

Grade 2

Unit 2: Matter

New Jersey Student Learning Standards

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

Trimester	Unit Title	Recommended Instructional Days
One	Matter	22-26 days
NJSLS - Science: Title	NJSLS - Science: Performance Expectations	Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-S within Unit
Structures and Properties of Matter	<p>2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.</p> <p>2-PS1-2. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.</p> <p>2-PS1-3. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.</p> <p>2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.</p>	
FOUNDATION Disciplinary: Core Idea	FOUNDATION Disciplinary: Statement	
<ul style="list-style-type: none"> ● PS1.A: Structure and Properties of Matter ● PS1.B: Chemical Reactions 	<ul style="list-style-type: none"> ● Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties. (2-PS1-1) Different properties are suited to different purposes. (2- PS1-2),(2-PS1-3) A great 	<p>Essential Question/s:</p> <ul style="list-style-type: none"> ● What Are Properties of Matter? ● How Are Objects Put Together? ● How Do Heating and Cooling Change Matter? ● How Does Matter Change? <p>Activity Description:</p>

	<p>variety of objects can be built up from a small set of pieces. (2-PS1-3)</p> <ul style="list-style-type: none"> • Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not. (2-PS1-4) 	<ul style="list-style-type: none"> • Describe and classify materials by their observable properties. • Select and use materials based on these properties. • Use evidence to describe how heating and cooling cause changes to matter. • Use evidence to describe reversible and irreversible changes to matter. • Explore how an object can be taken apart and its pieces used to make another object.
<p>FOUNDATION Science and Engineering Practices: <i>Core Idea</i></p>	<p>FOUNDATION Science and Engineering Practices: Statement</p>	<p><i>Suggested Activities:</i> <u>Unit Phenomenon</u></p>
<ul style="list-style-type: none"> • Planning and Carrying Out Investigations • Analyzing and Interpreting Data 	<ul style="list-style-type: none"> • Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. <ul style="list-style-type: none"> ○ Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-PS1-1) • Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations. <ul style="list-style-type: none"> ○ Analyze data from tests of an object or tool to determine if it works as intended. (2-PS1-2) • Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of 	<ul style="list-style-type: none"> • Explore Melting • Structure and Properties of Matter, • Chemical Reactions, • Cause and Effect: What is the fastest way to change ice to water? • Take it Further: People in Science/Dr. Eugene Tssui; • Performance Task)Build a Better Boat; Runaway Wagon • <i>Inquiry Activities</i> <ul style="list-style-type: none"> ○ <i>Hands on - Properties of Rocks</i> ○ <i>Design Challenge - Design a Cliff House</i> <p>Interdisciplinary Connections:</p> <p>Connections to Math MP.2 Reason abstractly and quantitatively MP.4 Model with mathematics; MP.5 Use appropriate tools strategically 2.MD.D.10 Draw a picture graph and a bar graph with up to four categories. Solve simple put-together, take-apart, and compare problems using a bar graph.; 2.G.A.2 Partition a rectangle into rows and columns of</p>

<ul style="list-style-type: none">● Constructing Explanations and Designing Solutions ● Engaging in Argument from Evidence	<p>evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <ul style="list-style-type: none">○ Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (2-PS1-3) <ul style="list-style-type: none">● Engaging in argument from evidence in K-2 builds on prior experiences and progresses to comparing ideas and representations about the natural and designed world(s).<ul style="list-style-type: none">○ Construct an argument with evidence to support a claim. (2-PS1-4) <p>-----</p> <p><i>Connections to Nature of Science</i></p> <ul style="list-style-type: none">● Scientists search for cause and effect relationships to explain natural events. (2-PS1-4)	<p>same-size squares and count to find the total number of them.;</p> <p>2.NBTA.4 Compare two three-digit numbers based on the meaning of the hundreds, tens, and ones digits, using $>$, $=$ and $<$ symbols to record the results of comparisons.;</p> <p>2.OA.A.1 Use addition and subtraction within 100 to solve one and two step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p> <p>Connections to Language Arts</p> <p>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) to connect opinion and reasons, and provide a concluding statement or section.</p> <p>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).</p> <p>W.2.8 Recall information from experiences or gather information from provided sources to answer a question;</p> <p>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;</p> <p>RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.</p> <p>RI.2.8 Describe how reasons support specific points the author makes in a text.</p>
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<p>----- <i>Connections to Nature of Science</i></p> <ul style="list-style-type: none"> • Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena 		
<p>FOUNDATION Crosscutting Concepts: <i>Core Idea</i></p>	<p>FOUNDATION Crosscutting Concepts: <i>Statement</i></p>	
<ul style="list-style-type: none"> • Patterns • Cause and Effect • Energy and Matter <p>----- <i>Connections to Engineering, Technology, and Applications of Science</i></p>	<ul style="list-style-type: none"> • Patterns in the natural and human designed world can be observed. (2-PS1-1) • Events have causes that generate observable patterns. (2-PS1-4) Simple tests can be designed to gather evidence to support or refute student ideas about causes. (2-PS1-2) • Objects may break into smaller pieces and be put together into larger pieces, or change shapes. (2-PS1-3) <p>----- <i>Connections to Engineering, Technology, and Applications of Science</i></p> <ul style="list-style-type: none"> • Every human-made product is designed by applying some knowledge of the natural world and is built by using natural materials. (2-PS1-2) 	

<ul style="list-style-type: none"> • Influence of Engineering, Technology, and Science on Society and the Natural World • 		
<p>Social and Emotional Learning: <i>Competencies</i></p>	<p>Social and Emotional Learning: <i>Sub-Competencies</i></p>	
<ul style="list-style-type: none"> • Responsible Decision-Making • Relationship Skills • Self-Management • Social Awareness • Self Awareness 	<ul style="list-style-type: none"> • 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. 	
<p>Assessments (Formative) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i></p>	<p>Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i></p>	
<p><u>Formative Assessments:</u></p>	<p><u>Benchmarks:</u></p> <ul style="list-style-type: none"> • - Performance-Based Assessment (End of Module Test/End of 	

<ul style="list-style-type: none"> Interactive worktext (Performance Task pp. 34-35), Apply What You Know, Lesson Check, Evidence Notebook 	<ul style="list-style-type: none"> Year Test), District Assessments <i>Alternative</i> - Performance Assessment (back of assessment guide), Unit Project, You Solve It (Digital only) <p>Summative Assessments:</p> <ul style="list-style-type: none"> Lesson quiz, Interactive Worktext, Self Check, Unit Test 		
<p>Differentiated Student Access to Content: Teaching and Learning <i>Resources/Materials</i></p>			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core Resources
<ul style="list-style-type: none"> Workbook Leveled Readers Hands-on Activities Interactive Worktext 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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.

	and/or rubrics, repeat instructions as needed.		
Supplemental Resources			
<p>Technology: Technology:</p> <ul style="list-style-type: none"> • HMH Co. Interactive Site • You Solve It Simulations <p>Other: Career Education: Chefs Spotlight On Scientist: Marie Curie, Mae Jemison</p>			
Differentiated Student Access to Content: Recommended <i>Strategies & Techniques</i>			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core
<ul style="list-style-type: none"> • Large group instruction • Small group instruction • Think Pair Share • Cooperative group work • Multimedia presentations • K-W-L • Manipulatives • Leveled Readers 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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.

	<ul style="list-style-type: none"> • 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. 		
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<p>NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS</p>	<p>Disciplinary Concept:</p>	
	<p><i>Core Ideas:</i></p>	<ul style="list-style-type: none"> • 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.
	<p><i>Performance Expectation/s:</i></p>	<ul style="list-style-type: none"> • 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 Skills Practices	
	<ul style="list-style-type: none"> ● 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: <i>N.J.S.A. 18A 52:16A-88</i>		Holocaust Law: <i>N.J.S.A. 18A:35-28</i>		LGBT and Disabilities Law: <i>N.J.S.A. 18A:35-4.35</i>	x	Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i>		Standards in Action: <i>Climate Change</i>