PITTSGROVE TOWNSHIP SCHOOL DISTRICT

Pittsgrove Township
School District
P.R.I.D.E. Patience Respect Integrity Diligence Empathy

Course Name: Science	**Grade Level(s): 5**
Department: Science	**Credits: NA**
BOE Adoption Date: September 17, 2020	**Revision Date(s):**

Course Description

Fifth grade students formulate answers to questions such as: "When matter changes, does its weight change? How much water can be found in different places on Earth? Can new substances be created by combining other substances? How does matter cycle through ecosystems? Where does the energy in food come from and what is it used for? How do lengths and directions of shadows or relative lengths of day and night change from day to day, and how does the appearance of some stars change in different seasons?" Students describe that matter is made of particles too small to be seen through the development of a model. Students develop an understanding of the idea that regardless of the type of change that matter undergoes, the total weight of matter is conserved. Students determine whether the mixing of two or more substances results in new substances. Through the development of a model using an example, students are able to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. They describe and graph data to provide evidence about the distribution of water on Earth. Students develop an understanding of the idea that plants get the materials they need for growth chiefly from air and water. Using models, students can describe the movement of matter among plants, animals, decomposers, and the environment and that energy in animals' food was once energy from the sun. Students develop an understanding of patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. The crosscutting concepts of patterns; cause and effect; scale, proportion, and quantity; energy and matter; and systems and systems models are called out as organizing concepts for these disciplinary core ideas. In the fifth grade performance expectations, students are expected to demonstrate grade-appropriate proficiency in developing and using models, planning and

carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, engaging in argument from evidence, and obtaining, evaluating, and communicating information; and to use these practices to demonstrate understandings. There are 13 Performance Expectations in fifth grade.

Mission Statement

The Pittsgrove Township School District believes in growing all learners to thrive. *The district offers an intellectually rigorous, dynamic curriculum aligned to state and national standards coupled with research-based practices in classrooms. The Pittsgrove Township School District strives to highlight critical thinking, problem-solving, intercultural literacy, digital literacy, collaboration, innovation, and a growth mindset as part of the instructional core of learning. The district provides high quality resources to provide young people the knowledge they need to approach the future as leaders and learners.*

Curriculum & Instruction Goals

1. To ensure students are college and career ready upon graduation
2. To vertically and horizontally align curriculum PreK-12 to ensure successful transition of students at each grade level
3. To identify individual student strengths and weaknesses utilizing various assessment measures (formative, summative, alternative, etc.) so as to differentiate instruction while meeting the rigor of the applicable content standards
4. To improve student achievement as assessed through multiple measures including, but not limited to, state testing, local assessments, and ongoing progress monitoring

How to Read this Document

This curricular document contains both a *pacing guide* and *curriculum units*. The pacing guide serves to communicate an estimated timeframe as to *when* critical knowledge and skills will be taught throughout the year. The pacing, however, may differ slightly depending upon the unique needs of each learner. The *curriculum units* contain more detailed information as to the content, goals, objectives, instructional strategies, resources, and assessments.

NJ Administrative Code and Statutes Key
^=Amistad Law **O=Diversity & Inclusion Law** **<>=Holocaust** **+=LGBT and Disabilities Law** ***=AAPI (Asian American and Pacific Islanders)** **$=Financial Literacy** **Use this key to understand where the NJ mandates are being implemented in the K-12 curriculum units.**

Pacing Guide

Course Title: Science Grade 5
Prerequisite(s): Science 4

Unit Title	Duration/ Month(s)	Related Standards	Learning Goals	Critical Knowledge and Skills
Introductory Unit	Approximately: 3 Weeks September	**3-5-ETS1-1** **3-5-ETS1-2** **3-5-ETS1-3**	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	Build Foundational Skills for Science: 1. Use collaboration to solve problems. 2. Make observations and inferences, ask questions. 3. Understand and apply the steps of the scientific method 4. Use the Claim, Evidence, Reasoning framework. 5. Collect, analyze, graph and display data 6. Use scientific tools of measurement
Unit 1: Energy and Matter in Ecosystems	Approximately 4 Weeks October	**5-LS1-1** **5-LS2-1** **5-PS3-1**	1. Support an argument that plants get the materials they need for growth chiefly from air and water 2. Develop a model to describe the movement of matter among plants, animals, decomposers, and the	1. • Describe how matter is transported into, out of, and within systems. • Support an argument with evidence, data, or a model. • Support an argument that plants get the materials they need for growth chiefly from air and water. (Emphasis is on the idea that plant matter comes

			environment 3. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.	mostly from air and water, not from the soil.) 2. • Describe a system in terms of its components and interactions. Develop a model to describe phenomena. • Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. (Assessment does not include molecular explanations.) • Emphasis is on the idea that matter that is not food—such as air, water, decomposed materials in soil—is changed into matter that is food. Examples of systems could include: Organisms, Ecosystems, Earth • Describe how energy can be transferred in various ways and between objects. • Use models to describe phenomena. 3. • Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. • Examples of models could include: Diagrams, Flowcharts
Unit 2: Properties of Matter	Approximately 4 Weeks Nov./Dec	**5-PS1-3** **5-PS1-1**	1. Make observations and measurements to identify materials based on their properties.	1. • Measure and describe physical quantities such as weight, time, temperature, and volume.

			2. Develop a model to describe that matter is made of particles too small to be seen**.**	• Make observations and measurements to produce data that can serve as the basis for evidence for an explanation of a phenomenon. • Make observations and measurements to identify materials based on their properties. Examples of materials to be identified could include: Baking soda and other powders, Metals, Minerals Liquids Examples of properties could include: Color, Hardness, Reflectivity, Electrical conductivity, Thermal conductivity, Response to magnetic forces, Solubility. 2. Develop a model to describe phenomena. • Develop a model to describe that matter is made of particles too small to be seen. (Assessment does not include the atomic-scale mechanism of evaporation and condensation or defining the unseen particles.) Examples of evidence could include: Adding air to expand a basketbal,l Compressing air in a syringe, Dissolving sugar in water, Evaporating salt water
Unit 3: Changes to Matter	Approximately 4 Weeks Dec./Jan.	**5-PS1-4** **5-PS1-2**	1. Conduct an investigation to determine whether the mixing of two or more substances results in new substances. 2. Measure and graph quantities to provide evidence that regardless of the	1. • Identify, test, and use cause-and-effect relationships to explain change. • Conduct an investigation collaboratively to produce data that can serve as the basis for evidence, using fair tests in which variables are

			type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.	controlled and the number of trials is considered. • Conduct an investigation to determine whether the mixing of two or more substances results in new substances. 2. • Measure and describe physical quantities such as weight, time, temperature, and volume. • Measure and graph quantities such as weight to address scientific and engineering questions and problems. • Measure and graph quantities to provide evidence that regardless of the type of change that occurs when substances are heated, cooled, or mixed, the total weight is conserved. (Note: Assessment does not include distinguishing between mass and weight.) • Examples of reactions or changes could include: Phase changes, Dissolving, Mixing
Unit 4: Water on the Earth	Approximately 4 Weeks Jan./Feb.	**5-ESS2-2** **5-ESS3-1**	1. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. 2. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	1. • Describe physical quantities, such as weight and volume, in standard units. • Describe and graph quantities such as area and volume to address scientific questions. • Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. (Assessment is limited to oceans, lakes, rivers, glaciers, ground water, and polar ice caps, and does not include the

				atmosphere.). 2. • Describe a system in terms of its components and interactions. • Obtain and combine information from books and/or other reliable media to explain phenomena or solutions to a design problem. • Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
Unit 5: Earth Systems	Approximately 6 Weeks March/Apr.	**5-ESS2-1** **5-ESS3-1**	1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. 2. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	1. • Describe a system in terms of its components and interactions. • Develop a model using an example to describe a scientific principle. • Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. (The geosphere, hydrosphere, atmosphere, and biosphere are each a system. Assessment is limited to the interactions of two systems at a time.) • Examples could include: The influence of oceans on ecosystems, landform shape, and climate. The influence of the atmosphere on landforms and ecosystems through weather and climate. The influence of mountain ranges on the wind and clouds in the atmosphere. 2. • Describe a system in terms of its

				components and interactions. • Obtain and combine information from books and/or other reliable media to explain phenomena or solutions to a design problem. • Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
Unit 6: Interactions Within the Earth, Sun, and Moon System	Approximately 6 Weeks May/June	**5-PS2-1** **5-ESS1-1** **5-ESS1-2**	1. Support an argument that the gravitational force exerted by Earth on objects is directed down. 2. Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth. 3. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	1. • Identify cause-and-effect relationships in order to explain change. • Support an argument with evidence, data, or a model. • Support an argument that the gravitational force exerted by Earth on objects is directed down. ("Down" is a local description of the direction that points toward the center of the spherical Earth.) (Assessment does not include mathematical representation of gravitational force.). 2. • Support an argument with evidence, data, or a model. • Support an argument that differences in the apparent brightness of the sun compared to that of other stars is due to their relative distances from Earth. (Assessment is limited to relative distances, not sizes, of stars, and does not include other factors that affect apparent brightness, such as stellar masses, age, or stage.) 3.

				• Sort, classify, communicate, and analyze simple rates of change for natural phenomena using similarities and differences in patterns. • Represent data in graphical displays (bar graphs, pictographs and/or pie charts) to reveal patterns that indicate relationships. • Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. (Assessment does not include causes of seasons.) Examples of patterns could include: The position and motion of Earth with respect to the sun. Selected stars that are visible only in particular months.

Instructional Unit Map					
Course Title: Science					
Unit Title	**Unit 1:** **Energy and Matter in Ecosystems**			**Start Date:**	October
				Length of Unit:	Approximately: 4 Weeks
Content Standards *What do we want them*	**5-LS1-1** Support an argument that plants get the materials they	**Learning Goals**	1. *Develop an understanding of the idea that plants get the materials they need for growth chiefly from air and water.*		

to know, understand, & do?	need for growth chiefly from air and water. **5-LS2-1** Develop a model to describe the movement of matter among plants, animals, decomposers and the environment. **5-PS3-1** Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.		2. *Develop an understanding of the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food.* 3. *Explain how energy in animals' food was once energy from the Sun.*
Essential Questions	● *What is an ecosystem?* ● *What are the roles of organisms in ecosystems?* ● *How can a healthy ecosystem be maintained?*		

Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	● Graphic Organizer ● Vocabulary Cards ● Task Cards ● Homework ● Teacher Observation ● Exit Ticket	● Kahoot! ● Chapter Review ● Chapter Test ● Science Binder ● Projects	● Unit Choice Menu ● Chapter Project ● Interactive Notebook

	• Google Classroom • Ed-Tech Games • Quizzes • IXL	• Experiment	• Reflection • Performance Task • Presentation
Unit Pre-Assessment(s) *What do they already know?*	• Pretests • Brainstorming Activities • KWL Charts • Entrance Slips • Anticipation Journal • Think-Pair-Share • Yes/No Cards		
Instructional Strategies/Student Activities	• Direct Instruction • Guided Instruction • Note Taking • Vocabulary Cards • Foldables • Brainstorming • Think, Pair, Share • Partner Work • Cooperative Groups • Flexible Groups • Experiments • Simulations • Games • Task Cards • Center Rotations		

Instructional /Assessment Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**
	• Word Wall • Student Vocabulary Cards • Provide Notes • Pictures/ Graphics • Leveled Practice Activities • Classroom Buddy • Preferential Seating • Allow Retakes • Chunk Assignments • Single Step Directions • Highlight Key Directions • Extra Time for Processing • Differentiated Instruction	• Word Wall • Student Vocabulary Cards • Provide Notes • Pictures/ Graphics • Leveled Practice Activities • Preferential Seating • Allow Retakes • Chunk Assignments • Extra Time for Processing • Model Tasks • Provide Examples • Highlight Key Directions • Small Group Instruction • Differentiated Instruction	• Word Wall • Student Vocabulary Cards • Provide Notes • Pictures/Graphics • Leveled Practice Activities • Preferential Seating • Allow Retakes • Chunk Assignments • Extra Time • Provide Examples • Highlight Key Directions • Small Group Instruction • Differentiated Instruction	• Tiered Assignments • Flexible Grouping • Inquiry Based Independent Study • Differentiated Instruction

<table>
<tr><td rowspan="2">Differentiated Instructional Methods: (Multiple means for students to access content and multiple modes for student to express understanding)</td><td>Access (Resources and/or Process)</td><td>Expression (Products and/or Performance)</td></tr>
<tr><td>Tiered Content
Leveled Stations
Jigsaw
Interactive Notebook
Vocabulary Cards
Supplemental Resources
Assigned Targeted Lessons
Google Classroom
Compact Content
Interest Survey
Learning Profile
Flexible Grouping</td><td>Choice Menu
Tic Tac Toe Board
RAFT
Projects
Interactive Notebook
Performance Tasks
Presentations
Portfolios</td></tr>
<tr><td>Vocabulary Highlight key vocabulary (both Tier II and Tier III words)</td><td colspan="2">Tier II: ecosystem, abiotic factors, biotic factors, producer, primary consumer, secondary consumer, decomposer, food chain, food web, predator, prey, herbivore, carnivore, omnivore

Tier III: biome, tertiary consumer</td></tr>
<tr><td>Integration of Technology
SAMR</td><td colspan="2">S: Notes/Worksheets
A: Google Forms/Quizzes
A and M: Differentiated lessons based on student strengths/weaknesses, Games on Google Classroom, Study Jams, Legends of Learning, Webquests, Digital Escape Rooms
A and R: Kahoot!, Presentations</td></tr>
<tr><td>Interdisciplinary Connections</td><td colspan="2">ELA:
RI.5.1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
RI.5.7: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.</td></tr>
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NJ Student Learning Standards	W.5.1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information. W.5.2.D: Use precise language and domain-specific vocabulary to inform about or explain the topic. SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. How to listen and respond to others. **Math:** MP.2: Reason abstractly and quantitatively. MP.4: Model with mathematics. MP.5: Use appropriate tools strategically. **Technology:** 8.1.5.A.1: Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. 8.1.5.A.3: Use a graphic organizer to organize information about problem or issue. 8.2.5.C.4: Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models. 8.1.5.D.3: Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media. 8.1.5.D.4: Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media. **21st Century Life and Careers:** CRP1: Act as a responsible and contributing citizen and employee. CRP2: Apply appropriate academic and technical skills. CRP4: Communicate clearly and effectively and with reason. CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.

21st Century Themes/Skills P21 Framework	Themes	Skills
	Global Awareness: ● Using 21st Century Skills to understand and address global issues **Environmental Literacy:** ● Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems. ● Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.). ● Investigate and analyze environmental issues, and make accurate conclusions about effective solutions. ● Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)	Life and Career Skills ● Flexibility and Adaptability ● Initiative and Self-Direction ● Social and Cross-Cultural Skills ● Productivity and Accountability ● Leadership and Responsibility Learning and Innovation Skills ● Creativity and Innovation ● Critical Thinking and Problem Solving ● Communication and Collaboration Information, Media, and Technology Skills ● Information Literacy ● Media Literacy ● Information Communication Technology Literacy
Resources/ Materials	**Resources:** Mystery Science	

	Discovery Education: Digital Textbooks & Education Resources **IXL.com** **BrainPOP** **New Jersey Center for Teaching and …** **StudyJams! - Scholastic Inc. - StudyJams …** **Crash Course Kids - YouTube** **Sick Science! - YouTube** **Wonderopolis** **National Geographic Kids** **Games:** **https://pbskids.org/games/science/** **Legends of Learning** **https://mrnussbaum.com/games/science-games** **https://www.sciencekids.co.nz/gamesactivities.html** **http://www.sheppardsoftware.com/science.htm** **https://spaceplace.nasa.gov/menu/play/** **Materials:** Google Classroom Science Binder Chromebooks Task Cards Teacher Generated Resources

Instructional Unit Map					
Course Title: Science					
Unit Title	**Unit 2:** **Properties of Matter**			**Start Date:**	November
				Length of Unit:	Approximately: 4 Weeks
Content Standards *What do we want them to know, understand, & do?*	**5-PS1-3** Make observations and measurements to identify materials based on their properties. **5-PS1-1**	**Learning Goals**	1. *Classify matter based on measurable, testable, and observable physical properties.* 2. *Describe that matter is made up of particles too small to be seen through the development of a model.*		

	Develop a model to describe that matter is made of particles too small to be seen.		
Essential Questions	● *What are Solids, Liquids, and Gases?* ● *How does Matter change?* ● *When Matter changes, does its weight change?*		
Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	● Graphic Organizer ● Vocabulary Cards ● Task Cards ● Homework ● Teacher Observation ● Exit Ticket ● Google Classroom ● Ed-Tech Games ● Quizzes ● IXL	● Kahoot! ● Chapter Review ● Chapter Test ● Science Binder ● Projects ● Experiment	● Unit Choice Menu ● Chapter Project ● Interactive Notebook ● Reflection ● Performance Task ● Presentation
Unit Pre-Assessment(s) *What do they already know?*	● Pretests ● Brainstorming Activities ● KWL Charts Entrance Slips ● Anticipation Journal ● Think-Pair-Share ● Yes/No Cards		

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Vocabulary Cards
Foldables
Brainstorming
Think, Pair, Share
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Cooperative Groups
Flexible Groups
Experiments
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Task Cards
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	• Chunk Assignments • Single Step Directions • Highlight Key Directions • Extra Time for Processing • Differentiated Instruction	• Extra Time for Processing • Model Tasks • Provide Examples • Highlight Key Directions • Small Group Instruction • Differentiated Instruction	• Highlight Key Directions • Small Group Instruction • Differentiated Instruction	
Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for student to express understanding)*	**Access** (Resources and/or Process)		**Expression** (Products and/or Performance)	
	• Tiered Content • Leveled Stations • Jigsaw • Interactive Notebook • Vocabulary Cards • Supplemental Resources • Assigned Targeted Lessons • Google Classroom • Compact Content • Interest Survey • Learning Profile • Flexible Grouping		• Choice Menu • Tic Tac Toe Board • RAFT • Projects • Interactive Notebook • Performance Tasks • Presentations • Portfolios	
Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	Tier II: matter, solid, liquid, gas, property, mass, odor, size, shape, color, texture, density Tier III: hardness, magnetism, atoms			

Integration of Technology SAMR	S: Notes/Worksheets A: Google Forms/Quizzes A and M: Differentiated lessons based on student strengths/weaknesses, Games on Google Classroom, Study Jams, Legends of Learning, Webquests, Digital Escape Rooms A and R: Kahoot!, Presentations
Interdisciplinary Connections NJ Student Learning Standards	**ELA:** RI.5.1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RI.5.7: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. W.5.1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information. W.5.2.D: Use precise language and domain-specific vocabulary to inform about or explain the topic. W.5.7: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. W.5.9: Draw evidence from literary or informational texts to support analysis, reflection and research. SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. How to listen and respond to others. **Math:** MP.2: Reason abstractly and quantitatively. MP.5: Use appropriate tools strategically. 5.MD.C.3: Recognize volume as an attribute of solid figures and understand concepts of volume measurement. **Technology:** 8.1.5.A.1: Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

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21st Century Life and Careers:
CRP1: Act as a responsible and contributing citizen and employee.
CRP2: Apply appropriate academic and technical skills.
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<u>Environmental Literacy:</u>
● Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems.

● Demonstrate knowledge and understanding of society’s impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.).</td><td>Life and Career Skills
● Flexibility and Adaptability
● Initiative and Self-Direction
● Social and Cross-Cultural Skills
● Productivity and Accountability
● Leadership and Responsibility

Learning and Innovation Skills
● Creativity and Innovation
● Critical Thinking and Problem Solving
● Communication and Collaboration

Information, Media, and Technology Skills</td></tr>
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	• Investigate and analyze environmental issues, and make accurate conclusions about effective solutions. • Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues).	• Information Literacy • Media Literacy • Information Communication Technology Literacy
Resources/ Materials	**Resources:** Mystery Science Discovery Education: Digital Textbooks & Education Resources IXL.com BrainPOP New Jersey Center for Teaching and … StudyJams! - Scholastic Inc. - StudyJams … Crash Course Kids - YouTube Sick Science! - YouTube Wonderopolis National Geographic Kids **Games:** https://pbskids.org/games/science/ Legends of Learning https://mrnussbaum.com/games/science-games https://www.sciencekids.co.nz/gamesactivities.html http://www.sheppardsoftware.com/science.htm https://spaceplace.nasa.gov/menu/play/	

	Materials: Google Classroom Science Binder Chromebooks Task Cards Teacher Generated Resources

Instructional Unit Map					
Course Title: Science					
Unit Title	**Unit 3:** **Changes to Matter**			**Start Date:**	December
				Length of Unit:	Approximately 4 Weeks
Content Standards *What do we want them to know,*	**5-PS1-2** Measure and graph quantities to provide evidence that regardless of the type of change that	**Learning Goals**	*1. Understand the amount (weight) of matter is conserved when it changes form, even in transitions in which it seems to vanish.* *2. Analyze data gathered and draw conclusions to determine whether the mixing of two or more substances results in new substances.*		

understand, & do?	occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. **5-PS1-4** Conduct an investigation to determine whether the mixing of two or more substances results in new substances.		
Essential Questions	● *How does Matter change?* ● *When Matter changes, does its weight change?* ● *How do mixtures and solutions compare?* ● *What happens when you mix two or more substances?*		
Assessments *How will we know they have gained the knowledge & skills?*	**Formative**	**Summative**	**Alternative**
	● Graphic Organizer ● Vocabulary Cards ● Task Cards ● Homework ● Teacher Observation ● Exit Ticket ● Google Classroom ● Ed-Tech Games ● Quizzes ● IXL	● Kahoot! ● Chapter Review ● Chapter Test ● Science Binder ● Projects ● Experiment	● Unit Choice Menu ● Chapter Project ● Interactive Notebook ● Reflection ● Performance Task ● Presentation

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● Student Vocabulary Cards</td><td>● Tiered Assignments</td></tr>
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/Accommodations) – planned for prior to instruction	Cards ● Provide Notes ● Pictures/ Graphics ● Leveled Practice Activities ● Classroom Buddy ● Preferential Seating ● Allow Retakes ● Chunk Assignments ● Single Step Directions ● Highlight Key Directions ● Extra Time for Processing ● Differentiated Instruction	Cards ● Provide Notes ● Pictures/ Graphics ● Leveled Practice Activities ● Preferential Seating ● Allow Retakes ● Chunk Assignments ● Extra Time for Processing ● Model Tasks ● Provide Examples ● Highlight Key Directions ● Small Group Instruction ● Differentiated Instruction	● Provide Notes ● Pictures/Graphics ● Leveled Practice Activities ● Preferential Seating ● Allow Retakes ● Chunk Assignments ● Extra Time ● Provide Examples ● Highlight Key Directions ● Small Group Instruction ● Differentiated Instruction	● Flexible Grouping ● Inquiry Based Independent Study ● Differentiated Instruction
Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for student to express*	**Access** (Resources and/or Process) ● Tiered Content ● Leveled Stations ● Jigsaw ● Interactive Notebook ● Vocabulary Cards ● Supplemental Resources ● Assigned Targeted Lessons ● Google Classroom ● Compact Content ● Interest Survey		**Expression** (Products and/or Performance) ● Choice Menu ● Tic Tac Toe Board ● RAFT ● Projects ● Interactive Notebook ● Performance Tasks ● Presentations ● Portfolios	

understanding)	• Learning Profile • Flexible Grouping	
Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	Tier II: physical change, chemical change, Tier III: law of conservation of mass	
Integration of Technology SAMR	S: Notes/Worksheets A: Google Forms/Quizzes A and M: Differentiated lessons based on student strengths/weaknesses, Games on Google Classroom, Study Jams, Legends of Learning, Webquests, Digital Escape Rooms A and R: Kahoot!, Presentations	
Interdisciplinary Connections NJ Student Learning Standards	**ELA:** RI.5.1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RI.5.7: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. W.5.1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information. W.5.2.D: Use precise language and domain-specific vocabulary to inform about or explain the topic. W.5.7: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. W.5.9: Draw evidence from literary or informational texts to support analysis, reflection and research. SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. How to listen and respond to others	

<table>
<tr><td></td><td colspan="2">Math:
MP.2: Reason abstractly and quantitatively.
MP.5: Use appropriate tools strategically.
5.MD.A.1.: Convert among different -sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Technology:
8.1.5.A.1: Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
8.1.5.A.3: Use a graphic organizer to organize information about problem or issue.
8.2.5.C.4: Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.
8.1.5.D.3: Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media.
8.1.5.D.4: Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

21st Century Life and Careers:
CRP1: Act as a responsible and contributing citizen and employee.
CRP2: Apply appropriate academic and technical skills.
CRP4: Communicate clearly and effectively and with reason.
CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.</td></tr>
<tr><td rowspan="2">21st Century Themes/Skills
P21 Framework</td><td>Themes</td><td>Skills</td></tr>
<tr><td><u>Global Awareness:</u>
● Using 21st Century Skills to understand and address global issues
<u>Environmental Literacy:</u></td><td>Life and Career Skills
● Flexibility and Adaptability
● Initiative and Self-Direction
● Social and Cross-Cultural Skills
● Productivity and Accountability</td></tr>
</table>

	• Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems. • Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.). • Investigate and analyze environmental issues, and make accurate conclusions about effective solutions. • Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)	• Leadership and Responsibility Learning and Innovation Skills • Creativity and Innovation • Critical Thinking and Problem Solving • Communication and Collaboration Information, Media, and Technology Skills • Information Literacy • Media Literacy • Information Communication Technology Literacy
Resources/ Materials	**Resources:** Mystery Science Discovery Education: Digital Textbooks & Education Resources IXL.com BrainPOP New Jersey Center for Teaching and … StudyJams! - Scholastic Inc. - StudyJams … Crash Course Kids - YouTube Sick Science! - YouTube	

	Wonderopolis National Geographic Kids **Games:** https://pbskids.org/games/science/ Legends of Learning https://mrnussbaum.com/games/science-games https://www.sciencekids.co.nz/gamesactivities.html http://www.sheppardsoftware.com/science.htm https://spaceplace.nasa.gov/menu/play/ **Materials:** Google Classroom Science Binder Chromebooks Task Cards Teacher Generated Resources

Instructional Unit Map			
Course Title: Science			
Unit Title	**Unit 4:** **Water on the Earth**	**Start Date:**	January
		Length of Unit:	Approximately 4 Weeks

<table>
<tr><td>Content Standards
What do we want them to know, understand, & do?</td><td>5-ESS2-2
Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

5-ESS3-1
Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.</td><td>Learning Goals</td><td>1. Understand that nearly all of Earth’s available water is in the ocean. Most freshwater is in glaciers or underground, only a tiny fraction is in streams, lakes, wetlands and the atmosphere.

2. Understand that human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth’s resources and environments.</td></tr>
<tr><td>Essential Questions</td><td colspan="3">● How much water is on Earth and how much of it is accessible and/or drinkable?
● How do individual communities use science ideas to protect Earth’s resources and environment?</td></tr>
<tr><td rowspan="2">Assessments
How will we know they have gained the knowledge & skills?</td><td>Formative</td><td>Summative</td><td>Alternative</td></tr>
<tr><td>● Graphic Organizer
● Vocabulary Cards
● Task Cards
● Homework
● Teacher Observation
● Exit Ticket
● Google Classroom
● Ed-Tech Games</td><td>● Kahoot!
● Chapter Review
● Chapter Test
● Science Binder
● Projects
● Experiment</td><td>● Unit Choice Menu
● Chapter Project
● Interactive Notebook
● Reflection
● Performance Task
● Presentation</td></tr>
</table>

	• Quizzes • IXL			
Unit Pre-Assessment(s) *What do they already know?*	• Pretests • Brainstorming Activities • KWL Charts • Entrance Slips • Anticipation Journal • Think-Pair-Share • Yes/No Cards			
Instructional Strategies/Student Activities	• Direct Instruction • Guided Instruction • Note Taking • Interactive Notebook • Vocabulary Cards • Foldables • Brainstorming • Think, Pair, Share • Partner Work • Cooperative Groups • Flexible Groups • Experiments • Simulations • Games • Task Cards • Center Rotations			
Instructional /Assessment	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**

Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	• Word Wall • Student VocabularyCards • Provide Notes • Pictures/ Graphics • Leveled Practice Activities • Classroom Buddy • Preferential Seating • Allow Retakes • Chunk Assignments • Single Step Directions • Highlight Key Directions • Extra Time for Processing • Differentiated Instruction	• Word Wall • StudentVocabulary Cards • Provide Notes • Pictures/ Graphics • Leveled Practice Activities • Preferential Seating • Allow Retakes • Chunk Assignments • Extra Time for Processing • Model Tasks • Provide Examples • Highlight Key Directions • Small Group Instruction • Differentiated Instruction	• Word Wall • Student Vocabulary Cards Provide Notes • Pictures/Graphics • Leveled Practice Activities • Preferential Seating • Allow Retakes • Chunk Assignments • Extra Time • Provide Examples • Highlight Key Directions • Small Group Instruction • Differentiated Instruction	• Tiered Assignments Flexible Grouping • Inquiry Based Independent Study • Differentiated Instruction
Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for*	**Access** (Resources and/or Process) • Tiered Content • Leveled Stations • Jigsaw • Interactive Notebook • Vocabulary Cards • Supplemental Resources • Assigned Targeted Lessons • Google Classroom		**Expression** (Products and/or Performance) • Choice Menu • Tic Tac Toe Board • RAFT • Projects • Interactive Notebook • Performance Tasks • Presentations • Portfolios	

student to express understanding)	• Compact Content • Interest Survey • Learning Profile • Flexible Grouping	
Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	Tier II: water distribution, fresh water, salt water, climate change, pollution Tier III: industrialized agriculture,	
Integration of Technology SAMR	S: Notes/Worksheets A: Google Forms/Quizzes A and M: Differentiated lessons based on student strengths/weaknesses, Games on Google Classroom, Study Jams, Legends of Learning, Webquests, Digital Escape Rooms A and R: Kahoot!, Presentations	
Interdisciplinary Connections NJ Student Learning Standards	**ELA:** RI.5.1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RI.5.7: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. RI.5.9: Integrate information from several texts on the same topic in order to write or speak about a subject knowledgeably. W.5.2.D: Use precise language and domain-specific vocabulary to inform about or explain the topic. W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. W.5.9: Draw evidence from literary or informational texts to support analysis, reflection and research. SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. How to listen and respond to others. SL.5.5: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance	

<table>
<tr><td></td><td colspan="2">the development of main ideas or themes.

Math:
MP.2: Reason abstractly and quantitatively.
MP.4: Model with mathematics.

Technology:
8.1.5.A.1: Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
8.1.5.A.3: Use a graphic organizer to organize information about problem or issue.
8.2.5.C.4: Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.
8.1.5.D.3: Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media.
8.1.5.D.4: Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

21st Century Life and Careers:
CRP1: Act as a responsible and contributing citizen and employee.
CRP2: Apply appropriate academic and technical skills.
CRP4: Communicate clearly and effectively and with reason.
CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.</td></tr>
<tr><td rowspan="2">21st Century Themes/Skills
P21 Framework</td><td>Themes</td><td>Skills</td></tr>
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● Using 21st Century Skills to understand and address global issues
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● Initiative and Self-Direction
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	• Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems. • Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.). • Investigate and analyze environmental issues, and make accurate conclusions about effective solutions. • Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)	• Leadership and Responsibility Learning and Innovation Skills • Creativity and Innovation • Critical Thinking and Problem Solving • Communication and Collaboration Information, Media, and Technology Skills • Information Literacy • Media Literacy • Information Communication Technology Literacy
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Instructional Unit Map			
Course Title: Science			
Unit Title	**Unit 5:** **Earth Systems**	**Start Date:**	March
		Length of Unit:	Approximately 6 Weeks

<table>
<tr><td>Content Standards
What do we want them to know, understand, & do?</td><td>5-ESS2-1
Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

5-ESS3-1
Obtain and combine information about ways individual communities use science ideas to protect the
Earth’s resources and environment.</td><td>Learning Goals</td><td colspan="3">Understand and explain the differences between Earth’s major systems (geosphere, biosphere, hydrosphere, atmosphere) and how they interact with each other.
Understand that human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth’s resources and environments.</td></tr>
<tr><td>Essential Questions</td><td colspan="4">What are the differences between Earth’s major systems and how do they interact with each other?
How do individual communities use science ideas to protect Earth’s resources and environment?</td></tr>
<tr><td rowspan="2">Assessments
How will we know they have gained the knowledge & skills?</td><td>Formative</td><td colspan="2">Summative</td><td>Alternative</td></tr>
<tr><td>Graphic Organizer
Vocabulary Cards
Task Cards
Homework
Teacher Observation
Exit Ticket
Google Classroom
Ed-Tech Games
Quizzes</td><td colspan="2">Kahoot!
Chapter Review
Chapter Test
Science Binder
Projects
Experiment</td><td>Unit Choice Menu
Chapter Project
Interactive Notebook
Reflection
Performance Task</td></tr>
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	• IXL		• Presentation
Unit Pre-Assessment(s) *What do they already know?*	• Pretests • Brainstorming Activities • KWL Charts • Entrance Slips • Anticipation Journal • Think-Pair-Share • Yes/No Cards		
Instructional Strategies/Student Activities	• Direct Instruction • Guided Instruction • Note Taking • Interactive Notebook • Vocabulary Cards • Foldables • Brainstorming • Think, Pair, Share • Partner Work • Cooperative Groups • Flexible Groups • Experiments • Simulations • Games • Task Cards • Center Rotations		

Instructional /Assessment Scaffolds *(Modifications /Accommodations) – planned for prior to instruction*	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**
	• Word Wall • Student Vocabulary Cards • Provide Notes • Pictures/ Graphics • Leveled Practice Activities • Classroom Buddy • Preferential Seating • Allow Retakes • Chunk Assignments • Single Step Directions • Highlight Key Directions • Extra Time for Processing • Differentiated Instruction	• Word Wall • Student Vocabulary Cards • Provide Notes • Pictures/ Graphics • Leveled Practice Activities • Preferential Seating • Allow Retakes • Chunk Assignments • Extra Time for Processing • Model Tasks • Provide Examples • Highlight Key Directions • Small Group Instruction • Differentiated Instruction	• Word Wall • Student Vocabulary Cards • Provide Notes • Pictures/Graphics • Leveled Practice Activities • Preferential Seating • Allow Retakes • Chunk Assignments • Extra Time • Provide Examples • Highlight Key Directions • Small Group Instruction • Differentiated Instruction	• Tiered Assignments • Flexible Grouping • Inquiry Based Independent Study • Differentiated Instruction
Differentiated Instructional Methods:	**Access** (Resources and/or Process)		**Expression** (Products and/or Performance)	

(Multiple means for students to access content and multiple modes for student to express understanding)	• Tiered Content • Leveled Stations • Jigsaw • Interactive Notebook • Vocabulary Cards • Supplemental Resources • Assigned Targeted Lessons • Google Classroom • Compact Content • Interest Survey • Learning Profile • Flexible Grouping	• Choice Menu • Tic Tac Toe Board • RAFT • Projects • Interactive Notebook • Performance Tasks • Presentations • Portfolios
Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	Tier II: system, atmosphere, water cycle, precipitation, condensation, evaporation Tier III: geosphere, biosphere, hydrosphere,troposphere, stratosphere, mesosphere, thermosphere, ionosphere, exosphere, theory of plate tectonics,	
Integration of Technology SAMR	S: Notes/Worksheets A: Google Forms/Quizzes A and M: Differentiated lessons based on student strengths/weaknesses, Games on Google Classroom, Study Jams, Legends of Learning, Webquests, Digital Escape Rooms A and R: Kahoot!, Presentations	
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	knowledgeably. W.5.2.D: Use precise language and domain-specific vocabulary to inform about or explain the topic. W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. W.5.9: Draw evidence from literary or informational texts to support analysis, reflection and research. SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. How to listen and respond to others. SL.5.5: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. **Math:** MP.2: Reason abstractly and quantitatively. MP.4: Model with mathematics. 5.G.A.2: Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. **Technology:** 8.1.5.A.1: Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. 8.1.5.A.3: Use a graphic organizer to organize information about problem or issue. 8.2.5.C.4: Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models. 8.1.5.D.3: Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media. 8.1.5.D.4: Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

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Demonstrate knowledge and understanding of society’s impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.).
Investigate and analyze environmental issues, and make accurate conclusions about effective solutions.</td><td>Life and Career Skills
Flexibility and Adaptability
Initiative and Self-Direction
Social and Cross-Cultural Skills
Productivity and Accountability
Leadership and Responsibility
Learning and Innovation Skills
Creativity and Innovation
Critical Thinking and Problem Solving
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Media Literacy
Information Communication Technology Literacy</td></tr>
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	• Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)	
Resources/ Materials	**Resources:** Mystery Science Discovery Education: Digital Textbooks & Education Resources IXL.com BrainPOP New Jersey Center for Teaching and … StudyJams! - Scholastic Inc. - StudyJams … Crash Course Kids - YouTube Sick Science! - YouTube Wonderopolis National Geographic Kids **Games:** https://pbskids.org/games/science/ Legends of Learning https://mrnussbaum.com/games/science-games https://www.sciencekids.co.nz/gamesactivities.html http://www.sheppardsoftware.com/science.htm https://spaceplace.nasa.gov/menu/play/ **Materials:** Google Classroom	

	Science Binder Chromebooks Task Cards Teacher Generated Resources

Instructional Unit Map			
Course Title: Science			
Unit Title	**Unit 6:** **Interactions Within the Earth, Sun, and Moon System**	**Start Date:**	April/May
		Length of Unit:	Approximately 6 Weeks
Content Standards *What do we want them to know, understand, & do?*	**5-PS2-1** Support an argument that the gravitational force exerted by Earth on objects is directed down. **5-ESS1-1** Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth. **5-ESS1-2**	**Learning Goals**	1. *Understand that the gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center.* 2. *Understand that the sun is a star that appears larger and brighter than other stars because it is closer. And that stars range greatly in their distance from Earth.* 3. *Understand that the orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year.*

<table>
<tr><td></td><td>Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</td><td></td><td></td></tr>
<tr><td>Essential Questions</td><td colspan="3">How does gravitational force exerted by Earth act on objects near Earth’s surface?
How does relative distance affect the brightness of a star?
What patterns do we notice when observing the sky?</td></tr>
<tr><td rowspan="2">Assessments
How will we know they have gained the knowledge & skills?</td><td>Formative</td><td>Summative</td><td>Alternative</td></tr>
<tr><td>Graphic Organizer
Vocabulary Cards
Task Cards
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Quizzes
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Chapter Test
Science Binder
Projects
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Chapter Project
Interactive Notebook
Reflection
Performance Task
Presentation</td></tr>
<tr><td>Unit Pre-Assessment(s)</td><td colspan="3">Pretests
Brainstorming Activities
KWL Charts
Entrance Slips</td></tr>
</table>

What do they already know?	● Anticipation Journal ● Think-Pair-Share ● Yes/No Cards			
Instructional Strategies/Student Activities	● Direct Instruction ● Guided Instruction ● Note Taking ● Interactive Notebook ● Vocabulary Cards ● Foldables ● Brainstorming ● Think, Pair, Share ● Partner Work Cooperative Groups ● Flexible Groups ● Experiments ● Simulations ● Games ● Task Cards ● Center Rotations			
Instructional /Assessment Scaffolds *(Modifications /Accommodations) – planned for*	**English Language Learners**	**Special Education Learners**	**Struggling Learners**	**Advanced Learners**
	● Word Wall ● Student Vocabulary Cards ● Provide Notes ● Pictures/ Graphics ● Leveled Practice	● Word Wall ● Student Vocabulary Cards ● Provide Notes ● Pictures/ Graphics ● Leveled Practice	● Word Wall ● Student Vocabulary Cards ● Provide Notes ● Pictures/Graphics ● Leveled Practice Activities ● Preferential Seating	● Tiered Assignments ● Flexible Grouping ● Inquiry Based Independent Study

prior to instruction	Activities ● Classroom Buddy ● Preferential Seating ● Allow Retakes ● Chunk Assignments ● Single Step Directions ● Highlight Key Directions ● Extra Time for Processing ● Differentiated Instruction	Activities ● Preferential Seating ● Allow Retakes ● Chunk Assignments ● Extra Time for Processing ● Model Tasks ● Provide Examples ● Highlight Key Directions ● Small Group Instruction ● Differentiated Instruction	● Allow Retakes ● Chunk Assignments ● Extra Time ● Provide Examples ● Highlight Key Directions ● Small Group Instruction ● Differentiated Instruction	● Differentiated Instruction
Differentiated Instructional Methods: *(Multiple means for students to access content and multiple modes for student to express understanding)*	**Access** (Resources and/or Process) ● Tiered Content ● Leveled Stations ● Jigsaw ● Interactive Notebook ● Vocabulary Cards ● Supplemental Resources ● Assigned Targeted Lessons ● Google Classroom ● Compact Content ● Interest Survey ● Learning Profile ● Flexible Grouping		**Expression** (Products and/or Performance) ● Choice Menu ● Tic Tac Toe Board ● RAFT ● Projects ● Interactive Notebook ● Performance Tasks ● Presentations ● Portfolios	

Vocabulary *Highlight key vocabulary (both Tier II and Tier III words)*	Tier II: rotation, revolution, axis, gravity Tier III: gravitational force
Integration of Technology SAMR	S: Notes/Worksheets A: Google Forms/Quizzes A and M: Differentiated lessons based on student strengths/weaknesses, Games on Google Classroom, Study Jams, Legends of Learning, Webquests, Digital Escape Rooms A and R: Kahoot!, Presentations
Interdisciplinary Connections NJ Student Learning Standards	**ELA:** RI.5.1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RI.5.7: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. RI.5.8: Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which points. RI.5.9: Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. W.5.1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information. W.5.2.D: Use precise language and domain-specific vocabulary to inform about or explain the topic. SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. How to listen and respond to others. SL.5.5: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. **Math:** MP.2: Reason abstractly and quantitatively.

<table>
<tr><td></td><td colspan="2">MP.4: Model with mathematics.
5.NBT.A.2: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole number exponents to denote powers of 10.
5.G.A.2: Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Technology:
8.1.5.A.1: Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
8.1.5.A.3: Use a graphic organizer to organize information about problem or issue.
8.2.5.C.4: Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.
8.1.5.D.3: Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media.
8.1.5.D.4: Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

21st Century Life and Careers:
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CRP2: Apply appropriate academic and technical skills.
CRP4: Communicate clearly and effectively and with reason.
CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.</td></tr>
<tr><td>21st Century Themes/Skills
P21 Framework</td><td>Themes</td><td>Skills</td></tr>
<tr><td></td><td><u>Global Awareness:</u>
● Using 21st Century Skills to understand and address global issues
<u>Environmental Literacy:</u></td><td>Life and Career Skills
● Flexibility and Adaptability
● Initiative and Self-Direction
● Social and Cross-Cultural Skills</td></tr>
</table>

	• Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems. • Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.). • Investigate and analyze environmental issues, and make accurate conclusions about effective solutions. • Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues).	• Productivity and Accountability • Leadership and Responsibility Learning and Innovation Skills • Creativity and Innovation • Critical Thinking and Problem Solving • Communication and Collaboration Information, Media, and Technology Skills • Information Literacy • Media Literacy • Information Communication Technology Literacy
Resources/ Materials	**Resources:** Mystery Science Discovery Education: Digital Textbooks & Education Resources IXL.com BrainPOP New Jersey Center for Teaching and … StudyJams! - Scholastic Inc. - StudyJams … Crash Course Kids - YouTube Sick Science! - YouTube	

	Wonderopolis National Geographic Kids **Games:** https://pbskids.org/games/science/ Legends of Learning https://mrnussbaum.com/games/science-games https://www.sciencekids.co.nz/gamesactivities.html http://www.sheppardsoftware.com/science.htm https://spaceplace.nasa.gov/menu/play/ **Materials:** Google Classroom Science Binder Chromebooks Task Cards Teacher Generated Resources