BLUE VALLEY DISTRICT CURRICULUM

Science | Grade 2

ORGANIZING THEME/TOPIC	FOCUS STANDARDS AND SKILLS
Unit 1: Structures and Properties of Matter **Bring Science Alive!** Unit 2: Materials and Their Uses Lessons 1- 5 Suggested Time Frame: 44 days	**2-PS1-1. Plan and conduct an investigation to describe and classify** different kinds of materials **by their observable properties.** **Science and Engineering Practices** • **Planning and Carrying Out Investigations –** Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. **Disciplinary Core Ideas** • **PS1.A: Structure and Properties of Matter -** Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties. **Crosscutting Concepts** • **Patterns –** Patterns in the natural and human designed world can be observed. **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. **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.** **Science and Engineering Practices** • **Analyzing and Interpreting Data –** Analyze data from tests of an object or tool to determine if it works as intended. • **Constructing Explanations and Designing Solutions –** Make observations to construct an evidence-based account for natural phenomena. **Disciplinary Core Ideas** • **PS1.A: Structure and Properties of Matter -** Different properties are suited to different purposes. • **PS1.A: Structure and Properties of Matter -** A great variety of objects can be built up from a small set of pieces. **Crosscutting Concepts** • **Cause and Effect –** Simple tests can be designed to gather evidence to support or refute student ideas about causes. • **Energy and Matter –** Objects may break into smaller pieces and be put together into larger pieces, or change shapes.

Unit 2: Heating and Cooling Substances **Bring Science Alive!** Unit 2: Materials and Their Uses Lesson 6 Suggested Time Frame: 7 days	**2-PS1-4. Construct an argument with evidence that some changes caused by** heating or cooling can be reversed and some cannot. **Science and Engineering Practices** • **Engaging in Argument from Evidence–** Construct an argument with evidence to support a claim. **Disciplinary Core Idea** • **PS1.B: Chemical Reactions -** Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not. **Crosscutting Concepts** • **Cause and Effect –** Events have causes that generate observable patterns.
Unit 3: Water on Earth **Bring Science Alive!** Unit 3: Earth's Surface Lessons 1- 2 Suggested Time Frame: 16 days	**2-ESS2-3. Obtain information to identify where water is found on Earth** and that it can be solid or liquid. **Science and Engineering Practices** • **Obtaining, Evaluating, and Communicating Information -** Obtain information using various texts, text features, and other media that will be useful in answering a scientific question. **Disciplinary Core Idea** • **ESS2.C: The Roles of Water in Earth's Surface Processes -** Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form. **Crosscutting Concepts** • **Patterns –** Patterns in the natural world can be observed.
Unit 4: Maps of Land and Water **Bring Science Alive!** Unit 3: Earth's Surface Lesson 3 Suggested Time Frame: 10 days	**2-ESS2-2. Develop a model to represent the shapes and kinds** of land and bodies of water in an area. **Science and Engineering Practices** • **Developing and Using Models –** Develop a model to represent patterns in the natural world. **Disciplinary Core Ideas** • **ESS2.B: Plate Tectonics and Large-Scale System Interactions –** Maps show where things are located. One can map the shapes and kinds of land and water in any area. **Crosscutting Concepts** • **Patterns** – Patterns in the natural world can be observed.

Unit 5: Earth Events **Bring Science Alive!** Unit 3: Earth's Surface Lessons 4-7 Suggested Time Frame: 34	**2-ESS1-1. Use information from several sources to provide evidence that** Earth events **can occur quickly or slowly.** **Science and Engineering Practices** • **Constructing Explanations and Designing Solutions –** make observations from several sources to construct an evidence-based account for natural phenomena. **Disciplinary Core Idea** • **ESS1.C: The History of Planet Earth -** Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe. **Crosscutting Concepts** • **Stability and Change –** Things may change slowly or rapidly. **2-ESS2-1. Compare multiple solutions designed to slow or prevent** wind or water from changing the shape of the land. **Science and Engineering Practice** • **Constructing Explanations and Designing Solutions** – Compare multiple solutions to a problem. **Disciplinary Core Idea** • **ESS2.A: Earth Materials and Systems -** Wind and water can change the shape of the land. • **ETS1.C: Optimizing the Design Solution –** Because there is always more than one possible solution to a problem, it is useful to compare and test designs. **Crosscutting Concepts** • **Stability and Change –** Things may change slowly or rapidly.
Unit 6: Plant Needs **Bring Science Alive!** Unit 1: Plant and animal Survival Lessons 1- 2 Suggested Time Frame: 18 days	**2-LS2-1. Plan and conduct an investigation** to **determine if** plants **need sunlight and water to grow.** **Science and Engineering Practices** • **Planning and Carrying Out Investigations –** Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. **Disciplinary Core Ideas** • **LS2.A: Interdependent Relationships in Ecosystems -** Plants depend on water and light to grow. **Crosscutting Concepts** • **Cause and Effect –** Events have causes that generate observable patterns

Unit 7: Seeds on the Move **Bring Science Alive!** Unit 1: Plant and animal Survival Lessons 3 Suggested Time Frame: 9 days	**2-LS2-2. Develop a simple model that mimics the function** of an animal in dispersing seeds or pollinating plants. **Science and Engineering Practices** • **Developing and Using Models –** Develop a simple model based on evidence to represent a proposed object or tool. **Disciplinary Core Ideas** • **LS2.A: Interdependent Relationships in Ecosystems -** Plants depend on animals for pollination or to move their seeds around. • **ETS1.B: Developing Possible Solutions -** Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. **Crosscutting Concepts** • **Structure and Function –** The shape and stability of structures of natural and designed objects are related to their function(s)**.**
Unit 8: Diversity and Habitats **Bring Science Alive!** Unit 1: Plant and animal Survival Lessons 4-8 Suggested Time Frame: 43 days	**2-LS4-1. Make observations** of plants and animals **to compare** the diversity of life in different habitat**s.** **Science and Engineering Practices** • **Planning and Carrying Out Investigations** - Make observations to collect data which can be used to make comparisons. **Disciplinary Core Ideas** • **LS4.D: Biodiversity and Humans -** There are many different kinds of living things in any area, and they exist in different places on land and in water.