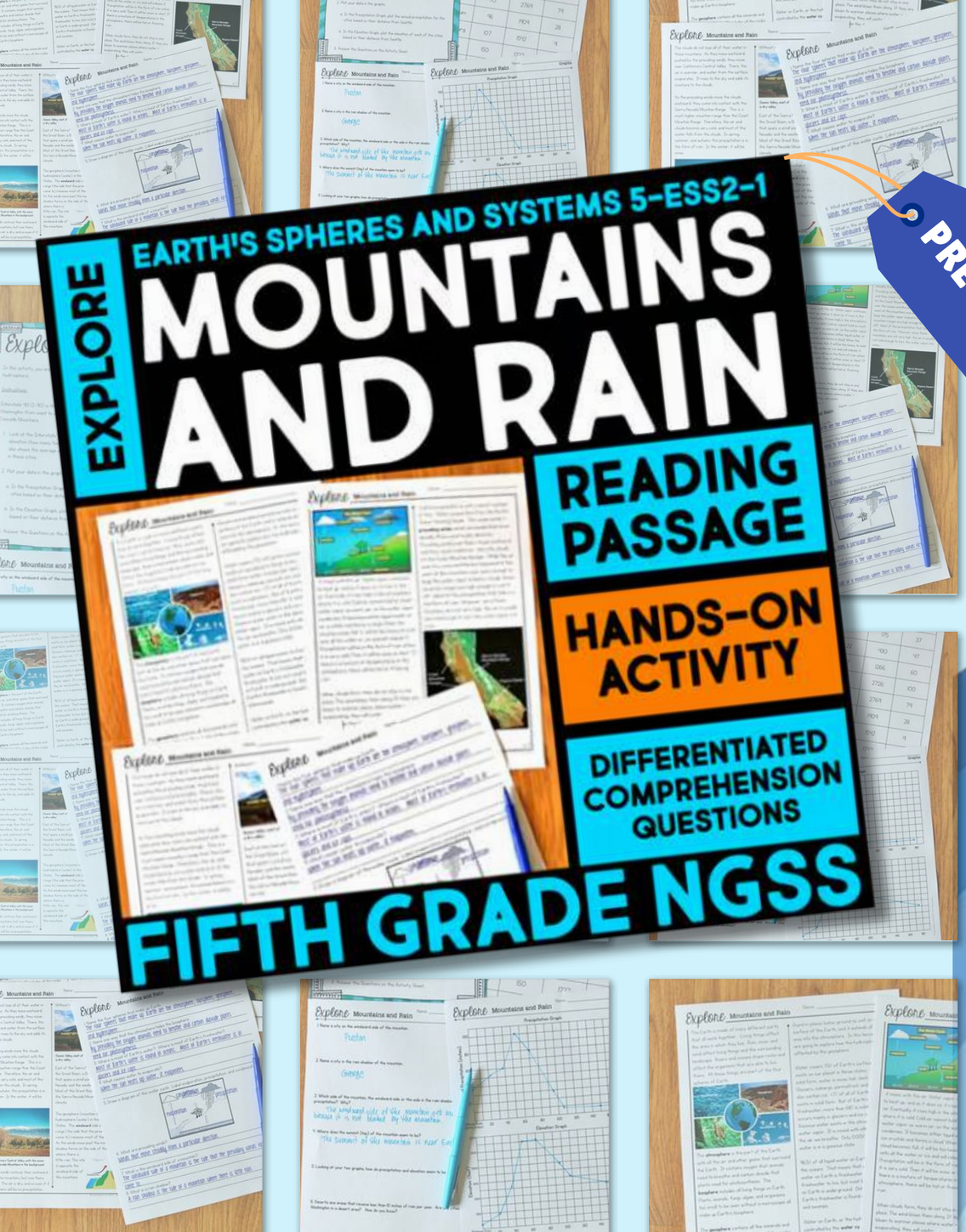


Bring Weathering, Erosion & Rain Shadows to Life!

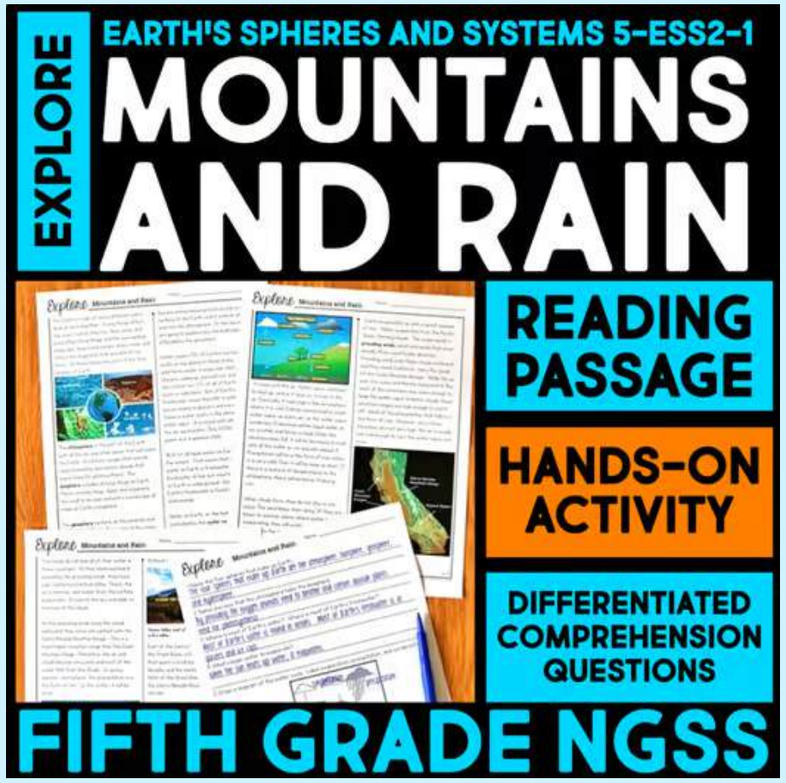
5TH GRADE

EXPLORE MOUNTAINS AND RAIN

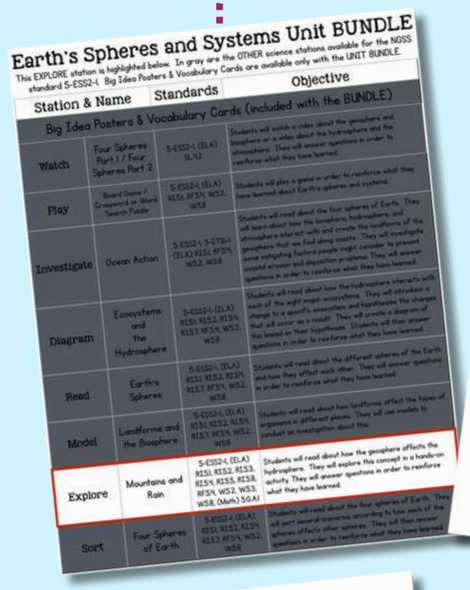
EARTH'S SPHERES

KEEP SCROLLING TO SEE WHAT'S INSIDE!

ACTIVITY OVERVIEW



- Students read a passage
- Students explore in a hands-on activity.
- Lastly, they answer questions based on their exploration activity.


Earth's Spheres and Systems Unit BUNDLE

This EXPLORE station is highlighted below. In gray are the OTHER science stations available for the NGSS standard 5-ESS2-1. Big Idea Posters & Vocabulary Cards are available only with the UNIT BUNDLE.

Station & Name	Standards	Objective
Big Idea Posters & Vocabulary Cards (included with the BUNDLE)		
Watch — Four Spheres Part 1 / Four Spheres Part 2	5-ESS2-1 (ELA) SL.4.2	Students will watch a video about the geosphere and biosphere or a video about the hydrosphere and the atmosphere. They will answer questions in order to reinforce what they have learned.
Play — Board Game / Crossword or Word Search Puzzle	5-ESS2-1 (ELA) RI.5.1, RF.5.4, W.5.2, W.5.8	Students will play a game in order to reinforce what they have learned about Earth's spheres and systems.
Investigate — Ocean Action	5-ESS2-1, 5-ETS1-1 (ELA) RI.5.1, RF.5.4, W.5.2, W.5.8	Students will read about the four spheres of Earth. They will learn about how the biosphere, hydrosphere, and atmosphere interact with and create the landforms of the geosphere that we find along coasts. They will investigate some mitigating factors people might consider to prevent coastal erosion and deposition problems. They will answer questions in order to reinforce what they have learned.
Diagram — Ecosystems and the Hydrosphere	5-ESS2-1, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, W.5.2, W.5.8	Students will read about how the hydrosphere interacts with each of the eight major ecosystems. They will introduce a change to a specific ecosystem and hypothesize the changes that will occur as a result. They will create a diagram of this based on their hypothesis. Students will then answer questions in order to reinforce what they have learned.
Read — Earth's Spheres	5-ESS2-1, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, W.5.2, W.5.8	Students will read about the different spheres of the Earth and how they affect each other. They will answer questions in order to reinforce what they have learned.
Model — Landforms and the Biosphere	5-ESS2-1, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, W.5.2, W.5.8	Students will read about how landforms affect the types of organisms in different places. They will use models to conduct an investigation about this.
Explore — Mountains and Rain	5-ESS2-1, (ELA) RI.5.1, RI.5.2, RI.5.3, RI.5.4, RI.5.5, RI.5.8, RF.5.4, W.5.2, W.5.3, W.5.8, (Math) 5.G.A.1	Students will read about how the geosphere affects the hydrosphere. They will explore this concept in a hands-on activity. They will answer questions in order to reinforce what they have learned.
Sort — Four Spheres of Earth	5-ESS2-1, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, W.5.2, W.5.8	Students will read about the four spheres of Earth. They will sort several scenarios according to how each of the spheres affects other spheres. They will then answer questions in order to reinforce what they have learned.


Science Stations Overview

This is a general overview of all science stations in each UNIT BUNDLE.

Watch a Video
At this station, students will watch a video relevant to the topic and answer questions. You have the option of using the included worksheet with the questions or using the task cards and having students respond in their science journals.

Read a Passage
Students read a short passage about the topic and answer questions about the information in the passage. You have the option of using the included worksheet with the questions or using the task cards and having students respond in their science journals.

Play a Game
Students play a game and answer questions about the experience. You have the option of using the included worksheet with the questions or using the task cards and having students respond in their science journals.

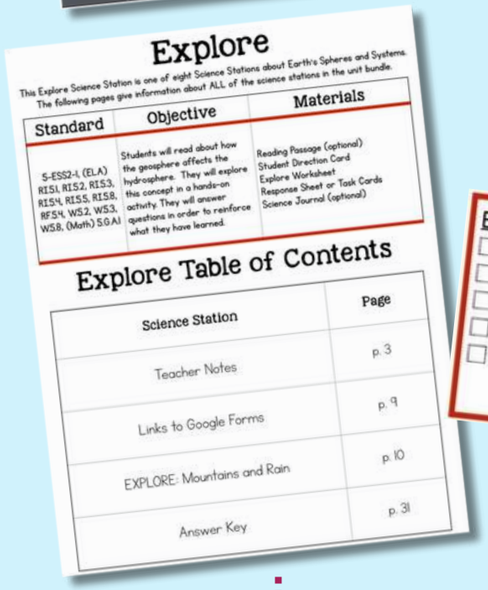
Create a Model
Students use materials to illustrate the science concept and answer questions. You have the option of using the included worksheet with the questions or using the task cards and having students respond in their science journals.

Investigate
Students use materials to investigate the science topic by following directions and recording results. Students answer questions about the investigation.

Explore
Students create a sample and manipulate it using the new science concepts they have learned. Students answer questions based on the effects.

Draw a Diagram
Students draw and label a diagram specific to certain requirements. Students then explain how their diagram meets the requirements.

Sort
Students sort cards into groups or put them in a specific order. Students record the sort and then describe their reasoning.

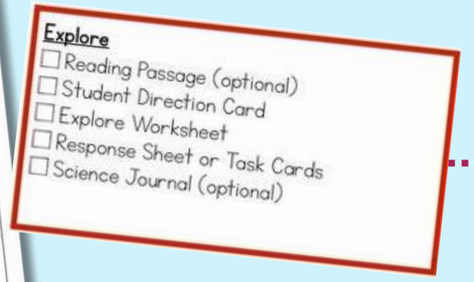

Explore

This Explore Science Station is one of eight Science Stations about Earth's Spheres and Systems. The following pages give information about ALL of the science stations in the unit bundle.

Standard	Objective	Materials
5-ESS2-1, (ELA) RI.5.1, RI.5.2, RI.5.3, RI.5.4, RI.5.5, RI.5.8, RF.5.4, W.5.2, W.5.3, W.5.8, (Math) 5.G.A.1	Students will read about how the geosphere affects the hydrosphere. They will explore this concept in a hands-on activity. They will answer questions in order to reinforce what they have learned.	Reading Passage (optional) Student Direction Card Explore Worksheet Response Sheet or Task Cards Science Journal (optional)

Explore Table of Contents

Science Station	Page
Teacher Notes	p. 3
Links to Google Forms	p. 9
EXPLORE: Mountains and Rain	p. 10
Answer Key	p. 31


Explore

- ☐ Reading Passage (optional)
- ☐ Student Direction Card
- ☐ Explore Worksheet
- ☐ Response Sheet or Task Cards
- ☐ Science Journal (optional)

Table of Contents

Science Station Overview

Materials Checklist

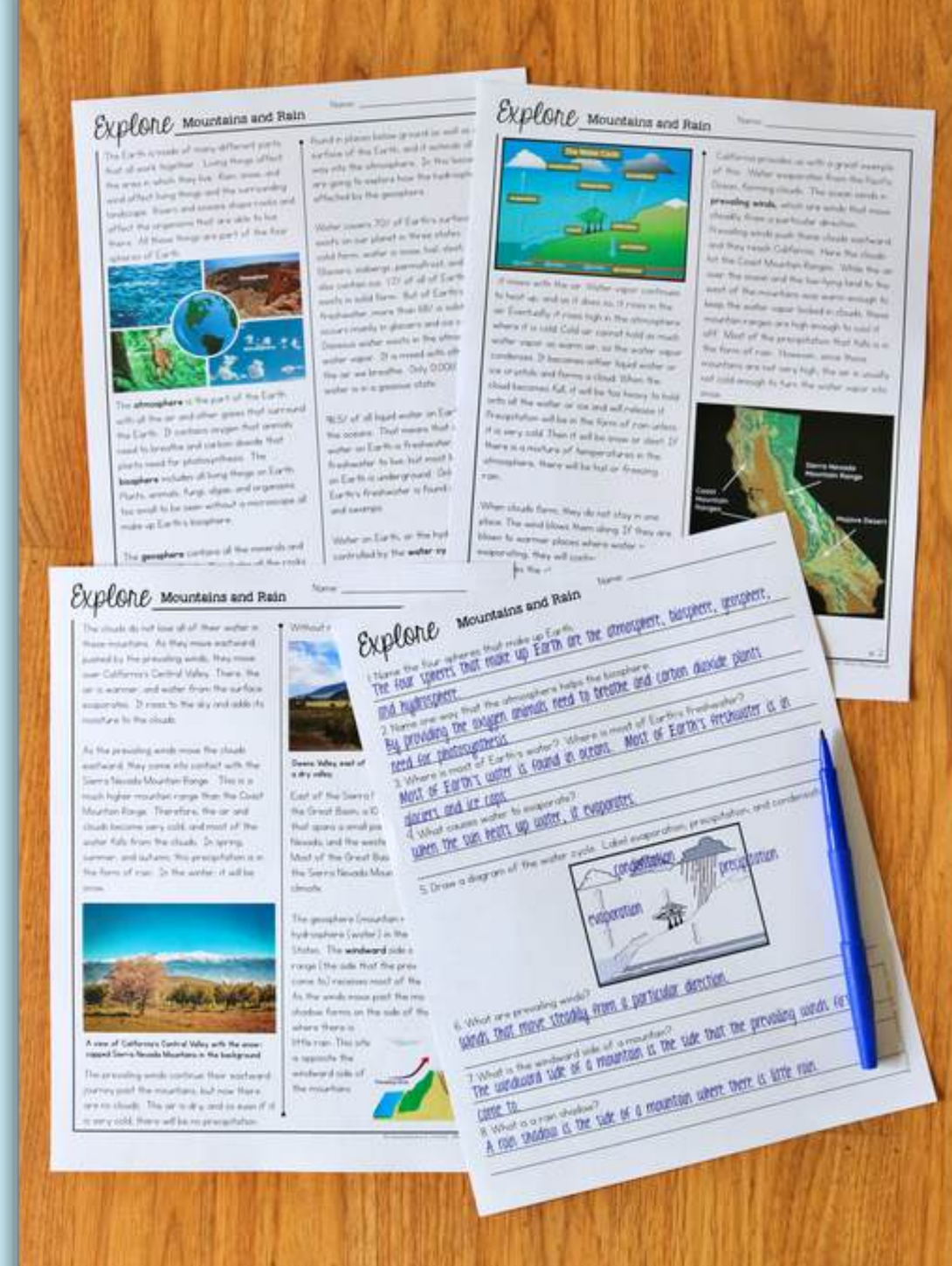
Table of Contents / Teacher's Notes

WHAT'S INCLUDED

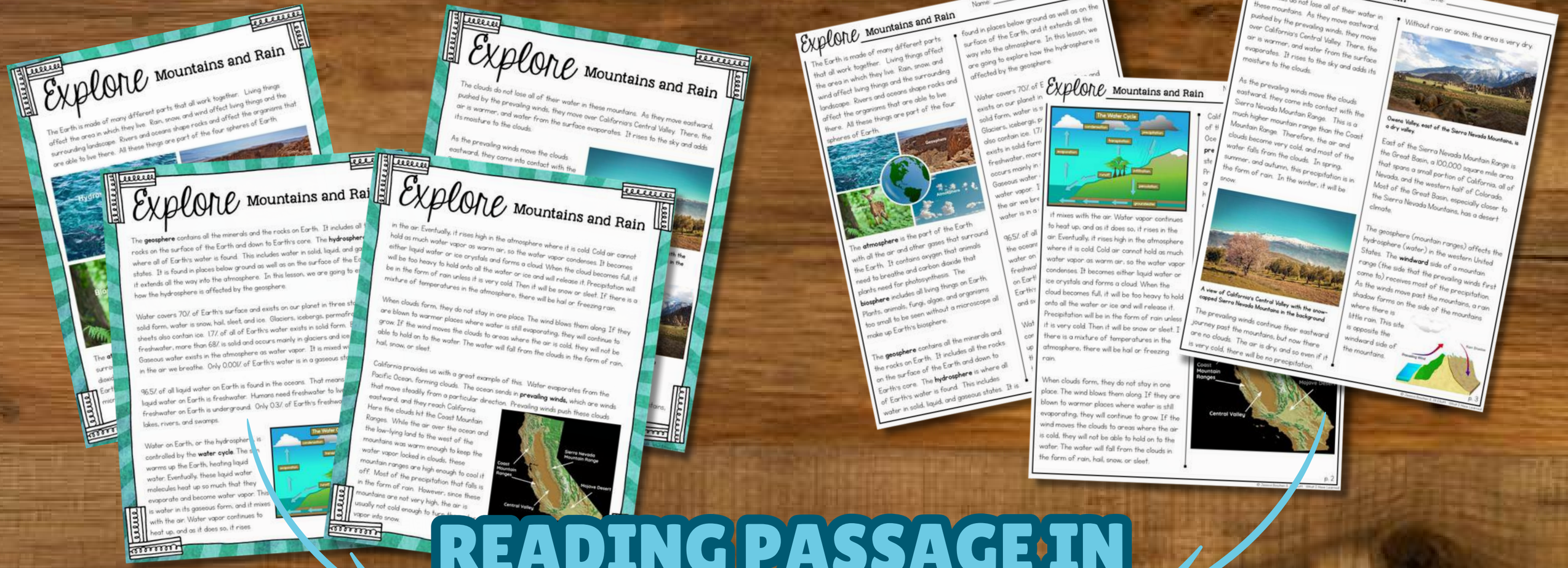
EXPLORE SCIENCE STATION

- Teacher Notes
- **Student Text** in two formats
- Student **Instructions**
- **Activity Sheets** for observation
- Differentiated **Questions**
- Answer Key
- Google Form™
- Google Slides™

ADD TO CART



EXPLORE: READING PASSAGE

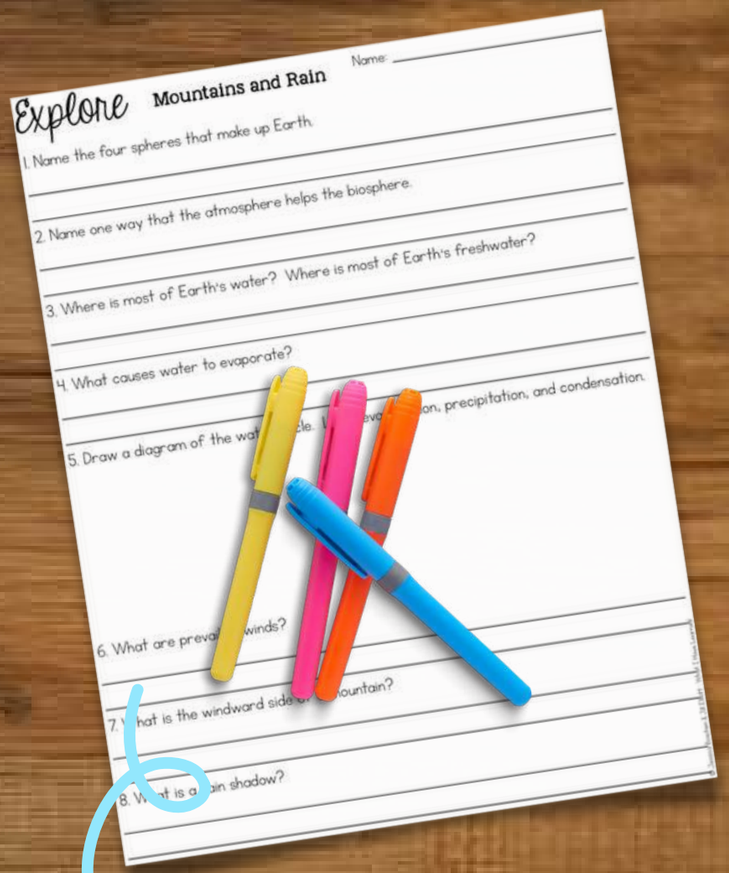


READING PASSAGE IN TWO FORMATS

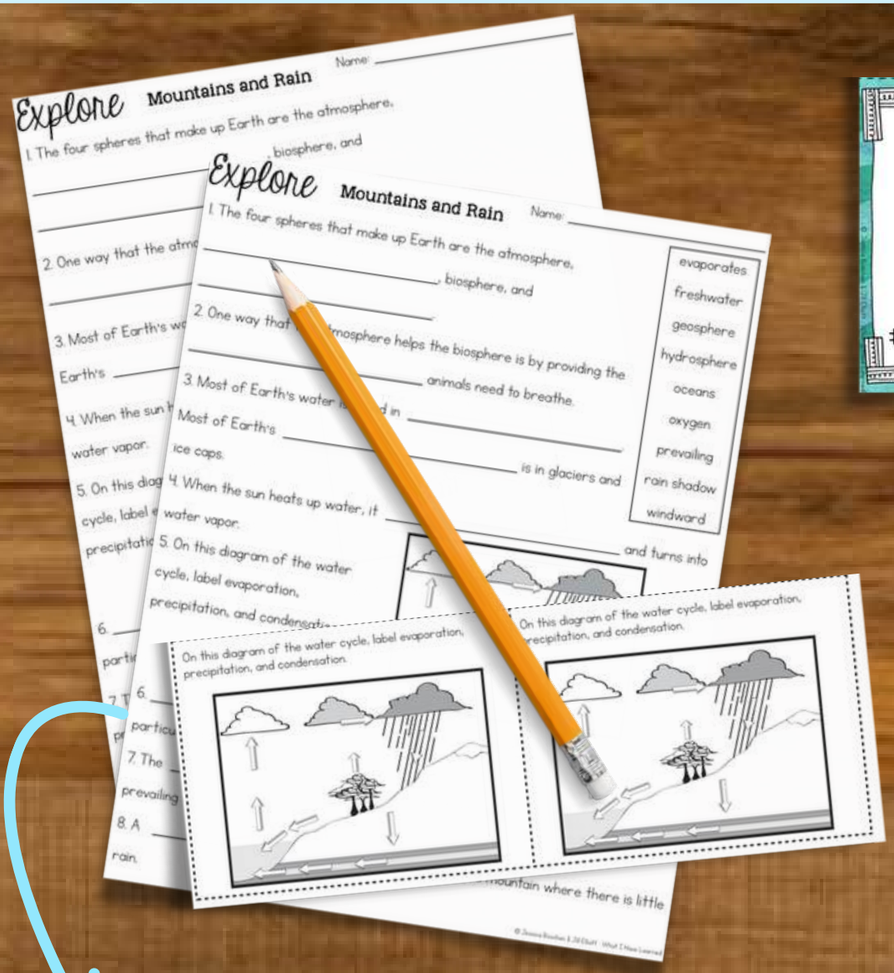


ENGAGING ACTIVITY & RECORDING SHEETS

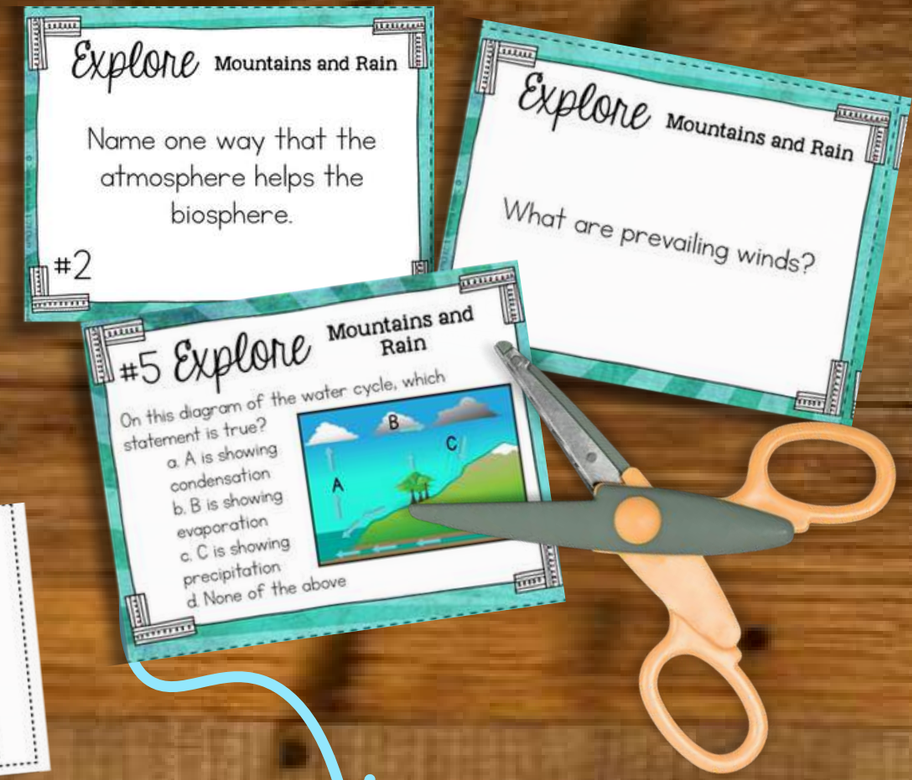
DIFFERENTIATED QUESTIONS



SHORT ANSWER



FILL-IN-THE BLANK



TASK CARDS: SHORT ANSWER & MULTIPLE CHOICE

Explore Mountains and Rain

The Earth is made of many different parts that all work together. Living things affect the area in which they live. Rain, snow, and wind affect living things and the surrounding landscape. Rivers and oceans shape rocks and affect the organisms that are able to live there. All these things are part of the four spheres of Earth.



The **atmosphere** is the part of the Earth with
surround the Earth. It contains oxygen that
dioxide that plants need for photosynthesi
Earth. Plants, animals, fungi, algae, and
microscope all make up Earth's biosph

Explore Mountains and Rain

The **geosphere** contains all the minerals and the rocks on Earth. It includes all the rocks on the surface of the Earth and down to Earth's core. The **hydrosphere** is where all of Earth's water is found. This includes water in solid, liquid, and gaseous states. It is found in places below ground as well as on the surface of the Earth, and it extends all the way into the atmosphere. In this lesson, we are going to explore how the hydrosphere is affected by the geosphere.

Water covers 70% of Earth's surface and exists on our planet in three states. In its solid form, water is snow, hail, sleet, and ice. Glaciers, icebergs, permafrost, and ice sheets also contain ice. 17% of all of Earth's water exists in solid form. But of Earth's freshwater, more than 68% is solid and occurs mainly in glaciers and ice caps. Gaseous water exists in the atmosphere as water vapor. It is mixed with other gases in the air we breathe. Only 0.001% of Earth's water is in a gaseous state.

96.5% of all liquid water on Earth is found in the oceans. That means that very little liquid water on Earth is freshwater. Humans need freshwater to live, but most liquid freshwater on Earth is underground. Only 0.3% of Earth's freshwater is found in lakes, rivers, and swamps.

Water on Earth, or the hydrosphere, is controlled by the **water cycle**. The sun warms up the Earth, heating liquid water. Eventually, these liquid water molecules heat up so much that they evaporate and become water vapor. This is water in its gaseous form, and it mixes with the air. Water vapor continues to heat up, and as it does so, it rises



p. 2

Explore Mountains and Rain

Name: _____

1. Name the four spheres that make up Earth.
The four spheres that make up Earth are the atmosphere, biosphere, geosphere, and hydrosphere.
2. Name one way that the atmosphere helps the biosphere.
Answers may vary, but may include one of these: By providing the oxygen animals need to breathe and carbon dioxide plants need for photosynthesis.
3. Where is most of Earth's water? Where is most of Earth's freshwater?
Most of Earth's water is found in oceans. Most of Earth's freshwater is in glaciers and ice caps.
4. What causes water to evaporate?
When the sun heats up water, it evaporates.
5. Draw a diagram of the water cycle. Label evaporation, condensation, precipitation
6. What are prevailing winds?
Winds that move steadily from
7. What is the windward side
The windward side of a mou
8. What is a rain shadow?
A rain shadow is the side o

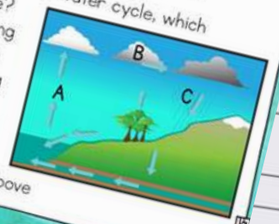


#1 Explore Mountains and Rain

What are the four spheres that make up Earth?
a. Ionosphere, biosphere, gaseousphere, watersphere
b. Atmosphere, evaporosphere, geosphere, watersphere
c. Oceanosphere, glaciosphere, windosphere, hydrosphere
d. Atmosphere, biosphere, geosphere, hydrosphere

#5 Explore Mountains and Rain

On this diagram of the water cycle, which statement is true?
a. A is showing condensation
b. B is showing evaporation
c. C is showing precipitation
d. None of the above

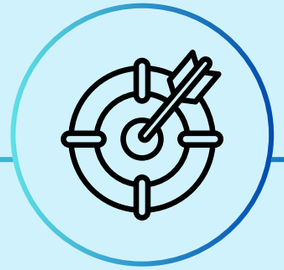


YOU WILL LOVE THIS BECAUSE



Combines Literacy & Science Skills

Integrates reading comprehension with scientific inquiry, supporting cross-curricular learning while strengthening content-area vocabulary and understanding.



Supports Inquiry-Based Learning

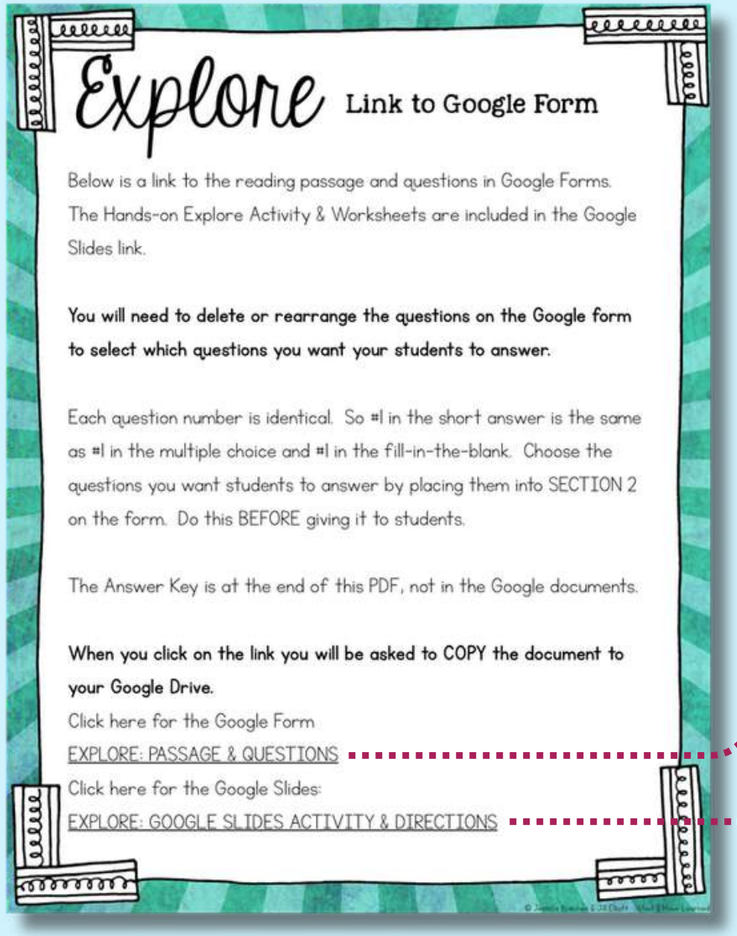
The activity encourages students to observe, test, and record results, helping them develop important scientific investigation skills.

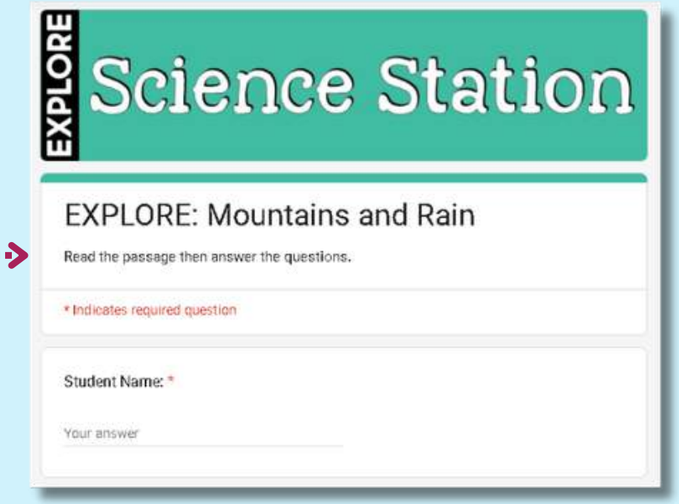


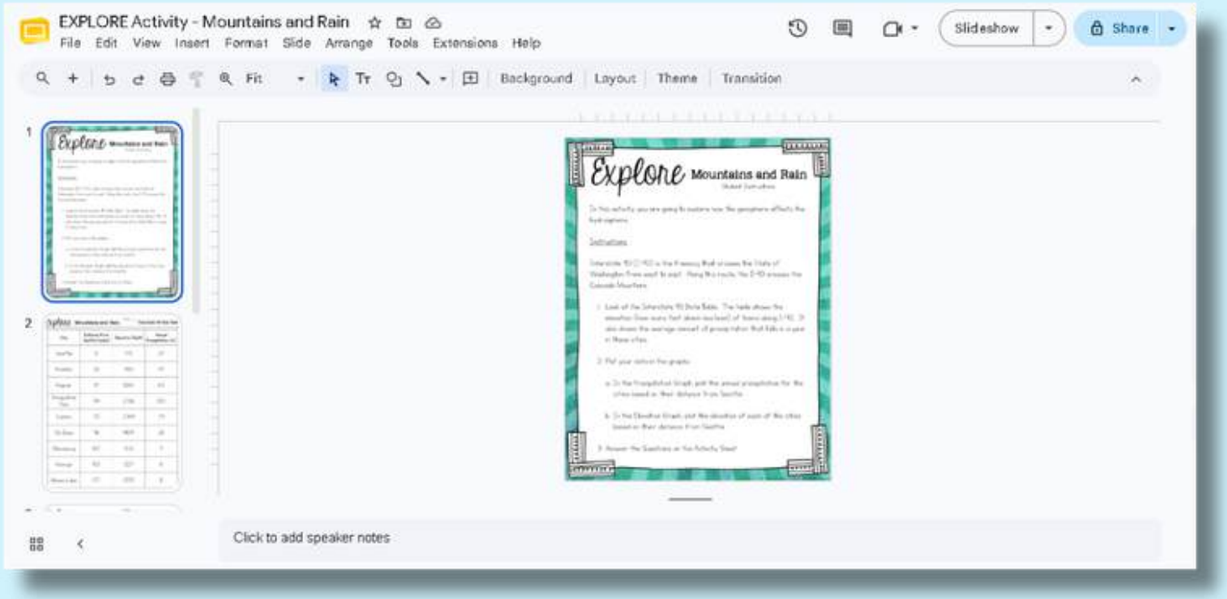
Print and Digital Flexibility

Teachers can use printable worksheets for hands-on learning or assign the Google Forms™ and Google Slides™ versions for digital classrooms.

DIGITAL VERSIONS







DIGITAL VERSIONS

- ✔ Google Sheet with Activity & Directions
- ✔ Google Form with Reading & Questions

Answer keys provided

TEACHERS LOVE IT!

This was a great addition to my science unit for 5th graders! It kept them engaged and aligned well with our state standards. Thanks!

Chelsea Wagner



Great resource ! My students were very engaged with the activity.

Brenda Z.



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My passion is making learning accessible to all students.
I love scaffolding learning, breaking down the concepts and building them up so that students can see the connections.
I love figuring out the small components that build up to the big ideas and helping students see it all.



teach MATH | teach SCIENCE | teach READING | teach WRITING

What I have LEARNED