

Estell Manor School District Science Curriculum



Grade 3

EMS BOE Approved November 16, 2022

Philosophy

The purpose of the Estell Manor School District Science Curriculum is to develop scientific understanding and civic efficacy (the readiness and willingness to assume citizenship responsibilities and to make informed and reasoned decisions for the public good as citizens). The New Jersey Student Learning Standards for Science reflect the belief that all students can and must learn enough science to assume their role as concerned citizens, equipped with necessary information and decision-making skills.

The need for scientific literacy in today's increasingly technological world, for fundamental reforms in how science is taught, and for established standards in science education are by now well-known and documented. Presidential appeals for excellence, combined with expressions of concern from scientists and educators, have led to national, state, and local initiatives. New Jersey is host to an impressive array of scientific and technological industries, and should play a leadership role in the development and implementation of standards for the teaching and learning of science.

Pacing Guide

Unit	Time Frame
Unit 1: Engineering	15-20 Days
Unit 2: Forces	15-20 Days
Unit 3: Motion	20-25 Days
Unit 4: Life Cycles and Inherited Traits	30-40 Days
Unit 5: Organisms and Their Environments	30-40 Days
Unit 6: Using Evidence to Understand Change in Environments (Fossils)	15-20 Days
Unit 6: Weather and Patterns	20-25 Days

Core Materials: NJSLS – Science Model Curriculum Grade 3

Unit 1 will address the following 21st Century Life and Careers skills:

21st Century Themes		Career Ready Practices	
9.1	Personal Financial Literacy		CRP1. Act as a responsible and contributing citizen and employee.
	Income and Careers	√	CRP2. Apply appropriate academic and technical skills.
	Money Management		CRP3. Attend to personal health and financial well-being.
	Credit and Debt Management	√	CRP4. Communicate clearly and effectively and with reason.
	Planning, Saving, and Investing		CRP5. Consider the environmental, social and economic impacts of decisions.
	Becoming a Critical Consumer	√	CRP6. Demonstrate creativity and innovation.
	Civic Financial Responsibility		CRP7. Employ valid and reliable research strategies.

	Insuring and Protecting		√	CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
9.2	Career Awareness, Exploration, and Preparation		√	CRP9. Model integrity, ethical leadership and effective management.
X	Career Awareness			CRP10. Plan education and career paths aligned to personal goals.
X	Career Exploration		√	CRP11. Use technology to enhance productivity.
X	Career Preparation		√	CRP12. Work productively in teams while using cultural global competence.

Technology

	8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
	A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations
	B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
	C. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
	D. Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
	E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
	F: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Unit 1: Science / 3rd Grade Engineering and Technology	Duration: 15-20 Days
Standards: 3-5-ETS1-1- Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. 3-5-ETS1-2 - 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. 3-5-ETS1-3 - 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.	
Unit Summary: Students will be exposed to engineering in this unit. This unit has three lessons attached to it and should be completed in about 15-20 Days. They will be able to define problems, design solutions, test solutions, and make improvements to those solutions.	
NJ Student Learning Standards: Interdisciplinary Skills Primary Interdisciplinary Connections: Infused within the unit are connections to the NJSLs for Mathematics, Language Arts NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. NJSLSA.W10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences. SL.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly	

Technology

8.1.8.A.1 - Demonstrate knowledge of a real world problem using digital tools.

21st Century Life and Career

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP9. Model integrity, ethical leadership and effective management.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence.

Essential Understanding	Essential Questions
<i>Students will understand that...</i> ● Engineers define problems ● Engineers design solutions ● Engineers test and improve solutions	● How do we define a problem? ● How do we design a solution? ● How do we test and improve a solution?
Evidence of Student Learning	
Performance Tasks: <i>Activities to provide evidence for student</i>	Other Assessments

<i>learning of content and cognitive skills.</i>	
Students will research and plan how they would design a new type of backpack that could protect its contents from getting wet	Formative Assessments - Teacher Observations - Response Cards - Graphic Organizers Summative Assessments - Tests - Quizzes - Hands-On Activities Benchmark Assessment - Beginning of the Year Benchmark - Mid-Year Benchmark - End of the Year Benchmark Alternative Assessments - Teacher Observations - Group Work/Class Work
Vocabulary constraint/criteria/engineer/technology	

Knowledge and Skills	
Content	Skills
<i>Students will know...</i> • How to define a problem • How to design a solution to a problem • How to test and improve a solution	<i>Students will be able to...</i> • Define problems and design solutions to those problems • Test solutions and make improvements to solutions
Instructional Plan	
Suggested Activities	Resources
- Backpacking trip supplies (must meet a certain weight limit) - Irrigation model - Prevent a skateboard wheel from coming off of a skateboard	- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com
Literature	
- Leveled texts (readworks.org), literature from ELA program	

Websites	
	- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com
Modifications	
Special Education Students / 504 <i>(These are just suggested ideas to modify instruction. All modifications and accommodations should be specific to each student's IEP or 504 plan)</i> reduce/revise assignments & assignments as per IEP; provide individual and small group assistance; notes, and study guides; provide background knowledge. English Language learners: <i>use consistent, simplified language; provide bilingual when appropriate; provide cooperative learning opportunities, use modeling, visual aids, and manipulatives.</i> Students at Risk of Failure: <i>Provide less distracting seating if possible, frequent check-in by teacher, study guides, notes, etc.</i> Gifted Students: <i>provide additional enrichment activity involving demonstrating knowledge, deeper research to answer a higher level questions, or complimentary assignment.</i> <i>*For additional modifications and accommodations, see below</i>	

English Language Learners

- Provide pictures and well labeled models
- Speak slowly and gesture when necessary
- Pre-teach vocabulary words
- Extended Time
- Less questions on a page for tests
- Modified Assignments

Gifted and Talented

- Higher level questioning
- Students design questions
- Higher level texts
- Peer tutoring
- Choice of activity to extend learning
- Expose to sophisticated vocabulary
- Open ended questions to activate higher level thinking
- Enrichment opportunities to push assessment boundaries

Basic Skills/Economically Disadvantaged/Students at Risk

- Strategic grouping
- Pre-teach concepts
- Small group for assessments
- Communication logs

Special Education/504

- Follow all IEP modifications/504 plan
- Provide student with specific graphic organizers to help them note take about the different levels of government
- Provide students with notes from the lesson and discussions
- Labeled pictures related to concepts
- Check in's during experiments to help refocus

Unit 2 will address the following 21st Century Life and Careers skills:

21st Century Themes		Career Ready Practices	
9.1	Personal Financial Literacy		CRP1. Act as a responsible and contributing citizen and employee.
	Income and Careers	√	CRP2. Apply appropriate academic and technical skills.
	Money Management		CRP3. Attend to personal health and financial well-being.
	Credit and Debt Management	√	CRP4. Communicate clearly and effectively and with reason.
	Planning, Saving, and Investing		CRP5. Consider the environmental, social and economic impacts of decisions.
	Becoming a Critical Consumer	√	CRP6. Demonstrate creativity and innovation.
	Civic Financial Responsibility		CRP7. Employ valid and reliable research strategies.

	Insuring and Protecting		√	CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
9.2	Career Awareness, Exploration, and Preparation		√	CRP9. Model integrity, ethical leadership and effective management.
X	Career Awareness			CRP10. Plan education and career paths aligned to personal goals.
X	Career Exploration		√	CRP11. Use technology to enhance productivity.
X	Career Preparation		√	CRP12. Work productively in teams while using cultural global competence.

Technology

	TECHNOLOGY STANDARDS
	8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
	A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations
	B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
	C. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
	E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
	F: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Unit 2 Disciplinary Core Ideas Chart

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Asking Questions and Defining Problems Asking questions and defining problems in grades 3–5 builds on grades K–2 experiences and progresses to specifying qualitative relationships. Ask questions that can be investigated based on patterns such as cause and effect relationships. (3-PS2-3) Define a simple problem that can be solved through the development of a new or improved object or tool. (3-PS2-4) Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions. Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. (3-PS2-1) Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. (3-PS2-2) ----- ----- Connections to	PS2.A: Forces and Motion Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object’s speed or direction of motion. (Boundary: Qualitative and conceptual, but not quantitative addition of forces are used at this level.) (3-PS2-1) The patterns of an object’s motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. (Boundary: Technical terms, such as magnitude, velocity, momentum, and vector quantity, are not introduced at this level, but the concept that some quantities need both size and direction to be described is developed.) (3-PS2-2) PS2.B: Types of Interactions Objects in contact exert forces on each other. (3-PS2-1) Electric, and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their	Patterns Patterns of change can be used to make predictions. (3-PS2-2) Cause and Effect Cause and effect relationships are routinely identified. (3-PS2-1) Cause and effect relationships are routinely identified, tested, and used to explain change. (3-PS2-3) ----- ----- Connections to Engineering, Technology, and Applications of Science Interdependence of Science, Engineering, and Technology Scientific discoveries about the natural world can often lead to new and improved technologies, which are developed through the engineering design process. (3-PS2-4)

Nature of Science Science Knowledge is Based on Empirical Evidence Science findings are based on recognizing patterns. (3-PS2-2) Scientific Investigations Use a Variety of Methods Science investigations use a variety of methods, tools, and techniques. (3-PS2-1)	distances apart and, for forces between two magnets, on their orientation relative to each other. (3-PS2-3),(3-PS2-4)	
---	--	--

Unit 2: Science/3rd Grade Forces	Duration: 15-20 Days
Standards: 3-PS2-1 - Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. 3-PS2-3 Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. 3-PS2-4 - Define a simple design problem that can be solved by applying scientific ideas about magnets. 3-5-ETS1-1 Define a simple design problem that can reflect a need or want that includes specified criteria for success and constraints on materials, time, or cost.	
Unit Summary: Students will be exposed to forces. This unit has three lessons attached to it and should be completed in about 15-20 Days. They will be able to explore how forces work, discover different types of forces, learn about forces that act from a distance.	

NJ Student Learning Standards

Interdisciplinary Skills

RI.3.1. Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

SL.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.

SL.3.6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Technology

8.1.5.E.1 - Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.

21st Century Life and Careers Skills

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP9. Model integrity, ethical leadership and effective management.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence.

Essential Understandings	Essential Questions
<i>Students will understand that...</i> - Forces are all around them - There are different types of forces - Certain forces act from a distance	- What are forces? - What are some types of forces? - What forces act from a distance?
Evidence of Student Learning	
Performance Tasks: <i>Activities to provide evidence for student learning of content and cognitive skills.</i>	Other Assessments
Students will describe how and object can remain at rest when mass and forces are changing all around it. They will use online resources to identify other ways to describe force and motion	Formative Assessments - Interactive Notebook - Performance Assessments - Exit Slips Summative Assessments - Tests - Summary - Labs Benchmark Assessment - Beginning of the Year Benchmark - Mid-Year Benchmark - End of the Year Benchmark

	Alternative Assessments • Participation Rubric • Teacher Observations • Group Work/Class Work
Vocabulary balanced forces/electricity/force/gravity/magnet/net force/static electricity/unbalanced forces	
Knowledge and Skills	
Content	Skills
<i>Students will know...</i> • What forces are • Different types of forces • What forces act from a distance	<i>Students will be able to ...</i> • Explore how forces work • Discover different types of forces • Learn about forces that act from a distance
Instructional Plan	
Suggested Activities	Resources
- Apply a strong and a weak force to a toy truck to see how it affects the motion of the object - Observe and measure contact forces by observing spring scales that are attached to two cars facing in the opposite direction - Build an electromagnet	- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com

Literature	
- Leveled texts (readworks.org), literature from ELA program	
Websites	
- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com	
Modifications	
Special Education Students / 504 <i>(These are just suggested ideas to modify instruction. All modifications and accommodations should be specific to each student's IEP or 504 plan)</i> reduce/revise assignments & assignments as per IEP; provide individual and small group assistance; notes, and study guides; provide background knowledge. English Language learners: <i>use consistent, simplified language; provide bilingual when appropriate; provide cooperative learning opportunities, use modeling, visual aids, and manipulatives.</i> Students at Risk of Failure: <i>Provide less distracting seating if possible, frequent check-in by teacher, study guides, notes, etc.</i> Gifted Students: <i>provide additional enrichment activity involving demonstrating knowledge, deeper research to answer a higher level questions, or complimentary assignment.</i>	

Suggested Options for Differentiation
English Language Learners ● Preview lessons ● Labeled pictures ● Use visuals ● Teacher tutoring ● Modified Assignments
Gifted and Talented ● Higher level questioning ● Students design questions ● Differentiated Assignments ● Choice board to extend learning ● Peer tutoring
Basic Skills/Economically Disadvantaged/Students at Risk ● Highlight key words ● Preview lessons ● Graphic organizers ● Cooperative learning groups
Special Education/504 ● Provide differentiated instruction as needed ● Follow all IEP modifications/504 plan ● Pre-teach and model strategies to learn and practice new vocabulary words pertaining to the unit ● Modified assignments

Unit 3 will address the following 21st Century Life and Careers skills:

21st Century Themes		Career Ready Practices	
9.1	Personal Financial Literacy		CRP1. Act as a responsible and contributing citizen and employee.
	Income and Careers	√	CRP2. Apply appropriate academic and technical skills.
	Money Management		CRP3. Attend to personal health and financial well-being.
	Credit and Debt Management	√	CRP4. Communicate clearly and effectively and with reason.
	Planning, Saving, and Investing		CRP5. Consider the environmental, social and economic impacts of decisions.
	Becoming a Critical Consumer	√	CRP6. Demonstrate creativity and innovation.
	Civic Financial Responsibility	√	CRP7. Employ valid and reliable research strategies.

	Insuring and Protecting		√	CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
9.2	Career Awareness, Exploration, and Preparation		√	CRP9. Model integrity, ethical leadership and effective management.
X	Career Awareness			CRP10. Plan education and career paths aligned to personal goals.
X	Career Exploration		√	CRP11. Use technology to enhance productivity.
X	Career Preparation		√	CRP12. Work productively in teams while using cultural global competence.

Technology

	8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
	A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations
	B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
	C. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
	E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
	F: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Unit 3 Disciplinary Core Ideas Chart

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Asking Questions and Defining Problems Asking questions and defining problems in grades 3–5 builds on grades K–2 experiences and progresses to specifying qualitative relationships. Ask questions that can be investigated based on patterns such as cause and effect relationships. (3-PS2-3) Define a simple problem that can be solved through the development of a new or improved object or tool. (3-PS2-4) Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions. Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. (3-PS2-1) Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. (3-PS2-2) ----- ----- Connections to	PS2.A: Forces and Motion Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object’s speed or direction of motion. (Boundary: Qualitative and conceptual, but not quantitative addition of forces are used at this level.) (3-PS2-1) The patterns of an object’s motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. (Boundary: Technical terms, such as magnitude, velocity, momentum, and vector quantity, are not introduced at this level, but the concept that some quantities need both size and direction to be described is developed.) (3-PS2-2) PS2.B: Types of Interactions Objects in contact exert forces on each other. (3-PS2-1) Electric, and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their	Patterns Patterns of change can be used to make predictions. (3-PS2-2) Cause and Effect Cause and effect relationships are routinely identified. (3-PS2-1) Cause and effect relationships are routinely identified, tested, and used to explain change. (3-PS2-3) ----- ----- Connections to Engineering, Technology, and Applications of Science Interdependence of Science, Engineering, and Technology Scientific discoveries about the natural world can often lead to new and improved technologies, which are developed through the engineering design process. (3-PS2-4)

Nature of Science Science Knowledge is Based on Empirical Evidence Science findings are based on recognizing patterns. (3-PS2-2) Scientific Investigations Use a Variety of Methods Science investigations use a variety of methods, tools, and techniques. (3-PS2-1)	distances apart and, for forces between two magnets, on their orientation relative to each other. (3-PS2-3),(3-PS2-4)	
---	--	--

Unit 3: Science/3rd Grade Motion	Duration: 20-25 Days
Standards: 3-PS2-1 - Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. 3-PS2-2 - Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.	
Unit Summary: Students will be exposed to motion. This unit has two lessons attached to it and should be completed in about 30-25 Days. They will be able to explore types of forces and motion, learn about the relationship between forces and motion, and identify patterns in motion.	
NJ Student Learning Standards	
Interdisciplinary Skills RI.3.1. Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	

SL.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.

SL.3.6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Technology

8.1.5.E.1 - Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.

21st Century Life and Career

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP9. Model integrity, ethical leadership and effective management.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence.

Essential Understandings	Essential Questions
<i>Students will understand that...</i> ● Motion is all around them ● There are patterns that take place during motion	● What is motion? ● What are some patterns in motion?
Evidence of Student Learning	
Performance Tasks: <i>Activities to provide evidence for student learning of content and cognitive skills.</i>	Other Assessments Formative Assessments

Students will write clues and guess what an object is based on its motion.	- Teacher Observations - Response Cards - Graphic Organizers Summative Assessments - Tests - Hands-On Activities Benchmark Assessment - Beginning of the Year Benchmark - Mid-Year Benchmark - End of the Year Benchmark Alternative Assessments - Teacher Observations - Group Work/Class Work
Vocabulary frame of reference/motion/position/speed	
Knowledge and Skills	
Content	Skills
<i>Students will know...</i> - What motion is - What some patterns in motion are	<i>Students will be able to ...</i> Explore types of forces and motion

	• Learn about the relationship between forces and motion • Identify patterns in motion
Instructional Plan	
Suggested Activities - Students will work with a team to measure and describe walking speeds - Students will investigate variables in pendulums	Resources - www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com
Literature	
- Leveled texts (readworks.org), literature from ELA program	
Websites	
- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com	
Modifications	

Special Education Students / 504 *(These are just suggested ideas to modify instruction. All modifications and accommodations should be specific to each student's IEP or 504 plan)* reduce/revise assignments & assignments as per IEP; provide individual and small group assistance; notes, and study guides; provide background knowledge.

English Language learners: *use consistent, simplified language; provide bilingual when appropriate; provide cooperative learning opportunities, use modeling, visual aids, and manipulatives.*

Students at Risk of Failure: *Provide less distracting seating if possible, frequent check-in by teacher, study guides, notes, etc.*

Gifted Students: *provide additional enrichment activity involving demonstrating knowledge, deeper research to answer a higher level questions, or complimentary assignment.*

Suggested Options for Differentiation

English Language Learners

- Provide pictures and well labeled models
- Speak slowly and gesture when necessary
- Pre-teach vocabulary words
- Extended Time
- Less questions on a page for tests

Gifted and Talented

- 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
- Differentiate Assignments
- Complete different homework assignments than peers
- Open ended questions to activate higher level thinking
- Higher level texts

Basic Skills/Economically Disadvantaged/Students at Risk

- Pre-teach vocabulary using visuals and gestures
- Chunk texts
- Highlight key words
- Frequent breaks
- Strategic grouping
- Pre-teach concepts
- Communication logs

Modifications/Accommodations

Special Education/504

- Provide differentiated instruction as needed
- Follow all IEP modifications/504 plan
- Review concepts and important vocabulary from previous lessons before teaching new information
- Check for student understanding often with formal, informal, verbal, and nonverbal measures
- Progress Monitoring
- Strategic grouping
- Pre-teach concepts

Unit 4 will address the following 21st Century Life and Careers skills:

21st Century Themes		Career Ready Practices	
9.1	Personal Financial Literacy		CRP1. Act as a responsible and contributing citizen and employee.
	Income and Careers	√	CRP2. Apply appropriate academic and technical skills.
	Money Management		CRP3. Attend to personal health and financial well-being.
	Credit and Debt Management	√	CRP4. Communicate clearly and effectively and with reason.
	Planning, Saving, and Investing		CRP5. Consider the environmental, social and economic impacts of decisions.
	Becoming a Critical Consumer	√	CRP6. Demonstrate creativity and innovation.
	Civic Financial Responsibility	√	CRP7. Employ valid and reliable research strategies.

	Insuring and Protecting		√	CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
9.2	Career Awareness, Exploration, and Preparation			CRP9. Model integrity, ethical leadership and effective management.
X	Career Awareness			CRP10. Plan education and career paths aligned to personal goals.
X	Career Exploration			CRP11. Use technology to enhance productivity.
X	Career Preparation		√	CRP12. Work productively in teams while using cultural global competence.

Technology

	8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
	B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
	D. Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
	E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
	F: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Unit 4 Disciplinary Core Ideas Chart

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Developing and Using Models Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions. Develop models to describe phenomena. (3-LS1-1) ----- Connections to Nature of Science Scientific Knowledge is Based on Empirical Evidence Science findings are based on recognizing patterns. (3-LS1-1)	LS1.B: Growth and Development of Organisms Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS1-1)	Patterns Patterns of change can be used to make predictions. (3-LS1-1)

Unit 4: Science/3rd Grade Life Cycles and Inherited Traits	Duration: 30-40 Days
Standards: 3-LS1-1 - Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. 3-LS3-1 - Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. 3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment. 3-LS4-2 Use evidence to construct an explanation for how variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.	

Unit Summary: Students will be exposed to life cycles and inherited traits. This unit has three lessons attached to it and should be completed in about 30-40 Days. They will be able to explore the life cycles of plants and animals and discover inherited plant and animal traits. They will acquire an understanding that organisms have different inherited traits and that the environment can also affect the traits that an organism develops. They will use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

NJ Student Learning Standards

Interdisciplinary Skills

RI.3.1. Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

SL.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.

SL.3.6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Technology

8.1.5.E.1 - Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.

21st Century Life and Career

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP12. Work productively in teams while using cultural global competence.

Essential Understandings	Essential Questions
<i>Students will understand that...</i> • There are plant life cycles • There are animal life cycles • There are traits that plants inherit • There are traits that animals inherit	• What are some plant life cycles? • What are some animal life cycles? • What are inherited plant and animal traits?
Evidence of Student Learning	
Performance Tasks: <i>Activities to provide evidence for student learning of content and cognitive skills.</i> • Students will work to develop a model that demonstrates a plant or animal life cycle and compare it to other plant or animal life cycles.	Other Assessments Formative Assessments • Interactive Notebook • Performance Assessments • Exit Slips • Graphic Organizers Summative Assessments • Quizzes • Summary • Hands-On Activities Benchmark Assessment • Beginning of the Year Benchmark • Mid-Year Benchmark • End of the Year Benchmark

	Alternative Assessments • Teacher Observations • Group Work/Class Work
Vocabulary Life cycle/metamorphosis/organism/pupa/survival/trait/variation	
Knowledge and Skills	
Content	Skills
<i>Students will know....</i> • What some plant life cycles are • What some animal life cycles are • What traits animals inherit • What traits plants inherit	<i>Students will be able to ...</i> • Explore the life cycles of plants and animals • Discover inherited plant and animal traits
Instructional Plan	
Suggested Activities	Resources
• Plant seeds to watch them germinate and grow (observe the life cycle) • Compare and contrast poster of insects and amphibians • Observe mealworm metamorphosis	- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com
Literature - Leveled texts (readworks.org), literature from ELA program	

Websites - www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com
Modifications Special Education Students / 504 <i>(These are just suggested ideas to modify instruction. All modifications and accommodations should be specific to each student's IEP or 504 plan)</i> reduce/revise assignments & assignments as per IEP; provide individual and small group assistance; notes, and study guides; provide background knowledge. English Language learners: <i>use consistent, simplified language; provide bilingual when appropriate; provide cooperative learning opportunities, use modeling, visual aids, and manipulatives.</i> Students at Risk of Failure: <i>Provide less distracting seating if possible, frequent check-in by teacher, study guides, notes, etc.</i> Gifted Students: <i>provide additional enrichment activity involving demonstrating knowledge, deeper research to answer a higher level questions, or complimentary assignment.</i>
Suggested Options for Differentiation
English Language Learners ● Provide pictures and well labeled models ● Speak slowly and gesture when necessary ● Pre-teach vocabulary words ● Extended time on assessments

● Small group for assessment
Gifted and Talented ● Organize and offer flexible small group learning activities ● Teach cognitive and methodological skills ● Use centers
Basic Skills/Economically Disadvantaged/Students at Risk ● Strategic grouping ● Pre-teach concepts ● Small group for assessments ● Check in's during experiments to help refocus ● Communication logs
Special Education/504 ● Follow all IEP modifications/504 plan ● Provide visual aids to support concepts being taught ● Use graphic organizers to help students organize important information from a lesson ● Reword Directions ● Strategic grouping ● Pre-teach concepts ● Small group for assessments ● Check in's during experiments to help refocus

Unit 5 will address the following 21st Century Life and Careers skills:

21st Century Themes		Career Ready Practices	
9.1	Personal Financial Literacy		CRP1. Act as a responsible and contributing citizen and employee.
	Income and Careers	√	CRP2. Apply appropriate academic and technical skills.
	Money Management		CRP3. Attend to personal health and financial well-being.
	Credit and Debt Management	√	CRP4. Communicate clearly and effectively and with reason.
	Planning, Saving, and Investing	√	CRP5. Consider the environmental, social and economic impacts of decisions.
	Becoming a Critical Consumer	√	CRP6. Demonstrate creativity and innovation.
	Civic Financial Responsibility	√	CRP7. Employ valid and reliable research strategies.

	Insuring and Protecting		√	CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
9.2	Career Awareness, Exploration, and Preparation			CRP9. Model integrity, ethical leadership and effective management.
X	Career Awareness			CRP10. Plan education and career paths aligned to personal goals.
X	Career Exploration		√	CRP11. Use technology to enhance productivity.
X	Career Preparation		√	CRP12. Work productively in teams while using cultural global competence.

Technology

	8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
	A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations
	B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
	D. Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
	E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
	F: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Unit 5 Disciplinary Core Ideas Chart

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used. Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS4-1) Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems. Use evidence (e.g., observations, patterns) to construct an explanation. (3-LS4-2) Engaging in Argument from Evidence Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the	LS2.C: Ecosystem Dynamics, Functioning, and Resilience When the environment changes in ways that affect a place’s physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (secondary to 3-LS4-4) LS4.A: Evidence of Common Ancestry and Diversity Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (Note: moved from K-2) (3-LS4-1) Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (3-LS4-1) LS4.B: Natural Selection Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2) LS4.C: Adaptation For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3)	Cause and Effect Cause and effect relationships are routinely identified and used to explain change. (3-LS4- 2),(3-LS4-3) Scale, Proportion, and Quantity Observable phenomena exist from very short to very long time periods. (3-LS4-1) Systems and System Models A system can be described in terms of its components and their interactions. (3-LS4-4) ----- ----- Connections to Engineering, Technology, and Applications of Science Interdependence of Science, Engineering, and Technology Knowledge of relevant scientific concepts and research findings is important in engineering. (3-LS4-4) ----- ----- Connections to Nature of Science Scientific Knowledge Assumes an Order and Consistency in Natural Systems Science assumes consistent patterns in natural systems. (3-LS4-1)

natural and designed world(s). Construct an argument with evidence. (3-LS4-3) Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-LS4-4)	LS4.D: Biodiversity and Humans Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (3-LS4-4)	
--	---	--

Unit 5: Science/3rd Grade	Duration: 30-40 Days
Organisms and Their Environment	
Unit Summary: Students will be exposed to organisms and their environment. This unit has four lessons attached to it and should be completed in about 30-40 Days. They will be able to explore inheritance and variation of traits in organisms, discover how different organisms adapt to their environment, and identify the cause and effect of how organisms change when environments change.	
Standards:	
3-LS2-1 - Construct an argument that some animals form groups that help members survive.	
3-LS3-2 - Use evidence to support the explanation that traits can be influenced by the environment.	
3-LS4-3 - Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.	
3-LS4-4 - Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.	
NJ Student Learning Standards	
Interdisciplinary Skills	
RI.3.1. Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	
SL.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.	

SL.3.6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Technology

8.1.5.E.1 - Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.

21st Century Life and Career

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence.

Essential Understandings	Essential Questions
<i>Students will understand that...</i> ● The environment affects traits ● Adaptations help an organism survive ● Organisms can succeed in their environments with the proper characteristics ● Environments can changes and there is an effect because of that	● How does the environment affect traits? ● What are adaptations? ● How can organisms succeed in their environment? ● What happens when environments change?
Evidence of Student Learning	
Performance Tasks: Activities to provide evidence for student learning of content and cognitive skills.	Other Assessments Formative Assessments

Students will research, plan, and write ideas about why some animals have thicker body fat than others.	- Exit Slips - Response Cards - Graphic Organizers Summative Assessments - Summary - Labs - Hands-On Activities Benchmark Assessment - Beginning of the Year Benchmark - Mid-Year Benchmark - End of the Year Benchmark Alternative Assessments - Teacher Observations - Participation Rubric - Group Work/Class Work
Vocabulary adaptation/camouflage/environment/habitat/mimicry/population	
Knowledge and Skills	
Content	Skills
<i>Students will know....</i> - How the environment affects traits - What adaptations are	<i>Students will be able to ...</i> Explore inheritance and variation of traits in organisms

• How organisms can succeed in their environment • What happens when environments change	• Discover how different organisms adapt to their environment • Identify the cause and effect of how organisms change when environments change
Instructional Plan	
Suggested Activities • Design a greenhouse • Water and watch how plants grow over 2 weeks depending on how much water you give them • Illustrate adaptations • Model bird beaks • Battle of the beans • Design and model a solution to help caribou migrate after an environmental change cause by human activity	Resources - www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com
Literature	
- Leveled texts (readworks.org), literature from ELA program	
Websites	
- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com	
Modifications	

Special Education Students / 504 *(These are just suggested ideas to modify instruction. All modifications and accommodations should be specific to each student's IEP or 504 plan)* reduce/revise assignments & assignments as per IEP; provide individual and small group assistance; notes, and study guides; provide background knowledge.

English Language learners: use consistent, simplified language; provide bilingual when appropriate; provide cooperative learning opportunities, use modeling, visual aids, and manipulatives.

Students at Risk of Failure: Provide less distracting seating if possible, frequent check-in by teacher, study guides, notes, etc.

Gifted Students: provide additional enrichment activity involving demonstrating knowledge, deeper research to answer a higher level questions, or complimentary assignment.

Suggested Options for Differentiation

English Language Learners

- Provide pictures and well labeled models
- Speak slowly and gesture when necessary
- Extended time on assessments
- Small group for assessment

Gifted and Talented

- Differentiate Assignments
- Differentiate Texts
- Complete Different Homework than peers

Basic Skills/Economically Disadvantaged/Students at Risk

- Graphic organizers
- Build background knowledge
- Increased parent communication
- Strategic grouping
- Pre-teach concepts
- Small group for assessments

Special Education/504

- Follow all IEP modifications/504 plan
- Provide manipulatives or the opportunity to draw solution strategies
- Pre-Teach concepts
- Extended Time
- Strategic grouping
- Small group for assessments
- Check in's during experiments to help refocus

Unit 6 will address the following 21st Century Life and Careers skills:

21st Century Themes		Career Ready Practices	
9.1	Personal Financial Literacy		CRP1. Act as a responsible and contributing citizen and employee.
	Income and Careers	√	CRP2. Apply appropriate academic and technical skills.
	Money Management		CRP3. Attend to personal health and financial well-being.
	Credit and Debt Management	√	CRP4. Communicate clearly and effectively and with reason.
	Planning, Saving, and Investing	√	CRP5. Consider the environmental, social and economic impacts of decisions.
	Becoming a Critical Consumer	√	CRP6. Demonstrate creativity and innovation.
	Civic Financial Responsibility	√	CRP7. Employ valid and reliable research strategies.

	Insuring and Protecting		√	CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
9.2	Career Awareness, Exploration, and Preparation			CRP9. Model integrity, ethical leadership and effective management.
X	Career Awareness			CRP10. Plan education and career paths aligned to personal goals.
X	Career Exploration		√	CRP11. Use technology to enhance productivity.
X	Career Preparation		√	CRP12. Work productively in teams while using cultural global competence.

Technology

	8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
	A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations
	B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop

	innovative products and process using technology.
	D. Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
	E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
	F: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Unit 6 Disciplinary Core Ideas Chart

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used. Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS4-1) Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of	LS2.C: Ecosystem Dynamics, Functioning, and Resilience When the environment changes in ways that affect a place’s physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (secondary to 3-LS4-4) LS4.A: Evidence of Common Ancestry and Diversity Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (Note: moved from K-2) (3-LS4-1) Fossils provide evidence about the types of organisms that	Cause and Effect Cause and effect relationships are routinely identified and used to explain change. (3-LS4- 2),(3-LS4-3) Scale, Proportion, and Quantity Observable phenomena exist from very short to very long time periods. (3-LS4-1) Systems and System Models A system can be described in terms of its components and their interactions. (3-LS4-4) ----- ----- Connections to Engineering, Technology, and Applications of Science

evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems. Use evidence (e.g., observations, patterns) to construct an explanation. (3-LS4-2) Engaging in Argument from Evidence Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). Construct an argument with evidence. (3-LS4-3) Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-LS4-4)	lived long ago and also about the nature of their environments. (3-LS4-1) LS4.B: Natural Selection Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2) LS4.C: Adaptation For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3) LS4.D: Biodiversity and Humans Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (3-LS4-4)	Interdependence of Science, Engineering, and Technology Knowledge of relevant scientific concepts and research findings is important in engineering. (3-LS4-4) ----- ----- Connections to Nature of Science Scientific Knowledge Assumes an Order and Consistency in Natural Systems Science assumes consistent patterns in natural systems. (3-LS4-1)
--	---	--

Unit 6: Science/3rd Grade Using Evidence to Understand Change in Environments (Fossils)	Duration: 15-20 Days
Unit Summary: Students will be exposed to fossils. This unit has two lessons attached to it and should be completed in about 15-20 Days. They will be able to explore fossils, discover what fossils can tell us about animals that lived long ago, and how fossils indicate how environments have changed.	
Standards: 3-LS4-1 - Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.	

NJ Student Learning Standards	
Interdisciplinary Skills RI.3.1. Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. SL.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others’ ideas and expressing their own clearly. SL.3.6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification. Technology 8.1.5.E.1 - Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks. 21st Century Life and Career ● CRP2. Apply appropriate academic and technical skills. ● CRP4. Communicate clearly and effectively and with reason. ● CRP5. Consider the environmental, social and economic impacts of decisions. ● CRP6. Demonstrate creativity and innovation. ● CRP7. Employ valid and reliable research strategies. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP11. Use technology to enhance productivity. ● CRP12. Work productively in teams while using cultural global competence.	
Essential Understandings	Essential Questions
<i>Students will understand that...</i> ● Fossils are the remains or traces of an organism that lived long ago ● Fossils tell us about the past	● What is a fossil? ● What do fossils tell us about the past?

Evidence of Student Learning	
Performance Tasks: <i>Activities to provide evidence for student learning of content and cognitive skills.</i> Students will create a diorama to model an ancient environment	Other Assessments Formative Assessments - Teacher Observations - Interactive Notebook - Performance Assessments Summative Assessments - Tests - Quizzes - Summary Benchmark Assessment - Beginning of the Year Benchmark - Mid-Year Benchmark - End of the Year Benchmark Alternative Assessments - Participation Rubric - Teacher Observations - Group Work/Class Work
Vocabulary adaptation/camouflage/environment/habitat/mimicry/population	
Knowledge and Skills	

Content	Skills
<i>Students will know....</i> • What fossils are • That fossils tell us about the past	<i>Students will be able to ...</i> • Explore fossils • Discover what fossils can tell us about animals that lived long ago
Instructional Plan	
Suggested Activities	Resources
• Shoe tracing to resemble a fossil • Walking pattern models • What animals from the past look like animals from today • Analyze fossil patterns	- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com
Literature	
- Leveled texts (readworks.org), literature from ELA program	
Websites	
- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com	
Modifications	
Special Education Students / 504 <i>(These are just suggested ideas to modify instruction. All modifications and accommodations should be specific to each student's IEP or 504 plan)</i> reduce/revise assignments & assignments as per IEP; provide individual and small group assistance; notes, and study guides; provide background knowledge.	

English Language learners: *use consistent, simplified language; provide bilingual when appropriate; provide cooperative learning opportunities, use modeling, visual aids, and manipulatives.*

Students at Risk of Failure: *Provide less distracting seating if possible, frequent check-in by teacher, study guides, notes, etc.*

Gifted Students: *provide additional enrichment activity involving demonstrating knowledge, deeper research to answer a higher level questions, or complimentary assignment.*

Suggested Options for Differentiation

English Language Learners

- Provide pictures and well labeled models
- Speak slowly and gesture when necessary
- Extended time on assessments
- Small group for assessment

Gifted and Talented

- Differentiate Assignments
- Differentiate Texts
- Complete Different Homework than peers

Basic Skills/Economically Disadvantaged/Students at Risk

- Graphic organizers
- Build background knowledge
- Increased parent communication
- Strategic grouping
- Pre-teach concepts
- Small group for assessments

Special Education/504

- Follow all IEP modifications/504 plan
- Provide manipulatives or the opportunity to draw solution strategies
- Pre-Teach concepts
- Extended Time
- Strategic grouping
- Small group for assessments
- Check in's during experiments to help refocus

Unit 7: Science/3rd Grade Weather and Patterns	Duration: 20-25 Days
Unit Summary: Students will be exposed to weather and weather patterns. This unit has four lessons attached to it and should be completed in about 20-25 Days. They will be able to explore how weather is predicted and measured, learn about the difference between weather and climate, and identify the impact of severe weather on society and nature.	
Standards: 3-ESS2-1 - Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. 3-ESS2-2 - Obtain and combine information to describe climates in different regions of the world.	
NJ Student Learning Standards	
Interdisciplinary Skills RI.3.1. Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. SL.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. SL.3.6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification. Technology 8.1.5.E.1 - Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.	

21st Century Life and Career

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence.

Essential Understandings	Essential Questions
<i>Students will understand that...</i> ● Weather can be measured ● Weather can be predicted ● There can be severe impacts to the planet because of the weather ● There are different types of climates	● How is weather measured? ● How can we predict weather? ● What are some severe weather impacts? ● What are some types of climates?
Evidence of Student Learning	
Performance Tasks: <i>Activities to provide evidence for student learning of content and cognitive skills.</i> ● Students will research and make a safety plan to prepare for severe weather in their area	Other Assessments Formative Assessments ● Teacher Observations ● Response Cards ● Graphic Organizers Summative Assessments

	• Tests • Quizzes • Labs Benchmark Assessment • Beginning of the Year Benchmark • Mid-Year Benchmark • End of the Year Benchmark Alternative Assessments • Teacher Observations • Participation Rubric
Vocabulary adaptation/camouflage/environment/habitat/mimicry/population	
Knowledge and Skills	
Content	Skills
<i>Students will know....</i> • How weather is measured • How weather is predicted • How severe weather can impact our planet • What types of climates exist around the world	<i>Students will be able to ...</i> • Explore how weather is predicted and measured • Learn about the difference between weather and climate • Identify the impact of severe weather on society and nature
Instructional Plan	
Suggested Activities	Resources

● Create pictures of different wind patterns ● Color your location based on how much rain it receives ● Analyze weather data ● Create a bar graph depicting average precipitation in your town ● Research weather conditions from several locations in the United States ● Plan a way to control the impact of flooding ● Collaborate a new location for blue penguins to go	- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com
Literature	
- Leveled texts (readworks.org), literature from ELA program	
Websites	
- www.brainpop.com - www.mysteryscience.com - https://www.teachengineering.org/ - www.readworks.org (leveled texts) - www.generationgenius.com	
Modifications	
Special Education Students / 504 <i>(These are just suggested ideas to modify instruction. All modifications and accommodations should be specific to each student's IEP or 504 plan)</i> reduce/revise assignments & assignments as per IEP; provide individual and small group assistance; notes, and study guides; provide background knowledge. English Language learners: <i>use consistent, simplified language; provide bilingual when appropriate; provide cooperative learning opportunities, use modeling, visual aids, and manipulatives.</i> Students at Risk of Failure: <i>Provide less distracting seating if possible, frequent check-in by teacher, study guides, notes, etc.</i> Gifted Students: <i>provide additional enrichment activity involving demonstrating knowledge, deeper research to answer a higher level questions, or complimentary assignment.</i>	

Suggested Options for Differentiation

English Language Learners

- Provide pictures and well labeled models
- Speak slowly and gesture when necessary
- Extended time on assessments
- Small group for assessment

Gifted and Talented

- Differentiate Assignments
- Differentiate Texts
- Complete Different Homework than peers

Basic Skills/Economically Disadvantaged/Students at Risk

- Graphic organizers
- Build background knowledge
- Increased parent communication
- Strategic grouping
- Pre-teach concepts
- Small group for assessments

Special Education/504

- Follow all IEP modifications/504 plan
- Provide manipulatives or the opportunity to draw solution strategies
- Pre-Teach concepts
- Extended Time
- Strategic grouping
- Small group for assessments
- Check in's during experiments to help refocus