

Boone County 3<sup>rd</sup> Grade Science Curriculum Map

<b>Unit 1: Force and Motion</b>	<b>Duration:</b>
<i>Key Essential Questions:</i>	
<ul style="list-style-type: none"> <li>• How do balanced and unbalanced forces on an object affect the object's motion?</li> <li>• How can patterns be used to predict a change in motion when a force is applied?</li> </ul>	
<i>Transfer Goals:</i>	
<i>Students will be able to use their learning to</i>	
<ul style="list-style-type: none"> <li>• Plan and conduct an investigation using fair tests to explain a cause and effect relationship [between forces and the motion of an object].</li> <li>• Use evidence to explain patterns [in motion.]</li> </ul>	
<b>Performance Expectation</b>	
<b>3-PS2-1.</b> Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.	
<b>3-PS2-2.</b> Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.	
<b>3-5-ETS1-3.</b> 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.	
Notes:	

<b>Unit 2: Electric and Magnetic Forces</b>	<b>Duration:</b>
<i>Key Essential Questions:</i>	
<ul style="list-style-type: none"> <li>• How do electric and magnetic forces interact with objects?</li> <li>• How can magnets be used to solve a problem?</li> </ul>	
<i>Transfer Goals:</i>	
<i>Students will be able to use their learning to</i>	
<ul style="list-style-type: none"> <li>• Ask questions that can be investigated based on patterns such as cause and effect relationships between [electrical and magnetic forces</li> </ul>	

and objects.]
<ul style="list-style-type: none"> <li>Plan and carry out investigations to test solutions to problems [using magnets].</li> </ul>
<b>Performance Expectation</b>
<b>3-PS2-3.</b> Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.
<b>3-PS2-4.</b> Define a simple design problem that can be solved by applying scientific ideas about magnets.*
<b>3-5-ETS1-1.</b> Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
Notes:

<b>Unit 3: Weather and Climate</b>	<b>Duration:</b>
<i>Key Essential Questions:</i>	
<ul style="list-style-type: none"> <li>What is the typical weather in different parts of the world at different times of the year?</li> <li>How can the impact of weather-related hazards be reduced?</li> </ul>	
<i>Transfer Goals:</i>	
<i>Students will be able to use their learning to</i>	
<ul style="list-style-type: none"> <li>Represent data on a graph so it can be analyzed and interpreted to reveal patterns in [typical weather conditions expected during a particular season or region].</li> <li>Use evidence to argue a claim about the merit of a design solution that [reduces the impact of weather-related hazards].</li> </ul>	
<b>Performance Expectation</b>	
<b>3-ESS2-1.</b> Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.	
<b>3-ESS2-2.</b> Obtain and combine information to describe climates in different regions of the world.	
<b>3-ESS3-1.</b> Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.*	
<b>3-5-ETS1-1.</b> Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	

Notes:

<b>Unit 4: Inherited Traits and the Life Cycle</b>	<b>Duration:</b>
<i>Key Essential Questions:</i>	
<ul style="list-style-type: none"><li>• How do organisms vary in their inherited traits?</li><li>• How can traits be influenced by the environment?</li><li>• What are the similarities and differences between the life cycles of different organisms?</li></ul>	
<i>Transfer Goals:</i>	
<i>Students will be able to use their learning to</i>	
<ul style="list-style-type: none"><li>• Analyze and interpret data to observe differences and similarities in patterns [in inherited traits among groups of similar organisms].</li><li>• Construct explanations of cause and effect relationships that are used to explain [that traits can be influenced by the environment].</li><li>• Develop and use models to show patterns in the [life cycles of different organisms].</li></ul>	
<b>Performance Expectation</b>	
<b>3-LS3-1.</b> 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.	
<b>3-LS3-2.</b> Use evidence to support the explanation that traits can be influenced by the environment.	
<b>3-LS1-1.</b> Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.	
Notes:	

<b>Unit 5: Survival Within an Environment</b>	<b>Duration:</b>
<i>Key Essential Questions:</i>	
<ul style="list-style-type: none"><li>• How do organisms survive in an environment?</li></ul>	

- How do the characteristics of a species help it survive?

*Transfer Goals:*

*Students will be able to use their learning to*

- Engage in an argument from evidence of the cause and effect relationships between an [animal's behaviors and its survival].
- Use evidence to construct explanations of the cause and effect relationship between the [characteristics of an organism and its survival].

**Performance Expectation**

**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.

**3-5-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-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.

Notes:

**Unit 6: Changes in Environments**

**Duration:**

*Key Essential Questions:*

- What do fossils teach us about the past?
- What happens to organisms when their environment changes?

*Transfer Goals:*

*Students will be able to use their learning to*

- Analyze and interpret data about the scale, proportion and quantity [of fossils to learn about the past].
- Engage in an argument from evidence about the cause and effect relationship between [environmental changes and the effect on the organisms in that environment].

**Performance Expectation**

**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-LS4-4.** 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.\*

**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.

Notes: