Boone County 2ⁿᵈ Grade Science Curriculum Map

Unit 1: Properties of Matter	Duration:

Key Essential Questions:

- How are materials similar and different from one another?
- How do the properties of materials relate to their use?

Transfer Goals:
Students will be able to use their learning to

- Plan and conduct investigations with peers to identify patterns of evidence [to describe and classify materials by their observable properties].
- Analyze data from tests of an object or tool to determine if it worked as intended [determine which materials have the properties best suited for an intended purpose].

Performance Expectation

2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

2-PS1-2. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.*

K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Notes:

Unit 2: Interactions in Matter	Duration:

Key Essential Questions:

- How can you use a set of materials to create new objects?
- What is the effect of heating and cooling of substances?

Transfer Goals:
Students will be able to use their learning to

- Make observations (firsthand or from media) to construct an explanation [that objects may break into smaller pieces and be put together to change shape].
- Use cause and effect relationships to construct an argument [to prove that heating and cooling causes reversible or irreversible changes].

Performance Expectation

2-PS1-3. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.

2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

Notes:

Unit 3: Earth's Land and Water	Duration:

Key Essential Questions:

- What are the different kinds of land?
- What are different kinds of bodies of water?
- In what ways can we represent the shapes and kinds of land?
- In what ways can we represent the different kinds of bodies of water?

Transfer Goals:
Students will be able to use their learning to

- Obtain, evaluate, and communicate information about [models that represent the shapes of land and bodies of water].
- Obtain, evaluate, and communicate information about [where water is found on Earth in solid and liquid forms].
- Develop models [to identify shapes and kinds of land and bodies of water].

Performance Expectation

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area

2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.

Notes:

Unit 4: Changes to Earth's Land	Duration:

Key Essential Questions:

- How does land change?
- What are some things that cause the land to change?

Transfer Goals:
Students will be able to use their learning to

- Construct explanations from information to explain that [events on Earth can occur quickly or slowly].
- Construct explanations and design a solution [to compare ways to slow or prevent wind or water from changing the shape of the land].
- Develop a model connecting structure and function [to represent the ways humans help slow or prevent wind or water from changing the shape of the land].

Performance Expectation

2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly

2-ESS2-1. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.*

K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Notes:

Unit 5: Structure and Function of Plants	Duration:

Key Essential Questions:

- What do plants need in order to grow?
- What roles do animals play in seed dispersal or pollinating plants?

Transfer Goals:
Students will be able to use their learning to

- Plan and carry out an investigation using cause and effect [to determine the need for sunlight and water in a plant's growth].
- Develop and use a model [to mimic the function of an animal dispersing seeds or pollinating plants].

Performance Expectation

2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.

2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.*

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Notes:

Unit 6: Relationships in Habitats	Duration:

Key Essential Questions:

- How does the diversity of plants and animals compare among different habitats?

Transfer Goals:
Students will be able to use their learning to

- Make observations (firsthand or from media) to plan and carry out investigations [to compare the diversity of plant and animal life in different habitats].

Performance Expectation

2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

Notes: