Revision Date	April 18, 2020

Department of Curriculum & Instruction

Second Grade Science

Unit	2-5 gating Earth Materials and Natural Resources
Time Frame	1/6-1/29
Big Ideas	1. Resources can occur naturally or be manmade. 2. We should make informed choices in order to appropriately use and conserve natural and manmade resources. 3. Physical properties can be used to describe and compare rocks. 4. Physical properties can be used to identify and compare natural sources of water.
Essential Questions	1. How can we use our senses to observe rocks? 2. In what ways are natural and manmade resources different? 3. What are some ways we can conserve natural and manmade resources? 4. In what ways are the properties of freshwater and saltwater alike and different?

TEKS / Student Expectations	Skills	Concepts
SCI.2.1A Identify, describe, and demonstrate safe practices as outlined in Texas Education Agency-approved safety standards during classroom and outdoor investigations, including wearing safety goggles or chemical splash goggles, as appropriate, washing hands, and using materials appropriately.	Identify Describe Demonstrate	SAFE PRACTICES Including, but not limited to: • Wearing safety goggles or chemical splash goggles, as appropriate • Washing hands • Using materials appropriately • Follow classroom and outdoor safety guidelines, as outlined in Texas Education Agency-approved safety standards • Handle organisms appropriately

SCI.2.1B
Identify and demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal.
	Identify, Demonstrate	Identify, Demonstrate
		HOW TO USE, CONSERVE, AND DISPOSE OF NATURAL RESOURCES AND MATERIALS
		Including, but not limited to:
		• Natural resources and materials
		  ○ Possible examples may include:
		  • Fresh water
		  • Air
		  • Plants

TEKS / Student Expectations	Skills	Concepts

		• Animals
		• Conserving and reusing or recycling
		  ○ Water
		  ○ Paper
		  ○ Plastic
		Metal

SCI.2.2A Ask questions about ~~organisms, objects, and~~ events during observations and investigations.	Ask	QUESTIONS DURING OBSERVATIONS AND INVESTIGATIONS Including, but not limited to: • Events
SCI.2.2B Plan and conduct descriptive investigations.	Plan Conduct	INVESTIGATIONS Including, but not limited to: Descriptive
SCI.2.2C Collect data from observations using scientific tools.	Collect	DATA FROM OBSERVATIONS USING SCIENTIFIC TOOLS Including, but not limited to: • Use tools appropriately • Possible examples may include: ○ Thermometers

SCI.2.2D
Record and organize data using pictures, numbers, and words.
	Record
	Organize
		DATA
		Including, but not limited to:
		• Pictures
		• Graphs
		  ○ Pictographs
		  ○ Bar graphs
		• Numbers
		• Words

SCI.2.2E Communicate observations and justify explanations using student-generated data from simple descriptive investigations.	Communicate Justify	OBSERVATIONS Including, but not limited to:

TEKS / Student Expectations	Skills	Concepts
		• Student-generated data from simple descriptive investigations EXPLANATIONS Including, but not limited to: • Making claims from observations • Providing evidence from observations in order to support claims Using reasoning to explain or justify the claims
SCI.2.2F Compare results of investigations with what students and scientists know about the world.	Compare	RESULTS OF INVESTIGATIONS Including but not limited to: What students and scientists know about the world
SCI.2.3A Identify and explain a problem and propose a task and solution for the problem.	Identify, Explain Propose	Identify, Explain A PROBLEM Including, but not limited to: • Grade level appropriate problems Propose A TASK AND SOLUTION FOR THE PROBLEM Including, but not limited to: • Possible task ○ Observe and research the problem Propose a solution
SCI.2.3C Identify what a scientist is and explore what different scientists do.	Identify Explore	WHAT A SCIENTIST IS WHAT DIFFERENT SCIENTISTS DO Including, but not limited to: • Specific disciplines scientists study (e.g., botany, zoology, geology, oceanography, meteorology, and ecology) • Scientists to consider exploring at this time: ○ John Muir (naturalist, conservationist) ○ Eugenie Clark (ecologist; oceanographer- sharks) ○ *Amelia Earhart (pilot) ○ *Robert Fulton (first commercially successful steamboat) *Correlate with Social Studies TEKS 2.4B
SCI.2.4A Collect, record, and compare information using tools, including ~~computers, hand lenses, rulers, plastic beakers, magnets, collecting nets,~~ notebooks, and safety	Collect	INFORMATION USING TOOLS Including, but not limited to:

TEKS / Student Expectations	Skills	Concepts
goggles or chemical splash goggles, as appropriate; ~~timing devices;~~ weather instruments such as thermometers, wind vanes, and rain gauges~~; and materials to support observations of habitats of organisms such as terrariums and aquariums~~.	Record Compare	• Computers • Hand lenses • Plastic beakers • Notebooks Safety goggles or chemical splash goggles
SCI.2.4B Measure and compare organisms and objects.	Compare	OBJECTS Including, but not limited to: Compare Size Texture Color Properties of freshwater and saltwater

Readiness
SCI.2.7A
Observe, describe, and compare rocks by size, texture, and color.
	Observe, Describe, Compare	Observe, Describe, Compare
		ROCKS
		Including, but not limited to:
		• Size
		  ○ Boulder (bigger than a baseball)
		  ○ Cobble (smaller than a baseball and larger than a marble)
		  ○ Pebble (about the size of a pea and smaller than a marble)
		  ○ Sand (size and texture of a grain of table salt)
		• Texture
		  ○ Rough
		  ○ Smooth
		  ○ Bumpy
		• Color
		  ○ White
		  ○ Gray / black
		  ○ Brown
		  ○ Speckled

Supporting **SCI.2.7B**	Identify, Compare	Identify, Compare THE PROPERTIES OF NATURAL SOURCES OF WATER

TEKS / Student Expectations	Skills	Concepts

Identify and compare the properties of natural sources of freshwater and saltwater**.**		Including, but not limited to:
		• Properties of fresh and saltwater
		  ○ Aroma
		  ○ Taste
		  ○ Feel
		  ○ Sink or float (freshwater vs. saltwater)
		  ○ Ability to support life
		• Natural sources of water
		  ○ Freshwater
		  • Rivers
		  • Lakes
		  • Ponds
		  • Streams
		  • Hot springs or geysers
		  ○ Saltwater
		  • Ocean
		  • Great Salt Lake

Supporting
SCI.2.7C
Distinguish between natural and manmade resources.
	Distinguish	Distinguish
		BETWEEN NATURAL AND MANMADE RESOURCES
		Including, but not limited to:
		• Natural resources
		  ○ Plants
		  ○ Animals
		  ○ Sunlight
		  ○ Air
		  ○ Water
		  ○ Rocks
		  ○ Soil
		  ○ Fossil fuels
		• Manmade resources
		  ○ Manufactured goods

Tier I Instructional Strategies – Classroom Instruction for All Students

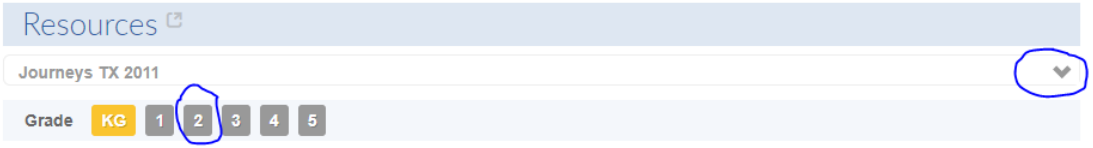
Misconceptions:

- Students may think the Earth's natural resources are limitless.
- Students may think rocks and water are living organisms.

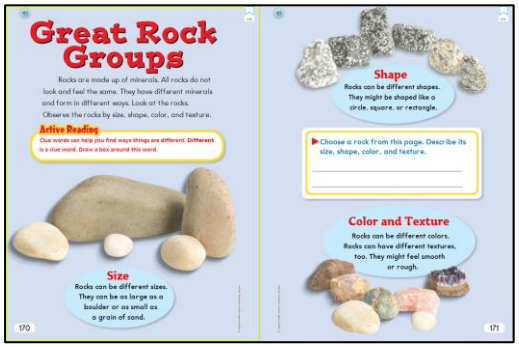
There are some excellent interactive videos to go through with your students that are a part of your online textbook resources.

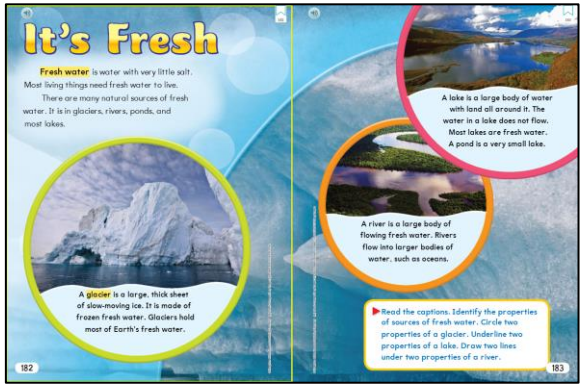
To access them simply follow the steps below:

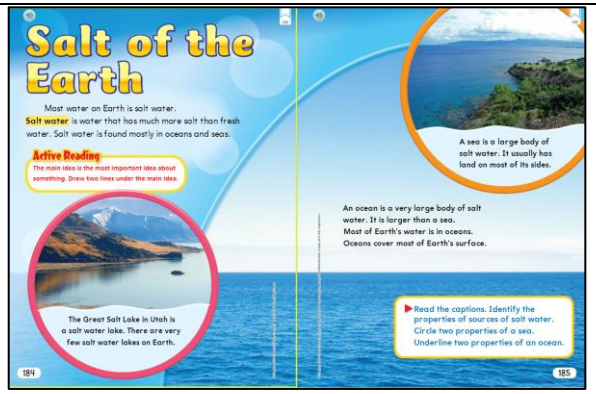
1. Log on to Judson ISD teacher portal
2. Click on your HMH ThinkCentral SAML icon



- 2.7A Observe , describe and compare rocks by size, texture, and color
  - Students can go through a teacher collection of rocks to observe, describe, and compare.
  - Students can also go with a partner to collect rocks that have different sizes, shapes, color, and texture.
  - Students can make a pet rock and write about its characteristics.
  - Using string create a Venn diagram and allow students to group rocks according to a physical property or characteristic or their choosing. Students can go on a gallery walk to observe the different Venn Diagrams. If available give the students hand lenses so they can make more detailed observations.





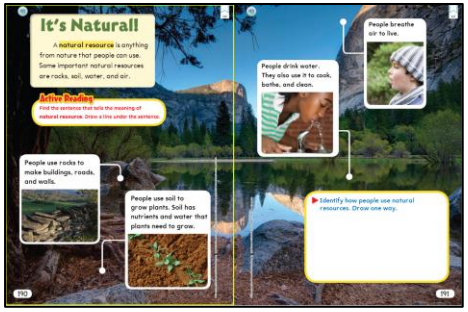


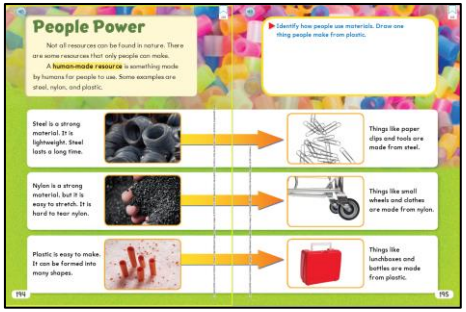
2.7B Identify and compare the properties of natural sources of freshwater and saltwater

- Students can create a Venn diagram
- Freshwater vs. saltwater experiment
- Ocean science experiments

2.7C Distinguish between natural and manmade resources

- Reduce Reuse Recycle
- Class scavenger hunt to find paper, wood, plastic, metal, and glass to create and interactive anchor chart using butcher paper to classify objects as natural or manmade. Have each student place his or her object down on the butcher paper. Take turns having students justify their objects and address misconceptions. Take a picture of the completed chart and post in the classroom so that students can refer back to it.
- Watch the Reduce, Reuse, Recycle Ross School project video
- Little lives mini lesson on the importance of recycling and repurposing





Critical Writing Prompts

Which type of natural resource would you have the hardest time living without? Why?
What are some ways we can conserve natural and manmade resources?
Which natural resources are most common in your classroom?

Vocabulary

Conservation	Lake	Recycle
Conserve	Manmade resources	Reduce
Exhibit	Marine/ocean	Repurpose
Fresh water	Natural resources	Reuse
Salt water	Pond	River
Stream		

Sample STAAR or STAAR-Like Assessment Items

TEKS 2.7C

5. What are natural resources?

Ⓐ things people cannot live without

Ⓑ things people make to protect nature

Ⓒ things from nature that people can use

TEKS 2.7B

6. Which sentence best describes the properties of this body of water?

Ⓐ It is fresh water.

Ⓑ It is salt water.

Ⓒ It can be either fresh water or salt water.

TEKS 2.7C

7. Which of these resources is human-made?

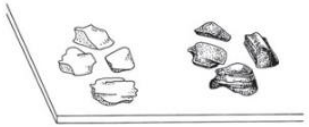
Ⓐ eggs

Ⓑ soil

Ⓒ steel

TEKS 2.7A

8. How are these rocks sorted?



Ⓐ by color

Ⓑ by shape

Ⓒ by size

TEKS 2.1C

10. Which is an example of how you can reuse a material?

Ⓐ I can turn off the lights when I leave a room.

Ⓑ I can make a planter out of an egg carton.

Ⓒ I can put old newspapers in a recycling bin.

TEKS 2.7B

13. a. Identify the properties of an ocean and a sea.

_____

_____

b. How are they the same? How are they different?

_____

_____

Assessment Link

Resources

*The suggested resources are one of many ways to address the TEKS student expectation.

ThinkCentral

STEMscopes

Lead4ward Instructional Strategies Playlist

Natural or Man made

Freshwater vs Saltwater experiment

Ocean Science

Reduce, Reuse, Recycle Ross School Project

Little lives mini lesson on the importance of recycling and repurposing