Grade 2

Unit 4: Changes to Earth's Surface

New Jersey Student Learning Standards

Established 2016-2017
Revised 2018-2019
Revised 2019-2020
Revised 2020-2021
Revised 2022-2023
Revised 2023-2024
Revised 2024-2025

Marking Period	Unit Title	Recommended Instructional Days
Trimester 2	Changes to Earth's Surface	40 - 42 days

NJSLS - Science: *TItle*	NJSLS - Science: *Performance Expectations*	
Earth's Place in the Universe **Earth's Systems** **Engineering Design**	• **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-ETS1-2** 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.	**Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-S within Unit**
FOUNDATION Disciplinary: *Core Idea*	**FOUNDATION Disciplinary: *Statement***	
• ESS1.C The History of Planet Earth • ESS2.A Earth Materials and Systems • K-2-ETS1.A Defining and Delimiting Engineering Problems • K-2-ETS1.B Developing Possible Solutions	• some events happen very quickly; others occur very slowly, over a time period much longer than one can observe • Wind and water can change the shape of the land. • asking questions, making observations, and gathering information help in thinking about problems to be solved • designs can be conveyed through sketches, drawings, and physical models	**Essential Question/s:** **Activity Description:** **Interdisciplinary Connections:** **Connections to Math:** • **2.NBT.A.1** Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: ○ a. 100 can be thought of as a bundle of ten tens–called a "hundred." ○ b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three,

• K-2-ETS1.C Optimizing the Design Solution	• there is always more than one possible solution; compare and test designs	four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones). • **2.NBT.A.4** Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons. • **2.NBT.B.7** Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. • **2.MD.B.5** Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem. • **MP2** Reason abstractly and quantitatively. • **MP4** Model with mathematics. • **MP5** Use appropriate tools strategically. **Connections to ELA:** • **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. • **RI.2.3** Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. • **W.2.1** Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also)
FOUNDATION **Science and Engineering Practices:** ***Core Idea***	**FOUNDATION** **Science and Engineering Practices:** ***Statement***	
• Constructing Explanations and Designing Solutions • Developing and Using Models • Asking Questions and Defining Problems • Obtaining, Evaluating, and Communicating Information	• Make observations from several sources to construct an evidence-based account for natural phenomena. • Compare multiple solutions to a problem • Develop a model to represent patterns in the natural world • Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.	
FOUNDATION **Crosscutting Concepts:** ***Core Idea***	**FOUNDATION** **Crosscutting Concepts:** ***Statement***	
• Stability and Change • Scale, Proportion, and Quantity • Science Addresses Questions About the Natural and Material World • Influence of Engineering, Technology, and Science on Society and the Natural World	• Things may change slowly or rapidly • In considering phenomena, it is critical to recognize what is relevant at different measures of size, time, and energy and to recognize how changes in scale, proportion, or quantity affect a system's structure or performance. • Developing and using technology has impacts on the natural world. • Scientists study the natural and material world.	

Social and Emotional Learning: ***Competencies***	**Social and Emotional Learning:** ***Sub-Competencies***	to connect opinion and reasons, and provide a concluding statement or section. ● **W.2.6** With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. ● **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). ● **W.2.8** Recall information from experiences or gather information from provided sources to answer a question. ● **SL.2.2** Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
● Responsible Decision-Making ● Relationship Skills ● Self-Management ● Social Awareness ● Self Awareness	● Develop, implement, and model effective problem-solving and critical thinking skills ● Utilize positive communication and social skills to interact effectively with others ● Recognize the skills needed to establish and and achieve personal and educational goals ● Demonstrate an understanding of the need for mutual respect when viewpoints differ. ● Demonstrate an awareness of the expectations for social interactions in a variety of ways. ● Recognize the importance of self-confidence in handling daily tasks and challenges.	

Assessments (Formative) ***To show evidence of meeting the standard/s, students will successfully engage within:***	**Assessments (Summative)** ***To show evidence of meeting the standard/s, students will successfully complete:***
Formative Assessments: ● Lesson Check	**Benchmarks/Summative Assessments:** ● Unit Test ● Performance Based Assessment

Differentiated Student Access to Content:
Teaching and Learning *Resources/Materials*

Core Resources	**Alternate Core Resources** ***IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core Resources**
● Workbook ● Leveled Readers ● Hands-on Activities ● Interactive Worktext	● Utilize a multi-sensory (VAKT) approach during instruction, provide alternate presentations of skills by	● Extend time requirements, preferred seating, positive reinforcement, check often for understanding/review,	● Create an enhanced set of introductory activities, integrate active teaching/learning

	varying the method (repetition, simple explanations, additional examples, modeling, etc.), modify test content and/or format, allow students to retake ● Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic, provide individual instruction as needed, modify assessments and/or rubrics, repeat instructions as needed.	oral/visual directions/prompts when necessary, supplemental materials including use of an online bilingual dictionary, and modified assessment and/or rubric.	opportunities, incorporate authentic components, propose interest-based extension activities, and connect students to related talent development opportunities.

Supplemental Resources

Technology:

- *Preventing Wind Erosion - explore methods that can help prevent wind from changing the land.*
- *Make a Windbreak - explore ways to prevent wind from changing land by designing and testing a windbreak.*
- *Engineer It: Build an Earthquake-Proof Structure - plan and design a solution to a problem in order to compare and test designs of an earthquake-proof structure.*

Other:

- ***Math -*** *Understand Place Value; Add or Subtract; Use Symbols; Subtract Lengths*
- ***ELA -*** *Recall and Gather Information; Recount and Describe Details; Ask and Answer Questions; Describe Connections; Participate in a Research and Writing Project; Write an Opinion Piece; Use Digital Tools to Publish Writing*
- ***Social Studies***
  - ***People in Science & Engineering:*** *Marguerite Thomas Williams, Rosaly M.C. Lopes*
  - ***Careers in Science & Engineering:*** *Farming, Seismologist, Geotechnical Engineer*

Differentiated Student Access to Content:
Recommended *Strategies & Techniques*

Core Resources	Alternate Core Resources *IEP/504/At-Risk/ESL*	ELL Core Resources	Gifted & Talented Core

• Large group instruction • Small group instruction • Think Pair Share • Cooperative group work • Multimedia presentations • K-W-L • Manipulatives • Leveled Readers	• Utilize a multi-sensory (VAKT) approach during instruction, provide alternate presentations of skills by varying the method (repetition, simple explanations, additional examples, modeling, etc.), modify test content and/or format, allow students to retake • Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic, provide individual instruction as needed, modify assessments and/or rubrics, repeat instructions as needed.	• Extend time requirements, preferred seating, positive reinforcement, check often for understanding/review, oral/visual directions/prompts when necessary, supplemental materials including use of an online bilingual dictionary, and modified assessment and/or rubric.	• Create an enhanced set of introductory activities, integrate active teaching/learning opportunities, incorporate authentic components, propose interest-based extension activities, and connect students to related talent development opportunities.

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	**Disciplinary Concept: Creativity & Innovation/Critical Thinking & Problem Solving / Technology Literacy**	
	Core Ideas:	• Brainstorming can create new, innovative ideas. • Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem. • Collaboration can simplify the work an individual has to do and sometimes produce a better product.
	Performance Expectation/s:	• 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.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).
	Career Readiness, Life Literacies & Key Skill Practices	
	● Demonstrate creativity and innovation. ● Utilize critical thinking to make sense of problems and persevere in solving them. ● Use technology to enhance productivity, increase collaboration and communicate effectively. ● Work productively in teams while using cultural/global competence.	

New Jersey Legislative Statutes and Administrative Code (place an "X" before each law/statute if/when present within the curriculum map)									
x	Amistad Law: *N.J.S.A. 18A 52:16A-88*		Holocaust Law: *N.J.S.A. 18A:35-28*		LGBT and Disabilities Law: *N.J.S.A. 18A:35-4.35*	x	Diversity & Inclusion: *N.J.S.A. 18A:35-4.36a*	x	Standards in Action: *Climate Change*