

Content: Science	Grade or Course: 3rd Grade	Date Developed: 5/16/2018
<p>Overview: In 3rd grade, students learn about the physical and living world as they make observations, experiment, research, and record and present what they have learned. Third graders conduct hands-on experimentation to develop questions, hypothesize, and make observations and conclusions. Engineering and design practices are embedded in the content standards. Students will study weather, organisms and forces.</p> <p>Weather: Students are able to organize and use data to describe typical weather conditions expected during a particular season. By applying their understanding of weather-related hazards, students are able to make a claim about the merit of a design solution that reduces the impacts of such hazards.</p> <p>Organisms: Life Cycles and Traits: Students are expected to develop an understanding of the similarities and differences of organisms' life cycles. An understanding that organisms have different inherited traits, and that the environment can also affect the traits that an organism develops, is acquired by students at this level. Students are expected to develop an understanding of types of organisms that lived long ago and also about the nature of their environments.</p> <p>Forces: Students are able to determine the effects of balanced and unbalanced forces on the motion of an object and the cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. They are then able to apply their understanding of magnetic interactions to define a simple design problem that can be solved with magnets.</p>		
<p>Essential Questions:</p> <p>Earth and Space Science Essential Questions:</p> <ul style="list-style-type: none"> ● What is typical weather in different parts of the world and during different times of the year? ● How can the impact of weather-related hazards be reduced? <p>Life Science Essential Questions:</p> <ul style="list-style-type: none"> ● How do organisms vary in their traits? ● How are plants, animals, and environments of the past similar or different from current plants, animals, and environments? ● What happens to organisms when their environment changes? <p>Physical Science Essential Questions:</p> <ul style="list-style-type: none"> ● How do equal and unequal forces on an object affect the object? ● How can magnets be used? 		
<p>EO's addressed to proficiency level:</p> <p>Asking Questions and Defining Problems:</p> <ol style="list-style-type: none"> A. Ask questions about what would happen if a variable were changed. B. Identify scientific (testable) and not-scientific (non-testable) questions. C. Ask questions that can be investigated and predict reasonable outcomes based on patterns such as cause and effect relationships. D. Use prior knowledge to describe problems that can be solved. 		

Planning and Carrying Out Investigations:

- A. Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence.
- B. Evaluate appropriate methods and/or tools for collecting data.
- C. 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.
- D. Make predictions about what would happen if a variable changes.
- E. Test two different models of the same proposed object, tool, or process to determine which better meets criteria for success.

Obtaining, Evaluating and Communicating Information

- A. Read and comprehend grade-appropriate complex texts and/or reliable media to summarize, obtain scientific and technical ideas, and describe how they are supported by evidence.
- B. Combine information in written text with that contained in tables, diagrams, and/or charts to support other science and engineering practices.
- C. Obtain and combine information from books and/or reliable media to explain phenomena or solutions to a design problem.
- D. Communicate scientific and/or technical information orally, and/or in written format including various forms of media.

NextGen Science Standards:

Physical Science: Forces and Interactions

- 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.
- 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.

Life Science:

Interdependent Relationships in Ecosystems: Environmental Impacts on Organisms

- 3-LS2-1. Construct an argument that some animals form groups that help members survive.
- 3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.
- 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.

Inheritance and Variation of Traits: Life Cycles and Traits

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 the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

Earth and Space Science: Weather and Climate

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.

3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

Units:

[Force and Interactions](#)

[Weather and Climate](#)

Life Cycles and Traits

Ecosystems

Assessments:

Regular writing and drawing in a science journal

Teacher Observation

Exit Slips

Life Cycle and Traits:

Write and illustrate an informational text on a life cycle.

Weather and Climate:

TBD once Unit is finished

Force and Interactions:

TBD once Unit is finished