

Kentucky Science

# Grade 2

Adopted 2022

## Grade 2

### Physical Science

- 2-PS1-1.** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. **2-PS1-1**
- 2-SEPS1-1.** Planning and Carrying Out Investigations - Plan and conduct an investigation collaboratively in order to produce data to serve as the basis for evidence to answer a question. **2-SEPS1-1**
- A1.** 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. **2-DCI.PS1.A1**
- PS1-1.** Patterns - Patterns in the natural and human-designed world can be observed. **2-CC.PS1-1**
- 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-PS1-2**
- 2-SEPS1-2.** Analyzing and Interpreting Data - Analyze data from tests of an object or tool to determine if it works as intended. **2-SEPS1-2**
- A2.** Structure and Properties of Matter - Different properties are suited to different purposes. **2-DCI.PS1.A2**
- PS1-2.** Cause and Effect - Simple tests can be designed to gather evidence to support or refute student ideas about causes. **2-CC.PS1-2**
- 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-PS1-3**
- 2-SEPS1-3.** Constructing Explanations and Designing Solutions - Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. **2-SEPS1-3**
- A3.** Structure and Properties of Matter - Different properties are suited to different purposes. A great variety of objects can be built up from a small set of pieces. **2-DCI.PS1.A3**
- PS1-3.** Energy and Matter - Objects may break into smaller pieces and be put together into larger pieces, or they may change shape. **2-CC.PS1-3**
- 2-PS1-4.** Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot. **2-PS1-4**
- 2-SEPS1-4.** Engaging in Argument from Evidence - Construct an argument with evidence to support a claim. **2-SEPS1-4**
- B4.** Chemical Reactions - Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not. **2-DCI.PS1.B4**
- PS1-4.** Cause and Effect - Events have causes that generate observable patterns. **2-CC.PS1-4**

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## Life Science

- 2-LS2-1.** Plan and conduct an investigation to determine if plants need sunlight and water to grow. **2-LS2-1**
- 2-SEPLS2-1.** Planning and Carrying Out Investigations - Plan and conduct an investigation collaboratively in order to produce data to serve as the basis for evidence to answer a question. **2-SEPLS2-1**
- A1.** Interdependent Relationships in Ecosystems - Plants depend on water and light to grow. **2-DCI.LS2.A1**
- LS2-1.** Cause and Effect - Events have causes that generate observable patterns. **2-CC.LS2-1**
- 2-LS2-2.** Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. **2-LS2-2**
- 2-SEPLS2-2.** Developing and Using Models - Develop a simple model based on evidence to represent a proposed object or tool. **2-SEPLS2-2**
- A2.** Interdependent Relationships in Ecosystems - Plants depend on animals for pollination or to move their seeds around. **2-DCI.LS2.A2**
- B2.** 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. **2-DCI.ETS1.B2**
- LS2-2.** Structure and Function - The shape and stability of structures of natural and designed objects are related to their function(s). **2-CC.LS2-2**
- 2-LS4-1.** Make observations of plants and animals to compare the diversity of life in different habitats. **2-LS4-1**
- 2-SEPLS4-1.** Planning and Carrying Out Investigations - Make observations (firsthand or from media) to collect data that can be used to make comparisons. **2-SEPLS4-1**
- D1.** 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. **2-DCI.LS4.D1**
- LS4-1.** Patterns - Patterns in the natural world can be observed. **2-CC.LS4-1**

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## Earth and Space Science

- 2-ESS1-1.** Use information from several sources to provide evidence that Earth events can occur quickly or slowly. **2-ESS1-1**
- 2-SEP ESS1-1.** Constructing Explanations and Designing Solutions - Make observations from several sources to construct an evidence-based account for natural phenomena. **2-SEP ESS1-1**
- C1.** The History of Planet Earth - Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe. **2-DCI.ESS1.C1**
- ESS1-1.** Stability and Change - Things may change slowly or rapidly. **2-CC.ESS1-1**
- 2-ESS2-1.** Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. **2-ESS2-1**
- 2-SEP ESS2-1.** Constructing Explanations and Designing Solutions - Compare multiple solutions to a problem. **2-SEP ESS2-1**
- A1.** Earth Materials and Systems - Wind and water can change the shape of the land. **2-DCI.ESS2.A1**
- C1.** Optimizing the Design Solution - Because there is always more than one possible solution to a problem, it is useful to compare and test designs. **2-DCI.ETS2.C1**
- ESS2-1.** Stability and Change - Things may change slowly or rapidly. **2-CC.ESS2-1**
- 2-ESS2-2.** Develop a model to represent the shapes and kinds of land and bodies of water in an area. **2-ESS2-2**
- 2-SEP ESS1-2.** Developing and Using Models - Develop a model to represent patterns in the natural world. **2-SEP ESS1-2**
- B2.** 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. **2-DCI.ESS2.B2**
- ESS2-2.** Patterns - Patterns in the natural world can be observed. **2-CC.ESS2-2**
- 2-ESS2-3.** Obtain information to identify where water is found on Earth and that it can be solid or liquid. **2-ESS2-3**
- 2-SEP ESS2-3.** Obtaining, Evaluating, and Communicating Information - Obtain information using various texts, text features (e.g., headings, tables of contents, glossaries, electronic menus, icons), and other media that will be useful in answering a scientific question. **2-SEP ESS2-3**
- C3.** The Roles of Water in Earth's Surface Processes - Water is found in oceans, rivers, lakes, and ponds. Water exists as solid ice and in liquid form. **2-DCI.ESS2.C3**
- ESS2-3.** Patterns - Patterns in the natural world can be observed. **2-CC.ESS2-3**

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## K-2 Engineering Design

- K-2-ETS1-1.** Ask questions, make observations, and gather information about a situation that 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-ETS1-1**

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**K2-SEPETS1-1. Asking Questions and Defining Problems - Ask questions based on observations to find more information about the natural and/or designed world(s). Define a simple problem that can be solved through the development of a new or improved object or tool. K2-SEPETS1-1**

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**A1. Defining and Delimiting Engineering Problems - A situation that people want to change or create can be approached as a problem to be solved through engineering. Asking questions, making observations, and gathering information are helpful in thinking about problems. Before beginning to design a solution, it is important to clearly understand the problem. K2-DCI.ETS1.A1**

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**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-ETS1-2**

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**K2-SEPETS1-2. Developing and Using Models - Develop a simple model based on evidence to represent a proposed object or tool. K2-SEPETS1-2**

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**B2. 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. K2-DCI.ETS1.B2**

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**ETS1-2. Structure and Function - The shape and stability of structures of natural and designed objects are related to their function(s). K2-CC.ETS1-2**

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**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. K-2-ETS1-3**

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**K2-SEPETS1-3. Analyzing and Interpreting Data - Analyze data from tests of an object or tool to determine if it works as intended. K2-SEPETS1-3**

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**C3. Optimizing the Design Solution - Because there is always more than one possible solution to a problem, it is useful to compare and test designs. K2-CC.ETS1.C3**

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