March. Grade 2 Unit 4: Earth's Surfaces

Content Area: **Science**
Course(s):
Time Period: **March**
Length: **6-8 Weeks**
Status: **Published**

Unit Overview

In this unit, students will:

- gather information to identify where water is located on Earth;
- develop maps to represent locations of land and water on Earth.
- learn about the functions of water on the earth's surface.

Enduring Understandings

Water is located in many places on the earth's surface.

We can represent the land and water on maps of the earth's surface.

Essential Questions

Where is water located on the earth's surface and what kind of water is it?

What role does water play on the earth's surface?

How do we represent water and land on maps?

Instructional Strategies & Learning Activities

- Unit 4: Earth's Surface

  Teacher Edition

  Earth's Surface: Unit Opener

  The Unit Opener introduces the unit "Earth's Surface" and the unit project, Explore Ocean Water.

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  Unit 4: Earth's Surface

Teacher eBook

Earth's Surface: Unit Project: Explore Ocean Water

During the unit project "Explore Ocean Water," children will:
- Explore why ocean water does not freeze completely by planning and conducting an investigation.
- Make models to represent ocean water (and to represent fresh water to make comparisons if desired).
- Construct an argument using evidence to support a claim.

- Unit 4: Earth's Surface

  Online Assessment

  Earth's Surface: Unit Test

  The interactive Unit Test for "Earth's Surface" assesses students' ability to apply knowledge to solve problems and explain phenomena in relation to the Performance Expectations associated with the unit. In this unit, children:
  - gather information to identify where water is located on Earth;
  - develop maps to represent locations of land and water on Earth.

- Unit 4: Earth's Surface

  Teacher Edition

  Earth's Surface: Integrating the NGSS* Three Dimensions of Learning

  This section details the Performance Expectations covered in the unit "Earth's Surface."
  Launch

- Unit 4: Earth's Surface

  Teacher Edition

  Earth's Surface: Differentiate Instruction

  This page provides differentiated support for this unit's Science & Engineering Leveled Readers, "Why Are Resources Important ?" and "All About Rocks."

- Unit 4: Earth's Surface

  Assessment Guide

  Earth's Surface: Unit Pretest (Editable)

The Unit Pretest for "Earth's Surface" focuses on prerequisite knowledge. The test is composed primarily of DOK 1 items that evaluate student preparedness for the upcoming content.

- Unit 4: Earth's Surface

  Teacher Edition

  Earth's Surface: Unit Project: Explore Ocean Water

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- Unit 4: Earth's Surface

  Student Edition

  Earth's Surface: Unit Opener

  The Unit Opener for "Earth's Surface" introduces the unit project, Explore Ocean Water. During this unit project, children will:
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- Unit 4: Earth's Surface

  Teacher eBook

  Earth's Surface: Unit Opener

  The Unit Opener introduces the unit "Earth's Surface" and the unit project, Explore Ocean Water.

- Unit 4: Earth's Surface

  Teacher Edition

  Earth's Surface: Unit At a Glance

  Unit at a Glance for "Earth's Surface" includes the unit table of contents, unit vocabulary words, and the vocabulary game, Guess the Word. In this unit, children will:
  - gather information to identify where water is located on Earth;
  - develop maps to represent locations of land and water on Earth.

- Unit 4: Earth's Surface

  Teacher Edition

  Earth's Surface: 3D Unit Planning

  Planning resources are available for each lesson and hands-on activity in the unit "Earth's Surface."

- Unit 4: Earth's Surface

  Assessment Guide

  Earth's Surface: Unit Pretest

  The Unit Pretest for "Earth's Surface" focuses on prerequisite knowledge. The test is composed primarily of DOK 1 items that evaluate student preparedness for the upcoming content.

- Unit 4: Earth's Surface

Teacher Edition

Earth's Surface: Connecting with NGSS

These opportunities for informal science learning provide local context and extend and enhance concepts from the unit "Earth's Surface."

- Unit 4: Earth's Surface

  Assessment Guide

  Earth's Surface: Unit Test

  The Unit Test for "Earth's Surface" assesses students' ability to apply knowledge to solve problems and explain phenomena in relation to the Performance Expectations associated with the unit. In this unit, children:
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- Unit 4: Earth's Surface

  Home Letter

  Earth's Surface: Home Letter

  This is the home letter for the unit "Earth's Surface."

- Unit 4: Earth's Surface

  Student Edition

  Earth's Surface: Unit At a Glance

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Unit 4: Earth's Surface

Leveled Readers Teacher's Guide

Topic 5: Earth and Its Resources

The Leveled Readers Teachers Guide provides teaching strategies and support (as well as reproducible English and Spanish worksheets) for the Unit 4 readers "Why Are Resources Important?" and "All About Rocks." On-Level and Extra-Support worksheets focus on vocabulary development, while Enrichment worksheets reinforce and enrich content.

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Unit 4: Earth's Surface

Student eBook

Earth's Surface: Unit Review

The Unit Review assesses student understanding of key ideas and concepts from the unit "Earth's Surface."

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Unit 4: Earth's Surface

Leveled Readers - Blue

On-Level: Why Are Resources Important?

The leveled reader "Why Are Resources Important?" is designed for on-level readers and can be used to enrich key concepts from the unit "Earth's Surface."

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Unit 4: Earth's Surface

You Solve It

Mapping Water (Teacher)

Teacher support materials are available for "Mapping Water." During this activity, students will collect information about various types of fresh water and salt water bodies. They use this information to recognize patterns in bodies of water found on Earth.

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Unit 4: Earth's Surface

Leveled Readers - Red

Extra-Support: Why Are Resources Important?

The leveled reader "Why Are Resources Important?" is designed for below-level readers and can be used to reinforce key concepts from the unit "Earth's Surface."

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Unit 4: Earth's Surface

You Solve It

Mapping Water

The Mapping Water activity allows students to collect information about various types of fresh water and salt water bodies. They use this information to recognize patterns in bodies of water found on Earth.

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Unit 4: Earth's Surface

Teacher eBook

Earth's Surface: Unit Review

The Unit Review assesses student understanding of key ideas and concepts from the unit "Earth's Surface."

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Unit 4: Earth's Surface

Unit Project Worksheet

Earth's Surface: Unit Project: Explore Ocean Water

This is the Unit Project worksheet for "Explore Ocean Water." During this project, children will:

- Explore why ocean water does not freeze completely by planning and conducting an investigation.
- Make models to represent ocean water (and to represent fresh water to make comparisons if desired).
- Construct an argument using evidence to support a claim.

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Unit 4: Earth's Surface

Unit Project Worksheet

Earth's Surface: Unit Project: Explore Ocean Water (Editable)

This is the editable Unit Project worksheet for "Explore Ocean Water." During this project, children will:

- Explore why ocean water does not freeze completely by planning and conducting an investigation.
- Make models to represent ocean water (and to represent fresh water to make comparisons if desired).
- Construct an argument using evidence to support a claim.

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Unit 4: Earth's Surface

Teacher Edition

Earth's Surface: Unit Review

The Unit Review assesses student understanding of key ideas and concepts from the unit "Earth's Surface."

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Unit 4: Earth's Surface

Unit Performance Task Worksheet

Earth's Surface: Unit Performance Task: Map an Island

This is the Unit Performance Task worksheet for "Map an Island." During this task, children will develop a model (map) to show where land and water are located and to represent patterns in the natural world.

- Unit 4: Earth's Surface

  Unit Performance Task Worksheet

  Earth's Surface: Unit Performance Task: Map an Island (Editable)

  This is the editable Unit Performance Task worksheet for "Map an Island." During this task, children will develop a model (map) to show where land and water are located and to represent patterns in the natural world.

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  Unit 4: Earth's Surface

  Student Edition

  Earth's Surface: Unit Review

The Unit Review assesses student understanding of key ideas and concepts from the unit "Earth's Surface."

- Unit 4: Earth's Surface

  Student eBook

  Earth's Surface: Unit Performance Task: Map an Island

  During the Performance Task "Map an Island," children will develop a model (map) to show where land and water are located and to represent patterns in the natural world.

- Unit 4: Earth's Surface

  Leveled Readers - Green

  Enrichment: All About Rocks

  The leveled reader "All About Rocks" is designed for above-level readers and can be used to extend key concepts from the unit "Earth's Surface."

- Unit 4: Earth's Surface

  Teacher eBook

  Earth's Surface: Unit Performance Task: Map an Island

  During the Performance Task "Map an Island," children will develop a model (map) to show where land and water are located and to represent patterns in the natural world.

- Unit 4: Earth's Surface

  Teacher Edition

  Earth's Surface: Unit Performance Task: Map an Island

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  Student Edition

Earth's Surface: Unit Performance Task: Map an Island

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Integration of 21st Century Themes and Career Exploration

CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Technology Integration

Students will interact with the SmartBoard, Ipads, chromebooks, and document camera.

TECH.8.1.2	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.2.A.CS1	Understand and use technology systems.
TECH.8.1.2.B	Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
TECH.8.1.2.C	Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
TECH.8.1.2.E.CS1	Plan strategies to guide inquiry
TECH.8.1.2.F	Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
TECH.8.1.2.F.CS1	Identify and define authentic problems and significant questions for investigation.

Interdisciplinary Connections

LA.RI.2	Reading Informational Text
LA.RI.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
LA.RI.2.2	Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
LA.RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
LA.RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
LA.RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
LA.RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
LA.RI.2.7	Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
LA.RI.2.8	Describe and identify the logical connections of how reasons support specific points the author makes in a text.
LA.RI.2.9	Compare and contrast the most important points presented by two texts on the same topic.
LA.RI.2.10	Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.

Differentiation

- Understand that gifted students, just like all students, come to school to learn and be challenged.
- Pre-assess your students. Find out their areas of strength as well as those areas you may need to address before students move on.
- Consider grouping gifted students together for at least part of the school day.
- Plan for differentiation. Consider pre-assessments, extension activities, and compacting the curriculum.
- Use phrases like "You've shown you don't need more practice" or "You need more practice" instead of words like "qualify" or "eligible" when referring to extension work.
- Encourage high-ability students to take on challenges. Because they're often used to getting good grades, gifted students may be risk averse.

- **Definitions of Differentiation Components**:

    - Content – the specific information that is to be taught in the lesson/unit/course of instruction.
    - Process – how the student will acquire the content information.
    - Product – how the student will demonstrate understanding of the content.
    - Learning Environment – the environment where learning is taking place including physical location and/or student grouping

Differentiation occurring in this unit:

See differentiation strategies suggested in the teacher's manual for struggling or advianced students.

Modifications & Accommodations

Refer to QSAC EXCEL SMALL SPED ACCOMMOCATIONS spreadsheet in this discipline.

Modifications and Accommodations used in this unit:

IEP and 504 plans will be utilized.

Benchmark Assessments

Benchmark Assessments are given periodically (e.g., at the end of every quarter or as frequently as once per month) throughout a school year to establish baseline achievement data and measure progress toward a standard or set of academic standards and goals.

Schoolwide Benchmark assessments:

Aimsweb benchmarks 3X a year

Linkit Benchmarks 3X a year

DRA

Additional Benchmarks used in this unit:

DRA

AIMSweb

Formative Assessments

- Assessment allows both instructor and student to monitor progress towards achieving learning objectives, and can be approached in a variety of ways. **Formative assessment** refers to tools that identify misconceptions, struggles, and learning gaps along the way and assess how to close those gaps. It includes effective tools for helping to shape learning, and can even bolster students' abilities to take ownership of their learning when they understand that the goal is to improve learning, not apply final marks (Trumbull and Lash, 2013). It can include students assessing themselves, peers, or even the instructor, through writing, quizzes, conversation, and more. In short, formative assessment occurs throughout a class or course, and seeks to improve student achievement of learning objectives through approaches that can support specific student needs (Theal and Franklin, 2010, p. 151).

Formative Assessments used in this unit:

- Teacher observation
- Questioning
- Whiteboard Response
- Think-Pair Share
- Classroom discussion
- Workbook pages
- Writing/Performance rubrics included in lesson

Pretest

Summative Assessments

summative assessments evaluate student learning, knowledge, proficiency, or success at the conclusion of an instructional period, like a unit, course, or program. Summative assessments are almost always formally graded and often heavily weighted (though they do not need to be). Summative assessment can be used to great effect in conjunction and alignment with formative assessment, and instructors can consider a variety of ways to combine these approaches.

Summative assessments for this unit:

Unit Test

Performance Task

Instructional Materials

HMH Science Dimensions teaching materials

Various hands on materials for labs

Leveled Readers

Student Workbook

Standards

Assessment of quantitative measurements is limited to length.

2-ESS2	Earth’s Systems
2-ESS2-1	Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
	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.
	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 phenomena and designing solutions.
	Compare multiple solutions to a problem.
ESS2.A	Earth Materials and Systems
	Wind and water can change the shape of the land.
ETS1.C	Optimizing the Design Solution
	Stability and Change
	Things may change slowly or rapidly.
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.