Winslow Township School District

Grade 3 Science

Unit 3: Living Things in Our World

Overview: In this unit of study, students develop an understanding of the idea that when the environment changes, some organisms survive and reproduce, some move to new locations, some move into the transformed environment, and some die. Students will explore the types of organisms that lived long ago and also about the nature of their environments. The concepts of systems and system models; scale, proportion, and quantity; and the influence of engineering, technology, and science on society and the natural world are will be explored. Students are expected to demonstrate grade-appropriate proficiency in asking questions and defining problems, analyzing and interpreting data, and engaging in argument from evidence.

Overview	Standards for Science	Unit Focus	Essential Questions
Unit 3 **Living Things in Our World**	• **3-LS2-1** • **3-LS4-1** • **3-LS4-3** • **3-LS4-4** • **WIDA 1,4**	• 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.	• How do organisms and plants obtain and use the matter and energy they need to live and grow? • What do organisms and plants need in order to survive? • How is the environment impacted when organisms and plants become extinct? • Are some habitats more conducive to survival than others? • Do habitats dictate traits of an animal to survive?
Unit 3: Enduring Understandings	• The four basic needs of plants and animals to survive. • Cause-and-effect relationships are routinely identified and used to explain change for survival. • Plants and animals needs change based on their environment. • Without adaptation plants and animals will become extinct. • Fossils provide link to past organisms and plants that have become extinct. • 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.		

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Curriculum Unit 3	Standards		Pacing	
			Days	Unit Days
Unit 3: **Living Things in Our World**	**3-LS2-1**	Construct an argument that some animals form groups that help members survive.	10	45
	3-LS4-1	Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.	10	
	3-LS4-3	Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.	10	
	3-LS4-4	Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.	10	
	Assessment, Re-teach and Extension		5	

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Disciplinary Core Ideas	**Indicator #**	**Indicator**
LS2.D: Social Interactions and Group Behavior Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size (Note: Moved from K–2). (3-LS2-1) **LS4.A: Evidence of Common Ancestry and Diversity** Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (Note: moved from K-2) (3-LS4-1) Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (3-LS4-1) **LS4.C: Adaptation** For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3) **LS4.D: Biodiversity and Humans** Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (3-LS4-4)	**3-LS2-1**	Construct an argument that some animals form groups that help members survive.
	3-LS4-1	Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.
	3-LS4-3	Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
	3-LS4-4	Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

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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	**Activities**
• 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	• Food Fight: This game can be played by one or two players. Each player chooses an animal and then has to build a habitat with an ecosystem that will let them survive and thrive. • Bird Beaks: This lesson explores the relationship between the shape of a bird's beak and it's ability to pick up and open a food source. • Fossils 2: Uncovering the Facts: Students will explore comparing fossils to living organisms. Students will come up with questions to use while "interviewing" the fossil remains of a Protoceratops. In preparation for the interview, students first brainstorm the questions for which they would like answers and then narrow their questions to those that can really be answered by studying the Protoceratops fossils. At the end of the activity, the students will prepare a fossil trading card for the Protoceratops. • What Can Fossil Footprints Tell Us? Students will look at three panels, revealed one at a time, to try to construct an explanation for the events that created the pattern of footprint tracks in the rock. • Animal Groups-Benefits and Disadvantages: In this lesson students: 1) share what they think they know about why animals live in groups, 2) watch a Powerpoint to stimulate their thinking and engage their interest, 3) review what they've already studied about animal groups, 4) are introduced to claims, evidence and reasoning (with examples), 5) share their ideas about why animals live in groups (sometimes acting out their ideas), 6) read short passages about animal groups, and 7) participate in a science talk to share their claims based on the evidence they have gathered about how groups benefit some animals. • Dolphins Trick Fish with Mud "Nets": Video of dolphins working together to fish by creating a mud "net" around a school of fish to capture them for easy feeding by the dolphins. Students can watch this phenomenon to gather evidence of animal groups working together to help members survive.

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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

9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
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.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.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).
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.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.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
All WIDA Can Do Descriptors can be found at this link: https://wida.wisc.edu/teach/can-do/descriptors ☐ Grade 3 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.3.1** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-ESS2-2) **RI.3.9** Compare and contrast the most important points and key details presented in two texts on the same topic. (3-ESS2-2)W.3.1 Write opinion pieces on topics or texts, supporting a point of view with reasons. (3-ESS3-1) **W.3.7** Conduct short research projects that build knowledge about a topic. (3-ESS3-1) **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- ESS2-2) **Math Standards:** **MP.2** Reason abstractly and quantitatively. (3-ESS2-1),(3-ESS2- 2), (3-ESS3-1) **MP.4** Model with mathematics. (3- ESS2-1),(3-ESS2-2), (3-ESS3-1) **MP.5** Use appropriate tools strategically. (3-ESS2-1) **3.MD.A.2** Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (3-ESS2-1) **3.MD.B.3** Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two- step "how many more" and "how many less" problems using information presented in bar graphs. (3-ESS2-1)
Integration of Computer Science and Design Thinking NJSLS 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.ED.1:** Explain the functions of a system and its subsystems. **8.2.5.ED.2:** Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models. **8.2.5.ED.3:** Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task. **8.2.5.ED.4:** Explain factors that influence the development and function of products and systems (e.g., resources, criteria, desired features, constraints).