April K Unit 6: Earth's Resources

Content Area: **Science**
Course(s):
Time Period: **April**
Length: **4-5 Weeks**
Status: **Published**

Unit Overview

This unit looks at the earth's resources.

Enduring Understandings

The earth has limited resources and we must be careful how we use them.

Essential Questions

How can we be good stewards of the earth's resources?

Instructional Strategies & Learning Activities

- Unit 6: Earth's Resources
- Teacher Edition

  Earth's Resources: Unit Opener

  The Unit Opener introduces the unit "Earth's Resources" and the unit project, Reuse a Milk Carton.
  Launch
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  Unit 6: Earth's Resources

  Teacher Edition

  Earth's Resources: Unit At a Glance

  Unit at a Glance for "Earth's Resources" includes the unit table of contents, unit vocabulary words, and the vocabulary game, Show the Word! In this unit, children will:
  - identify air, water, rocks, and soil as natural resources;
  - use evidence to explain that living things need water, air, and resources from the land;
  - describe how natural resources work as part of a system in the natural world;

- explain ways people use natural resources and the impact they have on the environment;
- design and communicate solutions to overcome negative impacts on the environment.

- Unit 6: Earth's Resources
  Teacher Edition

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

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

  Unit 6: Earth's Resources
- Teacher Edition

  Earth's Resources: 3D Unit Planning

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

- Unit 6: Earth's Resources
  Teacher Edition

  Earth's Resources: Differentiate Instruction

  This page provides differentiated support for this unit's Science & Engineering Leveled Readers, "What Are Some Natural Resources?" and "Saving Water."

- Unit 6: Earth's Resources
  Teacher Edition

  Earth's Resources: Connecting with NGSS

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

- Unit 6: Earth's Resources
  Teacher Edition

  Earth's Resources: Unit Project: Reuse a Milk Carton

  During the unit project "Reuse a Milk Carton," children will:
  - Explore various ways to reuse a milk carton.
  - Collect data to use as evidence to answer a question.
  - Construct an argument using evidence to support a claim.

- Unit 6: Earth's Resources
- Assessment Guide

  Earth's Resources: Unit Pretest (Editable)

  The Unit Pretest for "Earth's Resources" focuses on prerequisite knowledge. The test is composed

primarily of DOK 1 items that evaluate student preparedness for the upcoming content.

- Unit 6: Earth's Resources
- Home Letter

  Earth's Resources: Home Letter

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

- Unit 6: Earth's Resources
- Teacher Edition

  Earth's Resources: Unit Performance Task: Natural Resources as a System

  During the Performance Task "Natural Resources as a System," children will use a model to represent a system in the natural world and analyze data concerning a plant's need for resources from the land.

- Unit 6: Earth's Resources
  Teacher Edition

  Earth's Resources: Unit Review

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

- Unit 6: Earth's Resources
  You Solve It

  Grocery Shopping to Help the Environment

  In Grocery Shopping to Help the Environment, students evaluate the environmental impact of various household items. They are given a shopping list, visit a virtual grocery store, and make grocery item selections based on reduce, reuse, and recycle ratings in order to minimize the impact of humans on the environment.
  Launch

- Unit 6: Earth's Resources
  You Solve It

  Grocery Shopping to Help the Environment (Teacher)

  Teacher support materials are available for "Grocery Shopping to Help the Environment." During this activity, students will evaluate the environmental impact of various household items. They are given a shopping list, visit a virtual grocery store, and make grocery item selections based on reduce, reuse, and recycle ratings in order to minimize the impact of humans on the environment.

- Unit 6: Earth's Resources

- Student eBook

  Earth's Resources: Unit Review

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

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  Unit 6: Earth's Resources

  Teacher eBook

  Earth's Resources: Unit Performance Task: Natural Resources as a System

  During the Performance Task "Natural Resources as a System," children will use a model to represent a system in the natural world and analyze data concerning a plant's need for resources from the land.
  Launch

- Unit 6: Earth's Resources
- Leveled Readers - Blue

  On-Level: What Are Some Natural Resources?

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

- Unit 6: Earth's Resources
  Leveled Readers - Green

  Enrichment: Saving Water

  The leveled reader "Saving Water" is designed for above-level readers and can be used to extend key concepts from the unit "Earth's Resources."

- Unit 6: Earth's Resources
  Leveled Readers - Red

  Extra-Support: What Are Some Natural Resources?

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

- Unit 6: Earth's Resources
  Leveled Readers Teacher's Guide

  Topic 6: Earth's Resources

  The Leveled Readers Teachers Guide provides teaching strategies and support (as well as

reproducible English and Spanish worksheets) for the Unit 6 readers "What Are Some Natural Resources?" and "Saving Water." On-Level and Extra-Support worksheets focus on vocabulary development, while Enrichment worksheets reinforce and enrich content.

- Unit 6: Earth's Resources
- Online Assessment

Earth's Resources: Unit Test

The interactive Unit Test for "Earth's Resources" 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:

- identify air, water, rocks, and soil as natural resources;
- use evidence to explain that living things need water, air, and resources from the land;
- describe how natural resources work as part of a system in the natural world;
- explain ways people use natural resources and the impact they have on the environment;
- design and communicate solutions to overcome negative impacts on the environment.

- Assessment Guide

- Earth's Resources: Unit Test (Editable)

The Unit Test for "Earth's Resources" 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:

- identify air, water, rocks, and soil as natural resources;
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- design and communicate solutions to overcome negative impacts on the environment.

- Unit 6: Earth's Resources
Unit Project Worksheet

Earth's Resources: Unit Project: Reuse a Milk Carton

This is the Unit Project worksheet for "Reuse a Milk Carton." During this project, children will:

- Explore various ways to reuse a milk carton.
- Collect data to use as evidence to answer a question.
- Construct an argument using evidence to support a claim.

- Unit 6: Earth's Resources
- Unit Performance Task Worksheet

Earth's Resources: Unit Performance Task: Natural Resources as a System

This is the Unit Performance Task worksheet for "Natural Resources as a System." During this task, children will use a model to represent a system in the natural world and analyze data concerning a plant's need for resources from the land.

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Integration of Career Exploration, Life Literacies and Key Skills

	Different types of jobs require different knowledge and skills.
9.1.2.CAP.1	Make a list of different types of jobs and describe the skills associated with each job.
9.4.2.CI.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
	Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem.
9.4.2.CT.1	Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).
9.4.2.CT.2	Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).
9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
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.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Technology and Design Integration

Smartboard lessons and technology.

Online Student Textbook

Online Student Simulations

	Individuals collect, use, and display data about individuals and the world around them.
8.1.2.DA.1	Collect and present data, including climate change data, in various visual formats.
	Data can be used to make predictions about the world.
	Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions.
8.2.2.ED.1	Communicate the function of a product or device.
8.2.2.ED.2	Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.
8.2.2.ED.3	Select and use appropriate tools and materials to build a product using the design process.

8.2.2.ED.4	Identify constraints and their role in the engineering design process.
8.2.2.ITH.1	Identify products that are designed to meet human wants or needs.
8.2.2.ITH.2	Explain the purpose of a product and its value.

Interdisciplinary Connections

MA.K.CC.B.5	Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
LA.RI.K.1	With prompting and support, ask and answer questions about key details in a text.
LA.RI.K.2	With prompting and support, identify the main topic and retell key details of a text.
LA.RI.K.3	With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.
LA.RI.K.4	With prompting and support, ask and answer questions about unknown words in a text.
LA.RI.K.5	Identify the front cover, back cover, and title page of a book.
LA.RI.K.6	Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.
LA.RI.K.7	With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
LA.RI.K.8	With prompting and support, identify the reasons an author gives to support points in a text.
LA.RI.K.9	With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
LA.RI.K.10	Actively engage in group reading activities with purpose and understanding.

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 suggestions in Instruction above, for struggling and advanced learners.

Modifications & Accommodations

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

Modifications and Accommodations used in this unit:

IEP and 504 accommodations 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:

Pretest followed by interactive assessments

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:

See assessments embedded in Instruction above.

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:

See assessments embedded in Instruction above.

Instructional Materials

HMH Science Demensions program materials

Misc. items for hands on labs

Standards

K-ESS3	Earth and Human Activity
K-ESS3-1	Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.
ESS3.A	Natural Resources

	Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do.
K-ESS3-3	Communicate solutions that will reduce the impact of climate change and humans on the land, water, air, and/or other living things in the local environment. Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.