Winslow Township School District

Grade 2 Science

Unit 2: A World of Living Things

Overview: In this unit of study, students apply their understanding of the idea that wind and water can change the shape of land to compare design solutions to slow or prevent such change. The concepts of stability and change; structure and function; and the influence of engineering, technology, and science on society and the natural world will be explored. Students demonstrate grade-appropriate proficiency in asking questions and defining problems, developing and using models, and constructing explanations and designing solutions.

Overview	Standards for Science	Unit Focus	Essential Questions
Unit 2 **A World of Living Things**	• **2-ESS1-1** • **2-ESS2-1** • **K-2-ETS1-1** • **K-2-ETS1-2** • **WIDA 1,4**	• Observing patterns in the natural world. • 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. • Asking questions, make observations, and gather information about a situation people want to change. • Defining a simple problem that can be solved through the development of a new or improved object or tool. • Developing a simple model based on evidence to represent a proposed object or tool. • Developing 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.	• What are Living and Nonliving Things? • What do animals need? • What do plants need?
Unit 2: Enduring Understandings	• Living and non-living things can be distinguished by their characteristics • Living things have basic needs • Plants depend on animals to move and disperse their seeds. • There are many different kinds of animals and plant life. • There can be life on land and also in water.		

Winslow Township School District

Grade 2 Science

Unit 2: A World of Living Things

Curriculum Unit 2	Standards		Pacing	
			Days	Unit Days
Unit 2: **A World of Living Things**	**2-ESS1-1**	Use information from several sources to provide evidence that Earth events can occur quickly or slowly.	10	45
	2-ESS2-1	Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.	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	
	K-2-ETS1-2	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.	10	
	Assessment, Re-teach and Extension		5	

Winslow Township School District

Grade 2 Science

Unit 2: A World of Living Things

Unit 2 Grade 2		
Disciplinary Core Ideas	**Indicator #**	**Indicator**
ESS1.C: The History of Planet Earth Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe. (2-ESS1-1) **ESS2.A: Earth Materials and Systems** Wind and water can change the shape of the land. (2- ESS2-1) **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) **ETS1.B: Developing Possible Solutions** Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (K-2-ETS1-2)	**2-ESS1-1**	Use information from several sources to provide evidence that Earth events can occur quickly or slowly.
	2-ESS2-1	Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
	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.
	K-2-ETS1-2	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.

Winslow Township School District

Grade 2 Science

Unit 2: A World of Living Things

Unit 2 Grade 2	
• **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 from several sources to construct an evidence-based account for natural phenomena. • Use information from several sources to provide evidence that Earth events can occur quickly or slowly. Some examples of these events include: Volcanic explosions, Earthquakes, Erosion of rocks. • Define a simple problem that can be solved through the development of a new or improved object or tool. • Develop a simple model based on evidence to represent a proposed object or tool. • 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	**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	• How Can Water Change the Shape of the Land? Students will investigate water erosion. They will make a sand tower and observe the erosion as they drop water on it. Students observe, illustrate, and record notes about the process. Short videos and a read aloud also further support understanding. • How Can Wind Change the Shape of the Land? Students will take part in an investigation to show how wind changes the land. They will use straws to blow on a small mound or hill of sand. As each child takes a turn, the other students record their detailed observations that will later be used to draw conclusions. Students also watch a short video on wind erosion and discuss the new learning with partners. • Finding Erosion at Our School: Students will walk around the school grounds, neighborhood, or another area of their community to locate evidence of erosion. Various problems caused by erosion are discussed and a solution is developed for one of the problems. Lastly, students compare their erosion design solutions. • Marshmallow Challenge: A Tower Building Adventure: Students will use everyday materials to design our a bridge structure. They will design and build a stable structure in teams. They will learn also learn about rapid trial and error – a skill essential in early phases of engineering design.

Winslow Township School District

Grade 2 Science

Unit 2: A World of Living Things

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.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.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.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.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1).
9.4.2.TL.2: Create a document using a word processing application.
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/

Winslow Township School District

Grade 2 Science

Unit 2: A World of Living Things

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

Winslow Township School District

Grade 2 Science

Unit 2: A World of Living Things

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

Winslow Township School District

Grade 2 Science

Unit 2: A World of Living Things

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 2 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

Winslow Township School District

Grade 2 Science

Unit 2: A World of Living Things

Interdisciplinary Connections

Interdisciplinary Connections:

ELA Standards:

RI.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. (2-ESS1-1)

RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. (2- ESS1-1)

RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. (2- ESS2-1)

RI.2.9 Compare and contrast the most important points presented by two texts on the same topic. (2-ESS2-1)

.2.6 With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. (2-ESS1-1)

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-ESS1-1)

W.2.8 Recall information from experiences or gather information from provided sources to answer a question. (2-ESS1-1)

SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. (2-ESS1-1)

Math Standards:

MP.2 Reason abstractly and quantitatively. (2-ESS1-1)

MP.4 Model with mathematics. (2- ESS1-1)

2.NBT.A Understand place value. (2- ESS1-1)

Winslow Township School District

Grade 2 Science

Unit 2: A World of Living Things

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. **8.1.2.DA.3:** Identify and describe patterns in data visualizations. **8.1.2.DA.4:** Make predictions based on data using charts or graphs. **8.1.2.AP.4:** Break down a task into a sequence of steps. **8.2.2.ED.1:** Communicate the function of a product or 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.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.4:** Identify how various tools reduce work and improve daily tasks. **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.2:** Identify the natural resources needed to create a product.