Winslow Township School District

Grade K Science

Unit 2: Life Science: Plants and Animals

Overview: In this unit of study, students develop an understanding of what plants and animals need to survive and the relationship between their needs and where they live. Students compare and contrast what plants and animals need to survive and the relationship between the needs of living things and where they live. Students are expected to demonstrate grade-appropriate proficiency in developing and using models, analyzing and interpreting data, and engaging in argument from evidence.

<table>
<tr><th>Overview</th><th>Standards for Science</th><th>Unit Focus</th><th>Essential Questions</th></tr>
<tr><td>Unit 2

Life Science: Plants and Animals</td><td>• K-ESS3-1
• K-ESS3-2
• K-2-ETS1-1
• WIDA 1,4</td><td>• Using observations to describe patterns in what animals and plants need to survive
• Plants do not need to take in food, all plants require light, all living things need water
• Animals need to take in food, different kinds of food are needed by different types of animals, all living things need water
• Using a model to represent the needs of different plants and animals and the places they live.</td><td rowspan="2">• What are living things?
• What are nonliving things?
• How are living and nonliving things different?
• How are living and nonliving things the same?
• What do living things need?</td></tr>
<tr><td>Unit 2: Enduring Understandings</td><td colspan="2">• The difference between living and nonliving things.
• Living things grow and change.
• There are things that a living thing needs to survive.
• Systems in the natural and designed world have parts, or structures, that work together.
• Plants, animals and humans can change their environments to meet their needs.</td></tr>
</table>

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Curriculum Unit 2	Standards		Pacing	
			Days	Unit Days
Unit 2: **Life Science: Plants and Animals**	**K-ESS3-1**	Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.	10	36
	K-ESS3-2	Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.	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		6	

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Unit 2 Grade K		
Disciplinary Core Ideas	**Indicator #**	**Indicator**
ESS2.D: Weather and Climate Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. (K-ESS2-1) **ESS3.B: Natural Hazards** Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. (K-ESS3-2) **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. Asking questions, making observations, and gathering information are helpful in thinking about problems. Before beginning to design a solution, it is important to clearly understand the problem (K-2-ETS1-1)	**K-ESS3-1**	Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.
	K-ESS3-2	Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.
	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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<table>
<tr><th colspan="2">Unit 2 Grade K</th></tr>
<tr><th colspan="2">• Assessment Plan</th></tr>
<tr><td>• 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 Task</td><td>• Short Constructed Responses
• Living and Nonliving Pictures: Sort pictures according to living and nonliving.
• Basic Needs: Sort pictures according to plants needs and animal needs.
• Plant Observation Journal: Observe and record what you see as the plant grows.
• Plant Parts Puzzle: Color, cut, and glue the plant part pieces together on construction paper to make the flower. Discuss what each part is and the role that each part plays for the plant.
• Seed or Not: Sort objects into seeds and not seeds.</td></tr>
<tr><th>Resources</th><th>Activities</th></tr>
<tr><td>• Chromebooks
• HSP Science Teacher Manual
• Lab Explorations
• Big Books pg.
• Leveled Readers
• Songs on CD
• Activity book
• Vocab activities
• vocab cards
• Group discussions
• Manipulatives
• SMARTboard / Mimio Technology
• Google Applications (Documents, Forms, Spreadsheets, Presentation)
• Linkit
• Readworks website
• NJ Department of Education</td><td>• Animal Observation Journal: Observe what happens as the chicks begin hatching. Students will watch a video an answer these questions: What does the chick look like when it first hatches? How does it look as the days go on? What does the chick need to survive?
• The Needs of Living Things: Students will learn about what plants and animals need to survive and how habitats support those needs. They will also learn about how organisms can change their environment.
• Think Garden: The Importance of Water: Students will watch a video that explores why plants need water to survive, and how they tell us they're thirsty. Then the class will discuss how does water contribute to plant growth and health? What is the relationship between gardening practices such as using pesticides or fertilizers and water quality? What are some ways to conserve water in the garden?
• Think Garden: Plant Structure: Students will watch a video that examines plant structure by taking a closer look at the root and shoots systems. Then the class will discuss why are plants called producers in the food chain? What is special about the structure of a plant that allows it to produce its own food? What are the different functions of the parts of the plant? What part of the plant produces seeds? How are vegetables and fruits different?</td></tr>
</table>

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Instructional Best Practices and Exemplars	
1. Identifying similarities and differences 2. Summarizing and note taking 3. Reinforcing effort and providing recognition 4. Homework and practice 5. Nonlinguistic representations	6. Cooperative learning 7. Setting objectives and providing feedback 8. Generating and testing hypotheses 9. Cues, questions, and advance organizers 10. Manage response rates

9.1 Personal Financial Literacy, 9.2 Career Awareness, Exploration, Preparation and Training & 9.4 Life Literacies and Key Skills

9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).

9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).

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.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).

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
All WIDA Can Do Descriptors can be found at this link: https://wida.wisc.edu/teach/can-do/descriptors ☐ Grade K WIDA Can Do Descriptors: ☐ Listening ☐ Speaking ☐ Reading ☐ Writing ☐ Oral Language Students will be provided with accommodations and modifications that may include: • 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	Students excelling in mastery of standards will be challenged with complex, high level challenges related to the topic. • 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 Additional Strategies may be located at the links: ❖ 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.K.1** With prompting and support, ask and answer questions about key details in a text. (K- ESS3-2) **W.K.7** Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (K-ESS2-1) **Math Standards:** **MP.4** Model with mathematics. (K-ESS3- 1),(K-ESS3-2) K.CC Counting and Cardinality (K-ESS3- 1),(K-ESS3-2) **MP.2** Reason abstractly and quantitatively. (K- ESS2-1) **MP.4** Model with mathematics. (K-ESS2- 1) **K.CC.A** Know number names and the count sequence. (K-ESS2-1) **K.MD.A.1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. (K- ESS2-) **K.MD.B.3** Classify objects into given categories; count the number of objects in each category and sort the categories by count. (K-ESS2-1)
Integration of Computer Science and Design Thinking NJSLS 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.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. **8.2.2.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.3:** Identify how technology impacts or improves life.