

2nd Grade Topic Model

Narrative and Rationale: The topic model in Grade 2 is divided into three bundles that build in complexity in terms of both disciplinary and crosscutting content, as well as the application of science and engineering practices across the year.

In Bundle 1, students can examine patterns of where water is found on the Earth in both solid and liquid forms, and patterns of where different kinds of plants and animals live on the land and in the water. In Bundle 2, students can examine how the land can change slowly or quickly by wind or water, and how different design solutions can affect these changes. In Bundle 3, students can explore the needs of plants and how animals and designed solutions can help meet plants' needs.

Note that the practices and crosscutting concepts included in each bundle are intended as end-of-instructional unit expectations and not curricular designations. Additional practices and crosscutting concepts should be used throughout instruction in each bundle.

| Bundle 1: What patterns related to water exist in | Bundle 2: Why does the land change over | Bundle 3: What do Plants Need? |
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| the natural world? | time? | ~8 weeks |
| ~12 weeks | ~12 weeks | |
| 2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. 2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.¹ 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats. 2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.¹ 2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid. 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. | 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. 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.* 2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area. 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. | 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. |

^{1.} The bundle only includes part of this PE; the PE is not fully assessable in a unit of instruction leading to this bundle.



- 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.

• Because there is always more than one possible solution to a problem, it is useful to compare and test designs.

Bundle 3

• Plants depend on water and light to grow.

• Plants depend on animals for pollination or to move their

ETS1.B as found in 2-LS2-2 and K-2-ETS1-2

• Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other