 8.2.2.ITH.2:** Explain the purpose of a product and its value.
- 8.2.2.ITH.3:** Identify how technology impacts or improves life.
- 8.2.2.ITH.5:** Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution.
- 8.2.2.NT.2:** Brainstorm how to build a product, improve a designed product, fix a product that has stopped working, or solve a simple problem.
- 8.2.2.ETW.1:** Classify products as resulting from nature or produced as a result of technology.
- 8.2.2.ETW.2:** Identify the natural resources needed to create a product.
- 8.2.2.ETW.3:** Describe or model the system used for recycling technology.
- 8.2.2.ETW.4:** Explain how the disposal of or reusing a product affects the local and global environment.