

Elementary - 3rd Grade Science

North Boone CUSD 200

UNITS (4/4 SELECTED)

SUGGESTED DURATION

<input checked="" type="checkbox"/> Unit 1: Motion and Forces	<i>16 lessons</i>
<input checked="" type="checkbox"/> Unit 2: Parents and Offspring	<i>23 lessons</i>
<input checked="" type="checkbox"/> Unit 3: Survival	<i>24 lessons</i>
<input checked="" type="checkbox"/> Unit 4: Weather and Climate	<i>19 lessons</i>

Unit 1: Motion and Forces

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

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 that a pattern can be used to predict future motion.

PRIORITY 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 that a pattern can be used to predict future motion.

Unit 1: Motion and Forces

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

DESIRED RESULTS

Enduring Understandings	Essential Question(s)
<p>Forces acting on an object have both strength and direction.</p> <p>When an object is at rest, the forces acting on it sum to zero net force.</p> <p>When an object is in motion, the forces acting on it do not sum to zero and cause changes in the object's speed or direction.</p> <p>Patterns of an object's motion can often be observed and measured.</p> <p>When an object's past motion exhibits a regular pattern, then its future motion can be predicted.</p>	<p>How can you tell whether something is moving?</p> <p>How do forces change motion?</p>

Students will know (Knowledge):	Students will be able to (Skills):
<ul style="list-style-type: none">• Key concepts and vocabulary associated with motion and forces, including: position, distance, direction, motion, speed, force, friction, balanced forces, unbalanced forces, accelerate• There are different types of motion• Distance and direction are used to describe position• How the ways that people move have changed over time• How forces can change motion• About different types of contact forces, including friction• About balanced and unbalanced forces and how forces acting on objects affect their motion• How unbalanced forces can cause objects to accelerate	<ul style="list-style-type: none">• Use key concepts and vocabulary associated with motion and forces in discussions, inquiry activities, and performance tasks• Generate and record observations about motion and balanced and unbalanced forces• Formulate questions about the way things move and building demolition• Describe an object's position• Observe and describe what happens when object's change position• Build models to show patterns of motion• Investigate the relationship between force and motion• Investigate how changing strength and direction of a force changes an object's motion• Determine how to balance a force

Unit 1: Motion and Forces

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

Students will know (Knowledge):	Students will be able to (Skills):
	<ul style="list-style-type: none">• Observe the cause-and-effect relationship between force and acceleration• Observe how friction affects force• Plan and conduct an investigation to show how force affects motion

Unit 2: Parents and Offspring

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

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-LS3-2.: Use evidence to support the explanation that traits can be influenced by the environment.

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.

PRIORITY 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.
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3-LS3-2.	Use evidence to support the explanation that traits can be influenced by the environment.
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Unit 2: Parents and Offspring

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

DESIRED RESULTS

Enduring Understandings	Essential Question(s)
<p>Plants and animals have unique and diverse life cycles.</p> <p>Reproduction is essential to continued existence.</p> <p>Characteristics of living things can:</p> <ul style="list-style-type: none"> • be inherited from their parents • result from their interactions with the environment • involve both inheritance and environment <p>The environment also affects the traits that a living thing develops.</p>	<p>How are life cycles of plants similar?</p> <p>How are life cycle of animals similar?</p> <p>What affects an organisms traits?</p>

Students will know (Knowledge):	Students will be able to (Skills):
<ul style="list-style-type: none"> • Key concepts and vocabulary associated with parents and offspring, including: life cycle, germinate, reproduction, birth, metamorphosis, offspring, inherit, trait, instinct, variation • Five things that plants need in order to live • The role plants play in creating oxygen that animals need to breathe • The life cycle of a flowering plant including the process of pollination and the role fruit plays in a plant life cycle • Various ways that plants reproduce without flowers, including with spores, buds, bulbs, or directly from a part of the plant • How plant and animal life cycles are similar • How animals reproduce with one or two parents • About life cycles that include metamorphosis • The basics of reptile, fish, and bird life cycles and how they are similar • The basics of life cycles of mammals 	<ul style="list-style-type: none"> • Use key concepts and vocabulary associated with parent and offspring in discussions, inquiry activities, and performance tasks • Generate and record observations about animal life cycles and environmental and hereditary characteristics • Formulate questions about plant growth, an animal with a unique life cycle, and animal fur color traits • Observe seed growth in different environments • Observe the parts of a seed • Observe part of the life cycle of brine shrimp • Research for information and then draw and label the life cycle of the duck-billed platypus • Investigate three types of inherited traits to find which is most common among students in a classroom • Research to find out whether fur color in mice is an inherited trait

Unit 2: Parents and Offspring

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

Students will know (Knowledge):	Students will be able to (Skills):
<ul style="list-style-type: none">• About animals whose life cycles are different from expected patterns• Example of inherited traits• Inherited traits that affect appearance and behaviors• Unique inherited traits, both physical and behavioral, that help animals survive and thrive• How a learned trait is different from an inherited trait	

Unit 3: Survival

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

STANDARDS

3-LS2-1.: Construct an argument that some animals form groups that help members survive.

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-LS4-2.: 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.

PRIORITY STANDARDS

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.
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Unit 3: Survival

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

DESIRED RESULTS

Enduring Understandings	Essential Question(s)
<p>Being part of a group helps animals obtain food, defend themselves, and cope with changes.</p> <p>Groups may vary in size and serve different functions.</p> <p>In any given environment, some organisms survive well, some survive less well, and some cannot survive at all.</p> <p>Sometimes differences in characteristics among individuals of the same species are advantageous for survival, finding mates, and reproduction.</p>	<p>How does being part of a group help animals survive?</p> <p>How do adaptations help plants and animals survive?</p> <p>How do variations in traits provide advantages for survival?</p>

Students will know (Knowledge):	Students will be able to (Skills):
<ul style="list-style-type: none">• Key concepts and vocabulary associated with survival, including: group, population, survive, adaptation, camouflage, hibernation, migration, mimicry, competition, natural selection, predator• Ways that different types of animals work in groups• Various roles of individual animals in a group• Why some animals are helped by working in groups and others are not• The effects of the number of animals in an animal group• What helps animals survive in different environments• Three main ways that adaptations help organisms survive in their environment• What adaptations help plants and animals survive in the desert• What adaptations help animals survive in the forest• What types of adaptations ocean animals have• Why animals migrate• How plants and animals adapt to survive	<ul style="list-style-type: none">• Use key concepts and vocabulary associated with survival in discussions, inquiry activities, and performance tasks• Generate and record observations about adaptations characteristics• Formulate questions about animal groups, bird grouping, and variation of traits• Compare animal groups that work together with animal type that work well independently• Create models of bird beaks to understand how different bird beaks compete for various foods• Investigate how color affects temperature• Understand how fat helps keep animals warm• Investigate how the color of an animal can help it survive• Synthesize learning about adaptations to develop a model bird that is well-adapted to its environment and use evidence to explain how the adaptations help the model bird survive

Unit 3: Survival

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

Students will know (Knowledge):	Students will be able to (Skills):
<ul style="list-style-type: none">• How trait variations can allow some organisms to survive better than others• How camouflage can help organisms survive and reproduce• Examples of variations that help plants and animals survive and reproduce	<ul style="list-style-type: none">• Model an animal hunting and construct an argument about which animal color was harder to identify• Research to learn how honeybees work in groups, communicate, provide food, and defend their hive and then create a poster, brochure, news article, or journal entry to present the information

Unit 4: Weather and Climate

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

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.

PRIORITY STANDARDS

3-ESS2-1.	Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
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Unit 4: Weather and Climate

Elementary - 3rd Grade Science - Last Updated on June 4, 2019

DESIRED RESULTS

Enduring Understandings	Essential Question(s)
<p>Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next.</p> <p>Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years.</p>	<p>How does weather change?</p> <p>How do climates vary in different regions of the world?</p>

Students will know (Knowledge):	Students will be able to (Skills):
<ul style="list-style-type: none"> • Key concepts and vocabulary associated with weather and climate, including: weather, air pressure, atmosphere, wind, precipitation, cloud, climate, axis, season • Air temperature, air pressure, precipitation, and wind speed are all measures of weather • What causes air temperature to change • The elements of a weather report include: current temperature, wind and precipitation readings, predictions, and safety warnings • The relationship between wind and air pressure • The four main steps of the water cycle include: precipitation, runoff, evaporation, and condensation • What causes Earth to have different climates • How climates affect what people do • How oceans, lakes, elevation, and the shapes of mountains affect climate 	<ul style="list-style-type: none"> • Use key concepts and vocabulary associated with weather and climate in discussions, inquiry activities, and performance tasks • Generate and record observations about the water cycle and the difference between weather and climate • Formulate questions about extreme weather and different climates • Confirm the presence of air by investigating whether the presence of air in a cup can keep a paper towel dry inside a container of water • Generate and record observations about the water cycle and the difference between weather and climate • Formulate questions about extreme weather and different climates • Use a weather report and weather map to find patterns in their current local weather • Research weather patterns to make comparisons • Compare two climates by gathering and finding patterns in climate data • Determine which type of land changes temperature the most over a period of time • Research the climate of a city and use the information to create a travel poster