



Revision Date	April 18, 2020
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Department of Curriculum & Instruction

Second Grade Science

Unit	2-5 gating Earth Materials and Natural Resources
Time Frame	1/6-1/29
Big Ideas	<ol style="list-style-type: none"> Resources can occur naturally or be manmade. We should make informed choices in order to appropriately use and conserve natural and manmade resources. Physical properties can be used to describe and compare rocks. Physical properties can be used to identify and compare natural sources of water.
Essential Questions	<ol style="list-style-type: none"> How can we use our senses to observe rocks? In what ways are natural and manmade resources different? What are some ways we can conserve natural and manmade resources? 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: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> Natural resources and materials <ul style="list-style-type: none"> Possible examples may include: <ul style="list-style-type: none"> Fresh water Air Plants



TEKS / Student Expectations	Skills	Concepts
		<ul style="list-style-type: none"> • Animals • Conserving and reusing or recycling <ul style="list-style-type: none"> ○ Water ○ Paper ○ Plastic <p>Metal</p>
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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Use tools appropriately • Possible examples may include: <ul style="list-style-type: none"> ○ Thermometers
SCI.2.2D Record and organize data using pictures, numbers, and words.	Record Organize	DATA Including, but not limited to: <ul style="list-style-type: none"> • Pictures • Graphs <ul style="list-style-type: none"> ○ 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
		<ul style="list-style-type: none"> • Student-generated data from simple descriptive investigations EXPLANATIONS Including, but not limited to: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Grade level appropriate problems Propose A TASK AND SOLUTION FOR THE PROBLEM Including, but not limited to: <ul style="list-style-type: none"> • Possible task <ul style="list-style-type: none"> ○ 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: <ul style="list-style-type: none"> • Specific disciplines scientists study (e.g., botany, zoology, geology, oceanography, meteorology, and ecology) • Scientists to consider exploring at this time: <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Size <ul style="list-style-type: none"> ○ 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 <ul style="list-style-type: none"> ○ Rough ○ Smooth ○ Bumpy • Color <ul style="list-style-type: none"> ○ 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: <ul style="list-style-type: none"> • Properties of fresh and saltwater <ul style="list-style-type: none"> ○ Aroma ○ Taste ○ Feel ○ Sink or float (freshwater vs. saltwater) ○ Ability to support life • Natural sources of water <ul style="list-style-type: none"> ○ Freshwater <ul style="list-style-type: none"> • Rivers • Lakes • Ponds • Streams • Hot springs or geysers ○ Saltwater <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Natural resources <ul style="list-style-type: none"> ○ Plants ○ Animals ○ Sunlight ○ Air ○ Water ○ Rocks ○ Soil ○ Fossil fuels • Manmade resources <ul style="list-style-type: none"> ○ 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.

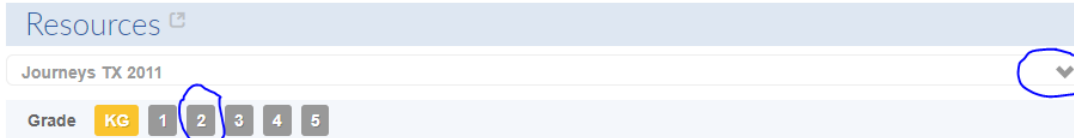
There are some excellent interactive videos to go through with your students that are a part of your online textbook resources.

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.

Great Rock Groups

Rocks are made up of minerals. All rocks do not look and feel the same. They have different minerals and form in different ways. Look at the rocks. Observe the rocks by size, shape, color, and texture.

Active Reading
Use words on this page that help you find ways things are different. Different is the best word. Draw a line around this word.



Shape
Rocks can be different shapes. They might be shaped like a circle, square, or rectangle.

▶ Choose a rock from this page. Describe its size, shape, color, and texture.


Color and Texture
Rocks can be different colors. Rocks can have different textures, too. They might feel smooth or rough.

Size
Rocks can be different sizes. They can be as large as a boulder or as small as a grain of sand.

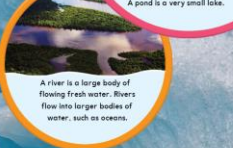
It's Fresh

Fresh water is water with very little salt. Most living things need fresh water to live. There are many natural sources of fresh water. It is in glaciers, rivers, ponds, and most lakes.

Active Reading
The main idea is the most important idea about something. Draw two lines under the main idea.

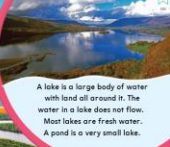


A glacier is a large, thick sheet of slow-moving ice. It is made of frozen fresh water. Glaciers hold most of Earth's fresh water.



A river is a large body of flowing fresh water. Rivers flow into larger bodies of water, such as oceans.

▶ Read the captions. Identify the properties of sources of fresh water. Circle two properties of a glacier. Underline two properties of a lake. Draw two lines under two properties of a river.

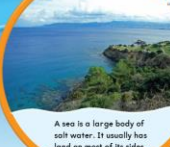


A lake is a large body of water with land all around it. The water in a lake does not flow. Most lakes are fresh water. A pond is a very small lake.


Salt of the Earth

Most water on Earth is salt water. **Salt water** is water that has much more salt than fresh water. Salt water is found mostly in oceans and seas.

Active Reading
The main idea is the most important idea about something. Draw two lines under the main idea.



A sea is a large body of salt water. It usually has land on most of its sides.



The Great Salt Lake in Utah is a salt water lake. There are very few salt water lakes on Earth.

Active Reading
Read the captions. Identify the properties of sources of salt water. Circle two properties of a sea. Underline two properties of an ocean.

An ocean is a very large body of salt water. It is larger than a sea. Most of Earth's water is in oceans. Oceans cover most of Earth's surface.

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

It's Natural!

A **natural resource** is anything from nature that people can use. Some important natural resources are rocks, soil, water, and air.

Active Reading
Read the sentences and mark the meanings of natural resources. Draw a line under the sentence.

People use rocks to make buildings, roads, and walls.

People use soil to grow plants. Soil has nutrients and water that plants need to grow.

People drink water. They also use it to wash, bathe, and clean.

▶ Identify how people use natural resources. Draw one way.

People Power

Not all resources can be found in nature. There are some resources that only people can make. A **man-made resource** is something made by humans for people to use. Some examples are steel, nylon, and plastic.

Active Reading
Identify how people use materials. Draw one thing people make from plastic.

Steel is a strong material. It is lightweight. Steel lasts a long time.


Nylon is a strong material, but it is easy to stretch. It is hard to tear nylon.

Plastic is easy to make. It can be formed into many shapes.


Things like paper clips and tools are made from steel.

Things like small wheels and clothes are made from nylon.

Things like lunchboxes and bottles are made from plastic.



When you visit the beach, you can feel the sand between your toes. Nobody makes the sand. It occurs naturally in the environment. Some people use the sand to make glass bottles or jars. A glass bottle or jar is man-made.





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
Conserve
Exhibit
Fresh water
Salt water
Stream

Lake
Manmade resources
Marine/ocean
Natural resources
Pond

Recycle
Reduce
Repurpose
Reuse
River

Sample STAAR or STAAR-Like Assessment Items

TEKS 2.7C

5. What are natural resources?

- (A) things people cannot live without
- (B) things people make to protect nature
- (C) things from nature that people can use

TEKS 2.7B

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



- (A) It is fresh water.
- (B) It is salt water.
- (C) It can be either fresh water or salt water.

TEKS 2.7C

7. Which of these resources is human-made?

- (A) eggs
- (B) soil
- (C) steel

TEKS 2.7A

8. How are these rocks sorted?



- (A) by color
- (B) by shape
- (C) by size

TEKS 2.1C

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

- (A) I can turn off the lights when I leave a room.
- (B) I can make a planter out of an egg carton.
- (C) 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](#)