

Englewood on the Palisades Charter School

Science Curriculum

Grade Six

Aligned With the 2026 New Jersey Student Learning Standards

The Vision for Science Education in New Jersey

2020 New Jersey Student Learning Standards for Science

The New Jersey Student Learning Standards for Science (NJSLS-S) describe the expectations for what students should know and be able to do as well as promote three-dimensional science instruction across the three science domains (i.e., physical sciences, life science, Earth and space sciences). From the earliest grades, the expectation is that students will engage in learning experiences that enable them to investigate phenomena, design solutions to problems, make sense of evidence to construct arguments, and critique and discuss those arguments (in appropriate ways relative to their grade level).

The foundation of the NJSLS-S reflects three dimensions — science and engineering practices, disciplinary core ideas, and crosscutting concepts. The performance expectations are derived from the interplay of these three dimensions. It is essential that these three components are integrated into all learning experiences. Within each standard document, the three dimensions are intentionally presented as integrated components to foster sensemaking and designing solutions to problems. Because the NJSLS-S is built on the notions of coherence and contextuality, each of the science and engineering practices and crosscutting concepts appear multiple times across topics and at every grade level. Additionally, the three dimensions should be an integral part of every curriculum unit and should not be taught in isolation.

Mission

All students will possess an understanding of scientific concepts and processes required for personal decision-making, participation in civic life, and preparation for careers in STEM fields (for those that chose).

Vision

Prepare students to become scientifically literate individuals who can effectively:

- Apply scientific thinking, skills, and understanding to real-world phenomena and problems;

- Engage in systems thinking and modeling to explain phenomena and to give a context for the ideas to be learned;
- Conduct investigations, solve problems, and engage in discussions;
- Discuss open-ended questions that focus on the strength of the evidence used to generate claims;
- Read and evaluate multiple sources, including science-related magazine and journal articles and web-based resources to gain knowledge about current and past science problems and solutions and develop well-reasoned claims; and
- Communicate ideas through journal articles, reports, posters, and media presentations that explain and argue.

(NJ DOE, 2022)

New Jersey Legislative Statutes and Administrative Code

Science

Amistad Law: *N.J.S.A. 18A 52:16A-88*

[African Americans in Science](#)
[8 Amazing Black Scientists and How They Changed History](#)
[African American Scientists and Inventors](#)

Holocaust Law: *N.J.S.A. 18A:35-28*

[Georg Bredig: Scientist, Humanist, and Holocaust Survivor](#)

LGBT and Disabilities Law: *N.J.S.A. 18A:35-4.35*

<https://prideinstem.org/>
[LGBTQA+ Scientists Through History](#)
[Celebrating Scientists With Disabilities](#)

Diversity & Inclusion: *N.J.S.A. 18A:35-4.36a*

Ada Twist, Scientist by Andrea Beaty [Ada Twist, Scientist Activities](#)
How Many Stars in the Sky by Lenny Hort [How Many Stars in the Sky? | RIF.org](#)
Mae Among the Stars by Roda Amhed [Mae Among the Stars STEM Activity](#)
The Outdoor Scientist by Temple Grandin

6th Grade Science Curriculum

Scientific and technological advancements have become widespread and now influence nearly every aspect of 21st-century life. It is more crucial than ever for everyone in our society to understand scientific and engineering principles and processes. In this course, students will develop scientific explanations and design evidence-based solutions equips students with the ability to think critically about personal and societal issues. This knowledge allows them to contribute effectively to decision-making processes, including discussions on climate change, new healthcare methods, and innovative solutions to both local and global challenges.

This 6th-grade science curriculum aligns with the New Jersey Student Learning Standards (NJSLS) and provides young learners with a solid foundation in scientific inquiry skills and early understanding of key science concepts. Throughout the year, the curriculum should incorporate hands-on activities, observations, and exploration to engage 6th-grade students and make learning science interactive and fun. Formative assessments, observations, and ongoing progress monitoring should be used to ensure that students are meeting the learning objectives. The curriculum should be flexible and adaptable to meet the individual needs and learning styles of the students.

Grade Six Units and Pacing	
Unit 1: The Role of Engineering in the Science Classroom	9 weeks
Unit 2: Earth and the Universe	9 weeks

Unit 3: Earth Systems	9 weeks
Unit 4: Human Impact on Earth's Systems and Global Climate Change	9 weeks
Total Number of Weeks:	36 weeks

Unit 1 - The Role of Engineering in the Science Classroom

Unit Goals: In this unit, students will explore the concept and role of engineering models in a collaborative STEM classroom. They will learn about the importance of variables in investigations, the property of density, and the presence of energy in all its forms. These concepts are introduced and emphasized as fundamental components essential for developing a comprehensive understanding throughout the course.
Duration: 9 weeks
Essential Questions: - How do scientists work collaboratively? - How are well designed investigations developed?
Enduring Understandings: - Scientists work collaboratively and use engineering models to answer questions and solve problems. - Well designed investigations have clearly defined variables.
Key NJSLS Strands:

- MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
- MS-ETS1-2: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
- MS-ETS1-3: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
- MS-ETS1-4: Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.

Science & Engineering Practices	Disciplinary Core Ideas	Cross-cutting Concepts
Asking Questions and Defining Problems Asking questions and defining problems in grades 6–8 builds on K–5 experiences and progresses to specifying relationships between variables and clarifying arguments and models. Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions. (MS-ETS1-1) Developing and Using Models Modeling in 6–8 builds on K–5 experiences and	ETS1.A: Defining and Delimiting Engineering Problems The more precisely a design task’s criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that are likely to limit possible solutions. (MS-ETS1-1) ETS1.B: Developing Possible Solutions A solution needs to be tested, and then modified on the basis of the test results, in order to improve it. (MS-ETS1-4)	Influence of Science, Engineering, and Technology on Society and the Natural World All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment. (MS-ETS1-1) The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. (MS-ETS1-1)

progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems. Develop a model to generate data to test ideas about designed systems, including those representing inputs and outputs. (MS-ETS1-4) Analyzing and Interpreting Data Analyzing data in 6–8 builds on K–5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis. Analyze and interpret data to determine similarities and differences in findings. (MS-ETS1-3) Engaging in Argument from Evidence Engaging in argument from evidence in 6–8 builds on K–5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world. Evaluate competing design solutions based on jointly developed and agreed-upon design criteria. (MS-ETS1-2)	There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (MSETS1-2), (MS-ETS1-3) Sometimes parts of different solutions can be combined to create a solution that is better than any of its predecessors. (MSETS1-3) Models of all kinds are important for testing solutions. (MS-ETS1-4) ETS1.C: Optimizing the Design Solution Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process—that is, some of those characteristics may be incorporated into the new design. (MS-ETS1-3) The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution. (MS-ETS1-4)	
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Interdisciplinary Connections

English Language Arts

- RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. (MS-ETS1-1), (MS-ETS1-2), (MS-ETS1-3)
- RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table). (MS-ETS1-3)
- RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. (MS-ETS1-2), (MS-ETS1-3)
- WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. (MS-ETS1-2)
- WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. (MS-ETS1-1)
- WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research. (MS-ETS1-2)
- SL.8.5 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest. (MS-ETS1-4)

Math

- MP.2 Reason abstractly and quantitatively. (MS-ETS1-1), (MS-ETS1-2), (MS-ETS1-3), (MS-ETS1-4)

21st-Century Skills

- 9.4.8.CT.2 Develop multiple solutions to a problem and evaluate short and long-term effects to determine the most plausible option.

Career Ready Practices

- CRP1 Act as a responsible and contributing citizen and employee
- CRP4 Communicate clearly and effectively and with reason.
- CRP12 Work productively in teams while using cultural global competence.

Technology Integration	
8.2.8.ITH.4 Identify technologies that have been designed to reduce the negative consequences of other technologies and explain the change in impact. 8.2.8.ED.3 Develop a proposal for a solution to a real-world problem that includes a model (e.g. physical prototype, graphical/technical sketch). 8.2.8.ED.2 Identify the steps in the design process that could be used to solve a problem. 8.2.8.ED.6 Analyze how trade-offs can impact the design of a product. 8.2.8.ED.7 Design a product to address a real-world problem and document the iterative design process, including decisions made as a result of specific constraints and trade-offs (e.g. annotated sketches)	

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Design an investigation using the engineering model with appropriate variables. Identify independent, dependent and controlled variables in an investigation. Define density. Use the property of density to explain the actions and movement of objects	Engineering Model Design Identifying and Using Variables Independent, Dependent, and Controlled Variables Understanding Density Measuring Density Density and Buoyancy Density in Natural Phenomena Mass, Volume, and	Formative Assessments: Lab Reports/CER Responses Lab Skills Rubric Lesson Quizzes Lesson Self-assessment Teacher Observations Class Discussions Classwork/ Homework Exit Slips/Google Form	Materials: Lab notebooks Measuring cylinders Scales and balances Various objects for density measurement (metal, wood, plastic) Liquids of different densities (water, oil, syrup) Graduated cylinders	Engineering Model Investigation Independent Variable Dependent Variable Controlled Variable Density Mass Volume Buoyancy Density Column

and nature.	Density Relationships Graphing and Analyzing Density Data Real-World Applications of Density	Summative Assessments: Topic/Unit Assessments Constructed Response Questions Projects Cumulative Tests Performance Assessments Alternate and Benchmark Assessments: Progress Monitoring Assessments Cumulative/Benchmark Assessments	Beakers Graph paper Density charts Computers or tablets for research and data analysis Activities/Links: Design an investigation using the engineering model Identify independent, dependent, and controlled variables in a lab experiment Measure and calculate the density of various objects Conduct a density column experiment using liquids of different densities	Natural Phenomena Measurement Data Analysis Graphing Experiment Hypothesis Controlled Experiment Scientific Method
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			Explore how density affects buoyancy with a sink or float activity Use density to explain natural phenomena like ocean currents and atmospheric layers Create a model demonstrating the relationship between mass, volume, and density Analyze the movement of objects in water based on their density Graph the results of density experiments to identify patterns Discuss real-world applications of density in engineering and natural sciences Engineering Paper Towers	
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			Science Buddies STEM Activities World Wildlife Fun Teaching Toolkits Women in STEM Research project Tin foil boats and mass Mentor Texts: <i>The Way Things Work Now</i> by David Macaulay <i>The Magic School Bus Gets Baked in a Cake: A Book About Kitchen Chemistry</i> by Linda Beech <i>Science Experiments You Can Eat</i> by Vicki Cobb <i>The Cartoon Guide to Physics</i> by Larry Gonick	
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			<i>It's Raining Fish and Spiders</i> by Bill Evans and Diane O'Connell <i>The Book of Massively Epic Engineering Disasters</i> by Sean Connolly <i>Exploring the World of Physics: From Simple Machines to Nuclear Energy</i> by John Hudson Tiner <i>Who Sank the Boat?</i> by Pamela Allen <i>What's Smaller Than a Pygmy Shrew?</i> by Robert E. Wells <i>Why Do Ice Cubes Float?</i> by Melvin Berger	
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Modifications and Accommodations	
Tier II and III Strategies	Small group instruction (Tier II) • Explicit instruction • Schema-based instruction • Use visuals

	● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments ● Introduce key vocabulary before lesson ● Lesson taught again using a differentiated approach Small group or Individual instruction (Tier III) ● Intensive instruction ● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPS and 504 Plans	● Follow all the IEP/504 plan modifications ● Allow extra time to complete assignments or tests ● Guided notes and/or scaffold outline for written assignments ● Work in a small group ● Solidify and refine concepts through repetition ● Allow answers to be given orally or dictated ● Use multi-sensory teaching approaches ● Utilize assistive technology and materials ● Use large print books, Braille, or books on CD (digital text) ● Text to speech/audio recorded selections ● Amplification system as needed ● Leveled texts according to ability ● Fine motor skill stations embedded in rotation as needed ● Modified or constrained spelling word lists ● Provide anchor charts with high frequency words and phonemic patterns ● Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared

	expectations for partner work. ● Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. ● Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
Multi-language Learners	● Work toward longer passages as skills in English increase ● Use visuals ● Introduce/highlight key vocabulary before lesson ● Teacher models reading aloud daily ● Provide peer tutoring ● Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers ● Guided notes and/or scaffold outline for written assignments ● Provide students with English Learner leveled readers ● Support recommended by the grade specific “can do” list outlined by WIDA, including Key Uses Edition and Descriptor Name Charts ● As students share ideas, include a drawing or annotation to illustrate connections. ● Invite students to use gestures as they count.
Accelerating Students	● Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) ● Provide options, alternatives and choices to differentiate and broaden the curriculum ● Organize and offer flexible small group learning activities ● Provide whole group enrichment explorations ● Teach cognitive and methodological skills ● Use center, stations, or contracts ● Organize integrated problem-solving simulations ● Propose interest-based extension activities

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| | <ul style="list-style-type: none"> ● Expose students to beyond level texts. |
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Unit 2 - Earth and the Universe

Unit Goals:

- This unit is broken down into three sub-ideas: the universe and its stars, Earth and the solar system, and the history of planet Earth. Students examine the Earth's place in relation to the solar system, the Milky Way galaxy, and the universe.
- There is a strong emphasis on a systems approach and using models of the solar system to explain the cyclical patterns of eclipses, tides, and seasons.
- There is also a strong connection to engineering through the instruments and technologies that have allowed us to explore the objects in our solar system and obtain the data that support the theories explaining the formation and evolution of the universe. Students examine geosciences data in order to understand the processes and events in Earth's history.

Duration: 9 weeks

Essential Questions:

- What are the patterns of the motion of the sun, moon, and stars in the sky that we observe, describe, and predict?
- How does Earth's place in the universe affect life on Earth?
- What is the role of gravity in the motions of objects in our Solar System?
- What patterns of change can be predicted when observing the sun, moon and stars?
- How does the sun impact how we live?

Enduring Understandings:

- Patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained with models.
- The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them.
- Earth and its solar system are part of the Milky Way galaxy, which is one of many galaxies in the universe.

Key NJSLS Strands:

● MS-ESS1-1 Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons. ● MS-ESS1-2 Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system. ● MS-ESS1-3 Analyze and interpret data to determine scale properties of objects in the solar system. ● MS-ETS1: Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.		
Science & Engineering Practices	Disciplinary Core Ideas	Cross-cutting Concepts
Developing and Using Models ● Develop and use a model to describe phenomena. (MS-ESS1-1), (MS-ESS1-2) Analyzing and Interpreting Data ● Analyze and interpret data to determine similarities and differences in findings. (MS-ESS1-3) Connections to Engineering, Technology, and Applications of Science Interdependence of Science, Engineering, and Technology ● Engineering advances have led to important discoveries in virtually every field of science and scientific discoveries have led to the development of entire industries and engineered systems. (MS-ESS1-3)	ESS1.A: The Universe and Its Stars ● Patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained with models. (MS-ESS1-1) ● Earth and its solar system are part of the Milky Way galaxy, which is one of many galaxies in the universe. (MS-ESS1-2) ESS1.B: Earth and the Solar System ● The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them. (MS-ESS1-2),(MS-ESS1-3) ● This model of the solar system can explain eclipses of the sun and the moon. Earth's spin axis is fixed in	Patterns ● Patterns can be used to identify cause-and-effect relationships. (MS-ESS1-1) Scale, Proportion, and Quantity ● Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small. (MS-ESS1-3) Systems and System Models ● Models can be used to represent systems and their interactions. (MS-ESS1-2)

Connections to Nature of Science Scientific Knowledge Assumes an Order and Consistency in Natural Systems Science assumes that objects and events in natural systems occur in consistent patterns that are understandable through measurement and observations. (MS-ESS1-1), (MS-ESS1-2)	direction over the short-term but tilted relative to its orbit around the sun. The seasons are a result of that tilt and are caused by the differential intensity of sunlight on different areas of Earth across the year. (MS-ESS1-1) The solar system appears to have formed from a disk of dust and gas, drawn together by gravity. (MS-ESS1-2)	
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Interdisciplinary Connections English Language Arts	
- RST.6-8.3: Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. - RST.6-8.6: Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text. - RST.6-8.9: Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. Math - Reason abstractly and quantitatively. MP.2 - Model with mathematics. MP.4 - Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. 6.RP.A.1 - Recognize and represent proportional relationships between quantities. 7.RP.A.2 - Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand	

that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. 6.EE.B.6 • Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. 7.EE.B.6
21st-Century Skills
• Develop a plan that includes information about science career areas of interest. 9.2.8.CAP.2 • Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal. 9.4.8.GCA.2 • Explore the role of creativity and innovation in career pathways and industries. 9.4.8.CI.4 • Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g. 6.1.8.CivicsDP.1). 9.4.8.CT.2 • Explain how communities use data and technology to develop measures to respond to effects of climate change (e.g., smart cities). 9.4.8.DC.8
Career Ready Practices
• CRP4: Communicate clearly and effectively and with reason. • CRP12: Work productively in teams while using cultural global competence
Technology Integration
• Identify technologies that have been designed to reduce the negative consequences of other technologies and explain the change in impact. 8.2.8.ITH.4 • Develop a proposal for a solution to a real-world problem that includes a model (e.g. physical prototype, graphical/technical sketch). 8.2.8.ED.3 • Identify the steps in the design process that could be used to solve a problem. 8.2.8.ED.2 • Analyze how trade-offs can impact the design of a product. 8.2.8.ED.6 • Design a product to address a real-world problem and document the iterative design process, including decisions made as a result of specific constraints and trade-offs (e.g. annotated sketches) 8.2.8.ED.7

Skills	Instructional Topics	Assessment	Resources	Vocabulary
● Observe patterns that exist on earth daily and yearly ● Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system. ● Develop and use a physical, graphical, or conceptual model to describe patterns in the apparent motion of the sun, moon, and stars in the sky. ● Develop and use models to explain the relationship between the tilt of Earth's axis and seasons. ● Use models to explain eclipses of the sun and the moon. ● Analyze and interpret data to	The universe and its stars Earth and the solar system, The history of planet Earth Patterns in the Solar System The Earth-Sun-Moon The Solar System and Universe The Formation of the Solar System	Formative Assessments: Lab Reports/CER Responses Lab Skills Rubric Lesson Quizzes Lesson Self-assessment Teacher Observations Class Discussions Classwork/ Homework Exit Slips/Google Form Summative Assessments: Topic/Unit Assessments Constructed Response Questions Projects Cumulative Tests Performance Assessments	Materials: Globe Flashlights Marbles or small balls Modeling clay Poster boards Markers and pens Graph paper Rulers Protractors Solar system models (store-bought or DIY kits) Constellation charts Telescope or binoculars Star maps	Axis Eclipses Galaxy Gravity Milky Way Model Motion Orbit Pattern Rotation Solar System Seasons Scale Tilt Apparent Motion Dust and Gas Disk Interpretation

determine scale properties of objects in the solar system. • Understand that the solar system appears to have formed from a disk of dust and gas, drawn together by gravity. • Understand that Earth and its solar system are part of the Milky Way galaxy, which is one of many galaxies in the universe. • Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.		Alternate and Benchmark Assessments: Progress Monitoring Assessments Cumulative/Benchmark Assessments	Videos or simulations of solar system formation Data sets on solar system objects (sizes, distances, etc.) Interactive astronomy software or apps Diagrams of the Earth-sun-moon system Eclipse glasses or filters Measuring tapes Classroom projectors and screens for displaying models and data Activities/Links: Lunar Lollipops Lab Universe Lab Day and Night Lab Rocket Lab	Data Analysis Universe Yearly Patterns
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			Eclipse Lab Constellation Lab Parallax Lab STEM Challenge - Make Moon Dust Gravity Lab Defined Stem: Spaceport Mars colony STEM project Build a Mars landing explorer STEM activity	
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Modifications and Accommodations	
Tier II and III Strategies	Small group instruction (Tier II) ● Explicit instruction ● Schema-based instruction ● Use visuals ● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments ● Introduce key vocabulary before lesson ● Lesson taught again using a differentiated approach

	Small group or Individual instruction (Tier III) ● Intensive instruction ● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPs and 504 Plans	● Follow all the IEP/504 plan modifications ● Allow extra time to complete assignments or tests ● Guided notes and/or scaffold outline for written assignments ● Work in a small group ● Solidify and refine concepts through repetition ● Allow answers to be given orally or dictated ● Use multi-sensory teaching approaches ● Utilize assistive technology and materials ● Use large print books, Braille, or books on CD (digital text) ● Text to speech/audio recorded selections ● Amplification system as needed ● Leveled texts according to ability ● Fine motor skill stations embedded in rotation as needed ● Modified or constrained spelling word lists ● Provide anchor charts with high frequency words and phonemic patterns ● Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work. ● Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. ● Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the

	5-frame with one counter in each square.
Multi-language Learners	• Work toward longer passages as skills in English increase • Use visuals • Introduce/highlight key vocabulary before lesson • Teacher models reading aloud daily • Provide peer tutoring • Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers • Guided notes and/or scaffold outline for written assignments • Provide students with English Learner leveled readers • Support recommended by the grade specific “can do” list outlined by WIDA, including Key Uses Edition and Descriptor Name Charts • As students share ideas, include a drawing or annotation to illustrate connections. • Invite students to use gestures as they count.
Accelerating Students	• Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) • Provide options, alternatives and choices to differentiate and broaden the curriculum • Organize and offer flexible small group learning activities • Provide whole group enrichment explorations • Teach cognitive and methodological skills • Use center, stations, or contracts • Organize integrated problem-solving simulations • Propose interest-based extension activities • Expose students to beyond level texts.

Unit 3 - Earth Systems

Unit Goals:

- Students examine geoscience data in order to understand processes and events in Earth's history.
- This unit is broken down into three sub-ideas: Earth's large-scale systems interactions, the roles of water in Earth's surface processes, and weather and climate.
- Students make sense of how Earth's geosystems operate by modeling the flow of energy and cycling of matter within and among different systems.
- A systems approach is also important here, examining the feedbacks between systems as energy from the Sun is transferred between systems and circulates through the ocean and atmosphere.

Duration: 9 weeks

Essential Questions:

- How do we know that the Earth is approximately 4.6 billion years old?
- Do all of the changes to Earth systems occur in similar time scales?
- What is the relationship between the complex interactions of air masses and changes in weather conditions?

Enduring Understandings:

- Earth's surface has changed over time through both chemical and physical processes.
- Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things.

Key NJSLS Strands:

- MS-ESS1-4: Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.
- MS-ESS2-1: Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
- MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.
- MS-ESS3-3: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.
- MS-ESS2-3: Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

Science & Engineering Practices	Disciplinary Core Ideas	Cross-cutting Concepts
Developing and Using Models • Develop and use a model to describe phenomena. (MS-ESS2-1) Constructing Explanations and Designing Solutions • Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe nature operate today as they did in the past and will continue to do so in the future. (MS-ESS1-4), (MS-ESS2-2) Analyzing and Interpreting Data • Analyze and interpret data to provide evidence for phenomena. (MS-ESS2-3) Connections to Nature of Science Scientific Knowledge is Open to Revision in Light of New Evidence • Science findings are frequently revised and/or reinterpreted based on new evidence. (MS-ESS2-3)	ESS1.C: The History of Planet Earth • The geologic time scale interpreted from rock strata provides a way to organize Earth's history. Analyses of rock strata and the fossil record provide only relative dates, not an absolute scale. (MS-ESS1-4) ESS2.A: Earth's Materials and Systems • All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and Earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms. (MS-ESS2-1) • The planet's systems interact over scales that range from microscopic to global in size, and they operate over fractions of a second to billions of years. These interactions have shaped Earth's history and will determine its future. (MS-ESS2-2) ESS2.B: Plate Tectonics and Large-Scale System Interactions	Stability and Change • Explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and processes at different scales, including the atomic scale. (MS-ESS2-1) Scale Proportion and Quantity • Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small. (MS-ESS1-4), (MS-ESS2-2) Patterns • Patterns in rates of change and other numerical relationships can provide information about natural systems. (MS-ESS2-3)

	● Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart. (MS-ESS2-3)	
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Interdisciplinary Connections

English Language Arts

- RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts.
- WHST.6-8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
- RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
- SL.8.5 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

Math

- 7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
- 6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
- 7.EE.B.6 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
- MP.2 Reason abstractly and quantitatively.

21st-Century Skills

- 9.4.8.CT.3 Compare past problem-solving solutions to local, national, or global issues and analyze the factors that led to a positive or negative outcome.
- 9.4.8.GCA.2 Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
- 9.4.8.CT.1 Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective (e.g., MS-ETS1-2)

Career Ready Practices

- CRP1: Act as a responsible and contributing citizen and employee.
- CRP4: Communicate clearly and effectively and with reason.
- CRP12: Work productively in teams while using cultural global competence.

Technology Integration

- 8.2.8.ED.7 Design a product to address a real-world problem and document the iterative design process, including decisions made as a result of specific constraints and trade-offs (e.g., annotated sketches)

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Explain the processes of weathering, erosion, and deposition and how they change the shape of Earth. ● Understand and model the rock cycle. ● Explain how minerals are formed.	Geologic Processes and History The Rock Cycle Geologic Processes and History Earth's Plates Earth's Changing Surface Earth and Human Activity	Formative Assessments: Lab Reports/CER Responses Lab Skills Rubric Lesson Quizzes Lesson Self-assessment Teacher Observations	Materials: Crayons or different colored wax Aluminum foil Pencil sharpener or grater Heat source (hairdryer, hot plate)	Rock Cycle Tectonic Plates Topographic Map Geologic Event Natural Hazard Hazard Prediction Weather Patterns

● Identify the different types of rocks and how they are formed. ● Analyze data (i.e. fossil data) to provide evidence for plate tectonics. ● Understand how Earth's ocean floor changes. ● Understand the Plate Tectonic Theory. ● Learn about events that can change Earth's surface quickly (i.e. landslide, earthquake, volcanic eruption) ● Explain how the ages of rocks and fossils are determined using relative and absolute dating. ● Explain how Earth's history is organized into the	Natural Hazards Earth and Human Activity Earth's Natural Hazards Natural Hazard Prediction Earth's Water and Atmosphere Weather and Climate Influences on Weather Weather Prediction Earth's Water and Atmosphere Circulation of Earth's Air and Water Circulation in Earth's Oceans	Class Discussions Classwork/ Homework Exit Slips/Google Form Summative Assessments: Topic/Unit Assessments Constructed Response Questions Projects Cumulative Tests Performance Assessments Alternate and Benchmark Assessments: Progress Monitoring Assessments Cumulative/Benchmark Assessments	Heavy books or weights Ice cubes Sandpaper Safety goggles Paper towels Crayons Aluminum foil Pencil sharpener or grater Heat source (hairdryer, hot plate) Heavy books or weights Graham crackers Frosting Topographic map-making supplies (paper, clay, markers) Case study materials (articles, reports)	Climate Ocean Currents Atmospheric Circulation Oceanic Circulation Earth's Surface Human Activity Erosion Deposition Seismic Activity Volcanic Activity Weather Prediction Geologic Processes Historical Geology
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geologic time scale. ● Learn how winds can influence weather. ● Develop a model to learn more about the effects of differences in air pressure. ● Examine how the ocean absorbs energy from the sun, releases it, and redistributes it through ocean currents. ● Explore density in water and how it affects water's behavior. ● Learn how gravity and sunlight drive water movement. ● Develop models to examine how water cycles between Earth's surface and the atmosphere. ● Understand the			Weather monitoring tools (thermometers, barometers) Data sets on ocean currents and climate Materials for atmospheric and oceanic models (containers, water, food coloring) Presentation supplies (poster boards, markers, slides) Computers or tablets for research Safety goggles Reference books or online resources Activities/Links: Simulate the Rock Cycle with Crayons Model Tectonic Plate Movements with Graham Crackers and Frosting	
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processes of condensation and precipitation. • Analyze cause and effect relationships to make weather predictions. • Compare climates of different regions and explain why they are different. • Learn about different natural disasters and how they impact the Earth and living things.			Create Topographic Maps to Study Earth's Changing Surface Research and Present on a Historical Geologic Event Analyze Case Studies of Natural Hazards Conduct Experiments to Predict Natural Hazards Monitor Local Weather Patterns and Predict Future Conditions Investigate the Influence of Ocean Currents on Climate Create a Model of Atmospheric and Oceanic Circulation The Rock Cycle Edible Lab Rock Cycle Simulation Push Those Plates Lab	
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			Pangaea Edible Lab Volcano Eruption Lab Earthquake Stem Activity Weather Chart Heat Transfer Popcorn Lab Thermal Energy Lab Ocean Currents Lab Mentor Texts: <i>The Boy Who Harnessed the Wind</i> by Bryan Mealer and William Kamkwamba <i>Geology Rocks!</i> by Cindy Blobaum <i>Weather</i> by Seymour Simon	
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			<i>Ocean Currents</i> by Jen Green <i>The Water Cycle</i> by Rebecca Olien <i>Earth Science: Weather and Climate</i> by Graham Dolan <i>Our Violent Earth: Earthquakes, Volcanoes, and Tsunamis</i> by Michael Woods and Mary B. Woods <i>How the Weather Works</i> by Christiane Dorion	
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Modifications and Accommodations

Tier II and III Strategies	Small group instruction (Tier II) ● Explicit instruction ● Schema-based instruction ● Use visuals ● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments ● Introduce key vocabulary before lesson ● Lesson taught again using a differentiated approach Small group or Individual instruction (Tier III) ● Intensive instruction ● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPs and 504 Plans	● Follow all the IEP/504 plan modifications ● Allow extra time to complete assignments or tests ● Guided notes and/or scaffold outline for written assignments ● Work in a small group ● Solidify and refine concepts through repetition ● Allow answers to be given orally or dictated ● Use multi-sensory teaching approaches ● Utilize assistive technology and materials ● Use large print books, Braille, or books on CD (digital text) ● Text to speech/audio recorded selections ● Amplification system as needed ● Leveled texts according to ability ● Fine motor skill stations embedded in rotation as needed ● Modified or constrained spelling word lists

	● Provide anchor charts with high frequency words and phonemic patterns ● Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work. ● Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. ● Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
Multi-language Learners	● Work toward longer passages as skills in English increase ● Use visuals ● Introduce/highlight key vocabulary before lesson ● Teacher models reading aloud daily ● Provide peer tutoring ● Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers ● Guided notes and/or scaffold outline for written assignments ● Provide students with English Learner leveled readers ● Support recommended by the grade specific “can do” list outlined by WIDA, including Key Uses Edition and Descriptor Name Charts ● As students share ideas, include a drawing or annotation to illustrate connections. ● Invite students to use gestures as they count.
Accelerating Students	● Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) ● Provide options, alternatives and choices to differentiate and broaden the curriculum ● Organize and offer flexible small group learning activities ● Provide whole group enrichment explorations ● Teach cognitive and methodological skills

	● Use center, stations, or contracts ● Organize integrated problem-solving simulations ● Propose interest-based extension activities ● Expose students to beyond level texts.
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Unit 4 - Human Impact on Earth's Systems and Global Climate Change

Unit Goals:

- In this unit students analyze and interpret data and design solutions to build on their understanding of the ways that human activities affect Earth's systems. The emphasis of this unit is the significant and complex issues surrounding human uses of land, energy, mineral, and water resources and the resulting impacts of these uses.

Duration: 9 weeks

Essential Questions:

- How do we monitor the health of the environment (our life support system)?
- How do human activities affect the planet?
- What can we do to slow down climate change?

Enduring Understandings:

- Humans depend on Earth for many different resources.
- Human activities impact the Earth today and decisions made today will impact tomorrow's Earth.

Key NJSLS Strands:

- MS-ESS3-1: Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.
- MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.
- MS-ESS3-4: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's Systems.
- MS-ESS3-5: Ask questions to clarify evidence of the factors that have caused climate change over the past century.

Science & Engineering Practices	Disciplinary Core Ideas	Cross-cutting Concepts
Constructing Explanations and Designing Solutions - Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future. (MS-ESS3-1) Engaging in Argument from Evidence - Construct an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem. (MS-ESS3-4) Connections to Engineering, Technology, and Applications of Science Interdependence of Science, Engineering, and Technology - Engineering advances have led to important discoveries in virtually every field of science and scientific discoveries have led to the development of entire industries and engineered systems. (MS-ESS1-3)	ESS3.A: Natural Resources - Humans depend on Earth's land, ocean, atmosphere, and biosphere for many different resources. Minerals, fresh water, and biosphere resources are limited, and many are not renewable or replaceable over human lifetimes. These resources are distributed unevenly around the planet as a result of past geologic processes. (MS-ESS3-1) ESS3.B: Natural Hazards - Mapping the history of natural hazards in a region, combined with an understanding of related geologic forces can help forecast the locations and likelihoods of future events. (MS-ESS3-2) ESS3.C: Human Impacts on Earth Systems - Typically as human populations and per-capita consumption of natural resources increase, so do the negative impacts on Earth unless the activities and technologies involved are engineered otherwise. (MS-ESS3-4) ESS3.D: Global Climate Change	Patterns - Graphs, charts, and images can be used to identify patterns in data. (MS-ESS3-2) Cause and Effect - Cause and effect relationships may be used to predict phenomena in natural or designed systems. (MS-ESS3-1), (MS-ESS3-4) Stability and Change - Stability might be disturbed either by sudden events or gradual changes that accumulate over time. (MS-ESS3-5) Connections to Engineering, Technology, and Applications of Science Influence of Science, Engineering, and Technology on Society and the Natural World - All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment. (MS-ESS3-1), (MS-ESS3-4) - The uses of technologies and any limitations on their use are driven by individual or societal

Connections to Nature of Science Scientific Knowledge Assumes an Order and Consistency in Natural Systems Science assumes that objects and events in natural systems occur in consistent patterns that are understandable through measurement and observation. (MS-ESS1-1), (MS-ESS1-2)	Human activities, such as the release of greenhouse gasses from burning fossil fuels, are major factors in the current rise in Earth’s mean surface temperature (global warming). Reducing the level of climate change and reducing human vulnerability to whatever climate changes do occur depend on the understanding of climate science, engineering capabilities, and other kinds of knowledge, such as understanding of human behavior and on applying that knowledge wisely	needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time. (MS-ESS3-2) Connections to Nature of Science Science Addresses Questions About the Natural and Material World Scientific knowledge can describe the consequences of actions but does not necessarily prescribe the decisions that society takes. (MS-ESS3-4)
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Interdisciplinary Connections
English Language Arts - RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. - RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table). - WHST.6-8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. - WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research. Math - MP.2 Reason abstractly and quantitatively. 6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
21st-Century Skills
9.4.8.CI.4 Explore the role of creativity and innovation in career pathways and industries. 9.4.8.CT.2 Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g. 6.1.8.CivicsDP.1). 9.4.8.DC.8 Explain how communities use data and technology to develop measures to respond to effects of climate change (e.g., smart cities). 9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
Career Ready Practices
- CRP1 Act as a responsible and contributing citizen and employee. - CRP12 Work productively in teams while using cultural global competence.
Technology Integration
8.2.8.ITH.4 Identify technologies that have been designed to reduce the negative consequences of other technologies and explain the change in impact. 8.2.8.ED.3 Develop a proposal for a solution to a real-world problem that includes a model (e.g., physical prototype, graphical/technical sketch). 8.2.8.ED.2 Analyze how trade-offs can impact the design of a product. 8.2.8.ED.7 Design a product to address a real-world problem

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Understand the difference between a renewable and	- Natural Resources - The Distribution of	Formative Assessments:	Materials: Posters and markers for mapping activities	Renewable Resources

nonrenewable resource. ● Explore how humans use natural resources for homes, transportation, and other activities. ● Examine the positive and negative consequences of using natural resources. ● Understand the distribution of natural resources on Earth. ● Analyze population growth and its impact on the use of natural resources and on Earth's Systems. ● Analyze how human activity impacts the environment. ● Model how land and water pollution are related.	Natural Resources ● Resource Use and Earth's Systems ● Human Impacts on the Environment	Lab Reports/CER Responses Lab Skills Rubric Lesson Quizzes Lesson Self-assessment Teacher Observations Class Discussions Classwork/ Homework Exit Slips/Google Form Summative Assessments: Topic/Unit Assessments Constructed Response Questions Projects Cumulative Tests Performance Assessments Alternate and Benchmark Assessments:	Access to the internet and reference books for research Debate materials (topic prompts, timer) Pollution modeling kits (containers, food coloring, oil, water, sand) Population growth data sets Graph paper and calculators Environmental impact case studies Materials for creating presentations (poster boards, slides, markers) Sustainable practice brochures or articles Thermometers and climate data sets Activities/Link:	Nonrenewable Resources Natural Resources Population Growth Sustainability Pollution Environmental Impact Global Warming Climate Change Resource Distribution Conservation Ecosystem Biodiversity Carbon Footprint Deforestation Recycling Composting Greenhouse Gasses Renewable Energy
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● Identify how humans negatively impact each of Earth's systems. ● Identify ways humans can positively impact Earth. ● Examine factors that have caused the rise in global temperatures over the past century.		Progress Monitoring Assessments Cumulative/Benchmark Assessments	Investigate renewable and nonrenewable resources Research how humans use natural resources for daily activities Debate the positive and negative consequences of natural resource usage Map the distribution of natural resources on Earth Analyze population growth and its impact on natural resource consumption Conduct experiments to model land and water pollution Discuss human activities and their environmental impacts Identify ways humans can positively impact Earth's systems	Fossil Fuels
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			Examine factors contributing to the rise in global temperatures Create presentations on sustainable practices to mitigate environmental impact Mining Pasta Lab Cookie Mining Lab Oil Spill Lab Household Energy Exploration Pollution Lab Mentor Texts: <i>The Lorax</i> by Dr. Seuss <i>The Omnivore's Dilemma: Young Readers Edition</i> by Michael Pollan <i>Energy Island: How One Community Harnessed the Wind and Changed</i>	
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			<i>Their World</i> by Allan Drummond <i>One Well: The Story of Water on Earth</i> by Rochelle Strauss <i>World Without Fish</i> by Mark Kurlansky <i>The Boy Who Harnessed the Wind</i> by William Kamkwamba and Bryan Mealer <i>What a Waste: Trash, Recycling, and Protecting our Planet</i> by Jess French <i>The Down-to-Earth Guide to Global Warming</i> by Laurie David and Cambria Gordon <i>Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion</i> by Loree Griffin Burns	
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			<i>You Are Eating Plastic Every Day: What's in Our Food?</i> by Danielle Smith-Llera	
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Modifications and Accommodations	
Tier II and III Strategies	Small group instruction (Tier II) ● Explicit instruction ● Schema-based instruction ● Use visuals ● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments ● Introduce key vocabulary before lesson ● Lesson taught again using a differentiated approach Small group or Individual instruction (Tier III) ● Intensive instruction ● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPs and 504 Plans	● Follow all the IEP/504 plan modifications ● Allow extra time to complete assignments or tests ● Guided notes and/or scaffold outline for written assignments ● Work in a small group ● Solidify and refine concepts through repetition ● Allow answers to be given orally or dictated ● Use multi-sensory teaching approaches

	● Utilize assistive technology and materials ● Use large print books, Braille, or books on CD (digital text) ● Text to speech/audio recorded selections ● Amplification system as needed ● Leveled texts according to ability ● Fine motor skill stations embedded in rotation as needed ● Modified or constrained spelling word lists ● Provide anchor charts with high frequency words and phonemic patterns ● Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work. ● Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. ● Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
Multi-language Learners	● Work toward longer passages as skills in English increase ● Use visuals ● Introduce/highlight key vocabulary before lesson ● Teacher models reading aloud daily ● Provide peer tutoring ● Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers ● Guided notes and/or scaffold outline for written assignments ● Provide students with English Learner leveled readers ● Support recommended by the grade specific “can do” list outlined by WIDA, including Key Uses Edition and Descriptor Name Charts ● As students share ideas, include a drawing or annotation to illustrate connections. ● Invite students to use gestures as they count.

Accelerating Students	● Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) ● Provide options, alternatives and choices to differentiate and broaden the curriculum ● Organize and offer flexible small group learning activities ● Provide whole group enrichment explorations ● Teach cognitive and methodological skills ● Use center, stations, or contracts ● Organize integrated problem-solving simulations ● Propose interest-based extension activities ● Expose students to beyond level texts.
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Prepared by Julie Lang, MA

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