Boone County Kindergarten Science Curriculum Map

Unit 1, Pushes and Pulls	**Duration**:
Key Essential Questions: ● What happens if you push or pull an object using different strengths or in different directions? ● What tools can I use to change the speed and direction of an object?	
Transfer Goals: *Students will be able to use their learning to* ● Plan and carry out investigations with peers to gather evidence [of the effects of forces on an object]. ● Analyze data from tests of an object or tool to determine if it worked as intended [to change speed or direction of an object].	
Performance Expectation	
K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	
K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	
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.	
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, Sun's Energy	**Duration**:
Key Essential Questions:	

- What is the effect of sunlight on the earth's surface?
- How can the warming effects of the sun be reduced?

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

- Explain the cause and effect relationship between [the Sun's energy and the Earth's surface].
- Use tools and materials to design and build a device that solves a specific problem [to reduce the warming effects of the Sun's energy].
- Make observations (either firsthand or from media) to collect data to be used to make comparisons [of design solutions meant to reduce the warming effect of the Sun's energy].

Performance Expectation

K-PS3-1. Make observations to determine the effect of sunlight on Earth's surface

K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.*

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-ETS1-3. 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 3, Patterns and Predictions of Weather	**Duration**:

Key Essential Questions:

- What is the weather like today and how is it different from yesterday?
- How can we use patterns in weather to predict tomorrow's weather?

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

- Ask questions based on observations to guide investigations of patterns [in weather].
- Make observations (either firsthand or from media) to collect data to be used to make comparisons [in weather].

Performance Expectation
K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time
K-ESS3-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.*
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 4, Plants Have Needs	**Duration**:
Key Essential Questions: ● What do plants need to survive in their particular environment? ● What can we do to reduce the impact of humans on our local environment?	
Transfer Goals: *Students will be able to use their learning to* ● Use patterns from observations as evidence in making a claim [for what plants needs to survive in a particular area]. ● Use patterns from observations as evidence in making a claim [that plants can change the environment to meet their needs]. ● Use a model to represent the relationship between [the needs of different plants and the places they live]. ● Communicate solutions [that will reduce the impact of humans on their environment].	
Performance Expectation	
K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive	
K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.	
K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.	
K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.*	

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: ESS2-2, ESS3-1 and ESS3-3 are shared between this unit and Unit 5 (animals).

Unit 5, Animals Have Needs Too	**Duration**:
Key Essential Questions: • What do animals (including humans) need to survive in their particular environment? • What can we do to reduce the impact of humans on our local environment?	
Transfer Goals: *Students will be able to use their learning to* ● Use patterns from observations as evidence in making a claim [for what animals (including humans) need to survive in a particular area]. ● Use patterns from observations as evidence in making a claim [that animals (including humans) can change the environment to meet their needs]. ● Use a model to represent the relationship between [the needs of different animals (including humans) and the places they live]. ● Communicate solutions [that will reduce the impact of humans on their environment].	
Performance Expectation	
K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.	
K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.	
K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.*	
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: ESS2-2, ESS3-1 and ESS3-3 are shared between this unit and Unit 4 (plants).	