Disciplinary Core Idea

2.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. (2-ESS1-1)

Disciplinary Core Idea

2.ESS2.A: Earth Materials and Systems
Wind and water can change the shape of the land. (2-ESS2-1)

Disciplinary Core Idea

2.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. (2-ESS2-2)
Disciplinary Core Idea

2.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. (2-ESS2-3)

Disciplinary Core Idea

2.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. (2-ESS2-1)

Disciplinary Core Idea


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-PS1-1)

Different properties are suited to different purposes. (2-PS1-2)

A great variety of objects can be built up from a small set of pieces. (2-PS1-3)
Performance Expectation

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

*Clarification Statement:* Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly.

*Assessment Boundary:* Assessment does not include quantitative measurements of timescales.

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Performance Expectation

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

*Clarification Statement:* Examples of solutions could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back the land.

*Assessment Boundary:* none

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Performance Expectation

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

*Clarification Statement:* none

*Assessment Boundary:* Assessment does not include quantitative scaling in models.
Performance Expectation

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

Clarification Statement: none
Assessment Boundary: none

Performance Expectation

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

Clarification Statement: Observations could include color, texture, hardness, and flexibility. Patterns could include the similar properties that different materials share.
Assessment Boundary: none

Performance Expectation

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.

Clarification Statement: Examples of properties could include, strength, flexibility, hardness, texture, and absorbency.
Assessment Boundary: Assessment of quantitative measurements is limited to length.
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.

Clarification Statement: Examples of pieces could include blocks, building bricks, or other assorted small objects.

Assessment Boundary: none

Science and Engineering Practice

Developing and Using Models

Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

Develop a model to represent patterns in the natural world. (2-ESS2-2)

Science and Engineering Practice

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomenon and designing solutions.

Make observations from several sources to construct an evidence-based account for natural phenomena. (2-ESS1-1)
**Science and Engineering Practice**

**Constructing Explanations and Designing Solutions**

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomenon and designing solutions.

*Compare multiple solutions to a problem.* (2-ESS2-1)

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**Science and Engineering Practice**

**Obtaining, Evaluating, and Communicating Information**

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new 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-ESS2-3)

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**Science and Engineering Practice**

**Planning and Carrying Out Investigations**

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

*Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question.* (2-PS1-1)
### Science and Engineering Practice

#### Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

Analyze data from tests of an object or tool to determine if it works as intended. (2-PS1-2)

### Science and Engineering Practice

#### Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomenon and designing solutions.

Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (2-PS1-3)

### Crosscutting Concept

#### Patterns

Patterns in the natural world can be observed. (2-ESS2-2), (2-ESS2-3)
Crosscutting Concept

**Stability and Change**

Things may change slowly or rapidly. (2-ESS1-1), (2-ESS2-1)

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Crosscutting Concept

**Patterns**

Patterns in the natural and human designed world can be observed. (2-PS1-1)

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Crosscutting Concept

**Cause and Effect**

Simple tests can be designed to gather evidence to support or refute student ideas about causes. (2-PS1-2)
Object may break into smaller pieces and be put together into larger pieces, or change shapes. (2-PS1-3)

Scientists study the natural and material world. (2-ESS2-1)

Developing and using technology has impacts on the natural world. (2-ESS2-1)
Influence of Science, Engineering, and Technology on Society and the Natural World

Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world. (2-PS1-2)

Reading Informational Text
RI.2.1 - Key Ideas and Details
Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. (2-ESS1-1)

Reading Informational Text
RI.2.3 - Key Ideas and Details
Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. (2-ESS1-1), (2-ESS2-1)
**Common Core State Standards for ELA/Literacy**

**Reading Informational Text**

**RI.2.9 - Integration of Knowledge and Ideas**

Compare and contrast the most important points presented by two texts on the same topic. (2-ESS2-1)

**Common Core State Standards for ELA/Literacy**

**Speaking & Listening**

**SL.2.2 - Comprehension and Collaboration**

Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. (2-ESS1-1)

**Common Core State Standards for ELA/Literacy**

**Speaking & Listening**

**SL.2.5 - Presentation of Knowledge and Ideas**

Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. (2-ESS2-2)
### W.2.6 - Production and Distribution of Writing

With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. (2-ESS1-1), (2-ESS2-3)

### W.2.7 - Research to Build and Present Knowledge

Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (2-ESS1-1)

### W.2.8 - Research to Build and Present Knowledge

Recall information from experiences or gather information from provided sources to answer a question. (2-ESS1-1), (2-ESS2-3)
Common Core State Standards for Mathematics

Measurement & Data
2.MD.B.5 - Relate addition and subtraction to length.
Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem. (2-ESS2-1)

Common Core State Standards for Mathematics

Number & Operations in Base Ten
2.NBT.A - Understand place value.
Understand place value. (2-ESS1-1)

Common Core State Standards for Mathematics

Number & Operations in Base Ten
2.NBT.A.3 - Understand place value.
Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. (2-ESS2-2)
Reason abstractly and quantitatively. (2-ESS1-1), (2-ESS2-1), (2-ESS2-2)

Model with mathematics. (2-ESS1-1), (2-ESS2-1), (2-ESS2-2)

Use appropriate tools strategically. (2-ESS2-1)