

Subject and Grade:	3rd Grade Science	School Year:	2024-2025
Unit 1 Title:	Animals Through Time - Fossils and Changing Environment	Author/s:	Liz Tyrrell

NYS Next Gen Learning Standards	Essential Question/Big Ideas
<p>3-LS4-1 - Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. [Clarification Statement: Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas, and fossils of extinct organisms.] [Assessment Boundary: Assessment does not include identification of specific fossils or present plants and animals. Assessment is limited to major fossil types and relative ages.]</p> <p>Systems and System Models A system can be described in terms of its components and their interactions. (3-LS4-4)</p>	<ul style="list-style-type: none"> ● Habitats, Fossils, & Environments Over Time Where can you find whales in a desert? ● Fossil Evidence & Dinosaurs How do we know what dinosaurs looked like? ● Trace Fossil Evidence & Animal Movement Can you outrun a dinosaur?

Brief Unit Summary	Content Vocabulary
<p>In this unit, students develop an understanding of how animals and their environments have changed through time. Fossils provide a window into the animals and habitats of the past. Analyzing the traits of animals that are alive today and comparing them to fossils, provides evidence of how these ancient organisms and environments of the past may have appeared.</p>	<p>Fossil Environment Habitat Traits Herbivores Omnivores Carnivores</p>

Content Skills or Learning Targets	Assessments (Pre-Assessments, Formative, and Summative)	Timeframe
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<ul style="list-style-type: none"> • Students explore the idea that the rock under our feet sometimes contains fossils, and investigate how these fossils reveal changes in habitats through time. • Students learn how we can infer what the outside of an animal looked like by using clues about their skeleton. • Students learn how fossilized animal tracks can tell us a great deal about the animals that left them. 	<p>Lesson 1 assessment</p> <p>Lesson 3 assessment</p> <p>Unit Assessment</p> <p>Performance Task</p>	<p>September - October 15 Sessions - (30-40 mins each)</p> <p>Unit Breakdown:</p> <ul style="list-style-type: none"> • 1 Anchor Phenomenon • 3 Lessons & Activities • 3 Lesson Assessments • 3 Extensions • 1 Unit Assessment • 1 Performance Task"
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Differentiation/Enrichment	Materials	Resources
		<p>3rd Grade Mystery Science Pacing Guide Animals Through Time Teacher Guide</p>

Subject and Grade:	3rd Grade Science	School Year:	2024-2025
Unit 2 Title:	Heredity, Survival and Selection	Author/s:	Liz Tyrrell

NYS Next Gen Learning Standards	Essential Question/Big Ideas
<p>3-LS2-1 - Construct an argument that some animals form groups that help members survive.</p> <p>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.</p> <p>3-LS4-2. 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.</p> <p>3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms thrive, struggle to survive, or fail to survive.</p> <p>3-LS3-2 - Use evidence to support the explanation that traits can be influenced by the environment.</p>	<ul style="list-style-type: none"> ● Trait Variation, Inheritance, & Artificial Selection How could you make the biggest fruit in the world? ● Trait Variation, Inheritance, & Artificial Selection What kinds of animals might there be in the future? ● Trait Variation, Natural Selection, & Survival Can selection happen without people? ● Animal Groups & Survival Why do dogs wag their tails? ● Traits & Environmental Variation How long can people (and animals) survive in outer space?

Brief Unit Summary	Content Vocabulary
<p>In this unit, students compare the structures and functions of traits that enable organisms to survive in a specific environment. Analyzing the traits of animals provides evidence for how those traits vary, how they are inherited, and how they have changed over time through selection. Students also examine how the environment can affect inherited traits and determine which animals will survive in a particular environment.</p>	<p>Trait Variation Inheritance Artificial Selection Traits Survival Variation</p>

Content Skills or Learning Targets	Assessments (Pre-Assessments, Formative, and Summative)	Timeframe
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<ul style="list-style-type: none"> • Students investigate how human beings have modified plants based on our knowledge of how plants change from generation to generation. • Students analyze the traits of parent dogs and their offspring, constructing an explanation about which traits a puppy gets from each parent. • Students compare the structures of lizards that live on an island. They simulate multiple generations of these lizards, and analyze and interpret the data to understand how these structures aid in their survival. • Students observe animals that live in groups in order to obtain, evaluate, and communicate information about animal social behavior. Students use evidence to show how animals form groups to help them survive. • Students measure and compare their own physical traits (arm strength, balance, and height) and analyze the information to construct an explanation for how the environment can influence traits. 	<p>Lesson 1 Assessment</p> <p>Lesson 2 Assessment</p> <p>Lesson 3 Assessment</p> <p>Lesson 4 Assessment</p> <p>Lesson 5 Assessment</p> <p>Unit Assessment - coming soon</p>	<p>November - December 16 Sessions - (30-40 mins each)"</p> <p>Unit Breakdown:</p> <ul style="list-style-type: none"> • 5 Lessons & Activities • 5 Lesson Assessments • 5 Extensions • 1 Unit Assessment
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Differentiation/Enrichment	Materials	Resources
		<p>3rd Grade Mystery Science Pacing Guide</p>

Subject and Grade:	3rd Grade Science	School Year:	2024-2025
Unit 3 Title:	Forces and Motion	Author/s:	Liz Tyrrell

NYS Next Gen Learning Standards	Essential Question/Big Ideas
<p>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.</p> <p>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.</p> <p>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.</p> <p>3-PS2-4 Define a simple design problem that can be solved by applying scientific ideas about magnets.</p> <p>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.</p> <p>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.</p>	<ul style="list-style-type: none"> ● Balanced & Unbalanced Forces How could you win a tug-of-war against a bunch of adults? ● Balanced Forces & Engineering What makes bridges so strong? ● Pattern of Motion, Gravity, & Friction How high can you swing on a flying trapeze? ● Magnets & Forces What can magnets do? ● Magnets & Engineering How can you unlock a door using a magnet?

Brief Unit Summary	Content Vocabulary										
<p>In this unit, students explore the forces all around them. They investigate the effects of balanced and unbalanced forces, the pushes and pulls of bridge structures, and the effects of friction on the motion of objects. Students also explore the power of magnetic forces and investigate firsthand how these forces can be used to help us in our everyday lives.</p>	<table> <tr> <td>Force</td> <td>Motion</td> </tr> <tr> <td>Friction</td> <td>Push</td> </tr> <tr> <td>Magnet</td> <td>Pull</td> </tr> <tr> <td>Balanced</td> <td></td> </tr> <tr> <td>Unbalanced</td> <td></td> </tr> </table>	Force	Motion	Friction	Push	Magnet	Pull	Balanced		Unbalanced	
Force	Motion										
Friction	Push										
Magnet	Pull										
Balanced											
Unbalanced											

Content Skills or Learning Targets	Assessments (Pre-Assessments, Formative, and Summative)	Timeframe
<ul style="list-style-type: none"> Students develop a mental model of the nature of forces and motion and use that model to explain the behavior of an elastic jumper. Students develop and design a bridge to be as strong as possible while working with limited materials. Students make observations and measurements of a trapeze model. Then, using that information they predict the motion of a real trapeze. Students investigate the properties of magnets and the fact that they exert forces that act at a distance. Students investigate magnetic attraction and repulsion, and design a magnetic lock in the hands-on activity. 	<p>Lesson 1 Assessment</p> <p>Lesson 2 Assessment</p> <p>Lesson 4 Assessment</p> <p>Lesson 5 Assessment</p> <p>Unit Assessment</p> <p>Performance Assessment</p>	<p>January - February (before break) 21 Sessions - 30-40 mins each</p> <p>Unit Breakdown:</p> <ul style="list-style-type: none"> 1 Anchor Phenomenon 5 Lessons & Activities 5 Anchor Connections 5 Lesson Assessments 5 Extensions 1 Unit Assessment 1 Performance Task

Differentiation/Enrichment	Materials	Resources
		<p>3rd Grade Mystery Science Pacing Guide Forces and Motion Teacher Guide - Mys. Sci</p>

Subject and Grade:	3rd Grade Science	School Year:	2024-2025
Unit 4 Title:	Life Cycles	Author/s:	Liz Tyrrell

NYS Next Gen Learning Standards	Essential Question/Big Ideas
<p>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.</p> <p>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.</p> <p>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.</p>	<ul style="list-style-type: none"> • Animal Life Cycles How is your life like an alligator's life? • Environmental Change & Engineering What's the best way to get rid of mosquitoes? • Pollination & Plant Reproduction Why do plants grow flowers? • Fruit, Seeds, & Plant Reproduction Why do plants give us fruit? • Plant Life Cycles Why are there so many different kinds of flowers?

Brief Unit Summary	Content Vocabulary
<p>In this unit, students compare and contrast the life cycles of both animals and plants. Students create models to build an understanding that all organisms share certain stages in their life cycles: birth, growth, reproduction, and death. Students also explore how an understanding of life cycles can aid in solving problems that occur when there are too many or too few organisms in a particular environment.</p>	<p>Life cycle Reproduction Organism Plant Animal Stages</p>

Content Skills or Learning Targets	Assessments (Pre-Assessments, Formative, and Summative)	Timeframe
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<ul style="list-style-type: none"> • Students create models of several different animal life cycles and compare them to one another. They use these models to discover the pattern that all animals are born, grow, can have babies, and eventually die. • Students obtain and evaluate information about mosquitoes from different sources. They analyze and interpret information about the mosquito life cycle to reduce the number of mosquitoes that live in a certain area. • Students model the structure and function of flower parts that are responsible for creating seeds. • Students explore the function of fruits in plants and practice classification. • Students play a game that models the stages of the plant life cycle. After playing the game students use the model to show how changes to one part of the life cycle affect all other stages. 	<p>Lesson 1 Assessment</p> <p>Lesson 2 Assessment</p> <p>Lesson 3 Assessment</p> <p>Lesson 4 Assessment</p> <p>Lesson 5 Assessment</p> <p>Unit Assessment - coming soon</p> <p>Performance Assessment</p> <p>NYS SCIENCE INVESTIGATION</p>	<p>February - April 26 Sessions - (30-40 mins each)</p> <p>Unit Breakdown: "• 1 Anchor Phenomenon • 5 Lessons & Activities • 5 Anchor Connections • 5 Lesson Assessments • 5 Extensions • 1 Unit Assessment • 1 Performance Task"</p> <p>Investigation</p>
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Differentiation/Enrichment	Materials	Resources
		<p>3rd Grade Mystery Science Pacing Guide Life Cycles Teacher Guide - Mystery Science</p>

NYS SCIENCE INVESTIGATION

Subject and Grade:	3rd Grade Science	School Year:	2024-2025
Unit 5 Title:	Weather and Climate	Author/s:	Liz Tyrrell

NYS Next Gen Learning Standards	Essential Question/Big Ideas
<p>3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.</p> <p>3-ESS2-2 Obtain and combine information to describe climates in different regions of the world.</p> <p>3-ESS2-3 Plan and conduct an investigation to determine the connections between weather and water processes in Earth systems.</p> <p>3-ESS3-1 Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.</p> <p>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.</p> <p>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.</p> <p>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.</p>	<ul style="list-style-type: none"> ● Water Cycle & Phases of Matter Where do clouds come from? ● Local Weather Patterns & Weather Prediction How can we predict when it's going to storm? ● Seasonal Weather Patterns Where's the best place to build a snow fort? ● Climate & Global Weather Patterns Why are some places always hot? ● Natural Hazards & Engineering How can you keep a house from blowing away in a windstorm?

Brief Unit Summary	Content Vocabulary
<p>In this unit, students investigate and make predictions about the weather through careful observation of the clouds and wind. Students also learn to differentiate between weather and climate and use models to reveal global climate patterns.</p>	<p>Stratus cloud Stratonimbus cloud Cumulus cloud Climate</p>

	Climate zones (temperate, polar, tropical, mild or desert) Weather Predictions Evaporation Temperature
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Content Skills or Learning Targets	Assessments (Pre-Assessments, Formative, and Summative)	Timeframe
<ul style="list-style-type: none"> Students obtain and combine information that water can change from liquid to gas, but that it is always made of tiny drops. Clouds are made of water that has evaporated. Students make observations of clouds and develop a tool to make predictions about what kind of weather might happen next. Students gather winter temperature data from three different towns. They represent the data in a table to compare the weather and decide which town is the best candidate to host a snow fort festival in future years. Students obtain and combine information to describe the different climate regions of the world. Students design and build solutions that reduce the hazards associated with strong winds that could damage buildings. 	Lesson 1 Assessment Lesson 2 Assessment Lesson 3 3D Assessment Lesson 4 Assessment Lesson 5 Assessment Unit Assessment Performance Task	May- June 23 Sessions -(30-40 mins each) Unit Breakdown: <ul style="list-style-type: none"> 1 Anchor Phenomenon 5 Lessons & Activities 5 Anchor Connections 5 Lesson Assessments 5 Extensions 1 Unit Assessment 1 Performance Task

Differentiation/Enrichment	Materials	Resources
		3rd Grade Mystery Science Pacing Guide

