

DCI: Earth's Systems

2.ESS2.A: Earth Materials and Systems

Wind and water can change the shape of the land. (2-ESS2-1)

DCI: Earth's Systems

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)

DCI: Earth's Systems

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)

DCI: Earth's Systems

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)

DCI: Matter and Its Interactions

2.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. (2-PS1-1)

DCI: Matter and Its Interactions

2.PS1.A: Structure and Properties of Matter

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

DCI: Matter and Its Interactions

2.PS1.A: Structure and Properties of Matter

Different properties are suited to different purposes. (2-PS1-3)

DCI: Matter and Its Interactions

2.PS1.A: Structure and Properties of Matter

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

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

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.

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

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)

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-ESS2-1)

Crosscutting Concept

Patterns

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

Crosscutting Concept

Cause and Effect

Simple tests can be designed to gather evidence to support or refute student ideas about causes. (2-PS1-2)

Crosscutting Concept

Energy and Matter

Objects may break into smaller pieces and be put together into larger pieces, or change shapes. (2-PS1-3)

Connection to Nature of Science

Science Addresses Questions About the Natural and Material World

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

Connection to Engineering, Technology, and Applications of Science

Influence of Science, Engineering, and Technology on Society and the Natural World

Developing and using technology has impacts on the natural world.
(2-ESS2-1)

Connection to Engineering, Technology, and Applications of Science

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)

Common Core State Standards for ELA/Literacy

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-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.2.5 - 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)

Common Core State Standards for ELA/Literacy

Card Type name

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-ESS2-3)

Common Core State Standards for ELA/Literacy

Card Type name

W.2.8 - Research to Build and Present Knowledge

Recall information from experiences or gather information from provided sources to answer a question. (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.3 - Understand place value.

Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. (2-ESS2-2)

Common Core State Standards for Mathematics

Mathematical Practices

MP.2 - Reason abstractly and quantitatively

CCSS text (2-ESS2-1), (2-ESS2-2)

Common Core State Standards for Mathematics

Mathematical Practices

MP.4 - Model with mathematics

CCSS text (2-ESS2-1), (2-ESS2-2)

Common Core State Standards for Mathematics

Mathematical Practices

MP.5 - Use appropriate tools strategically

CCSS text (2-ESS2-1)