

**5TH
GRADE**

**Everything You Need to
Teach Day & Nigh!**

PREVIEW

EARTH'S SPHERES & SYSTEMS

**GRADE 5 NGSS
BUNDLE**

Labs, Projects, and Games

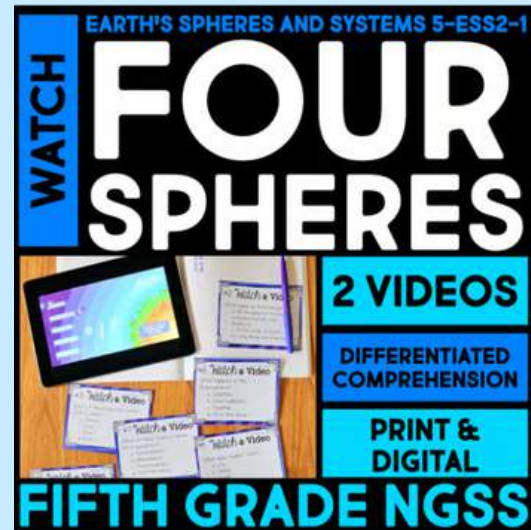
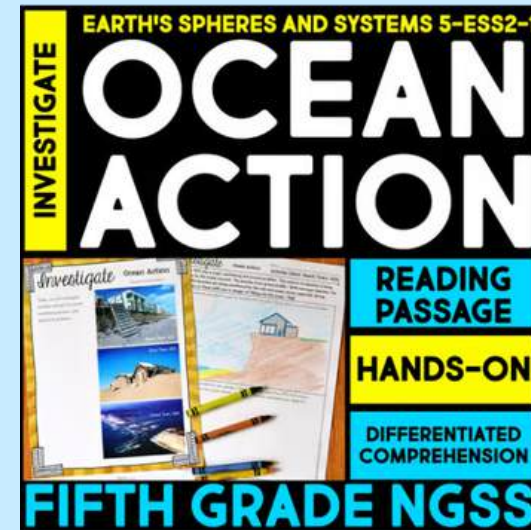
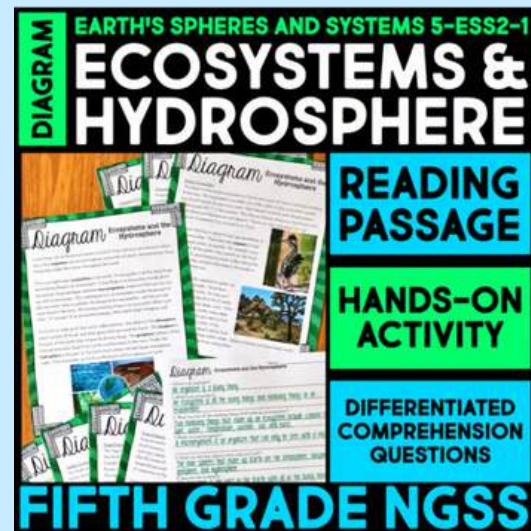
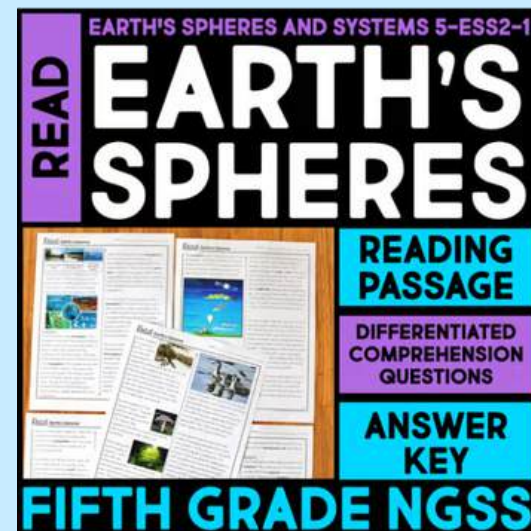
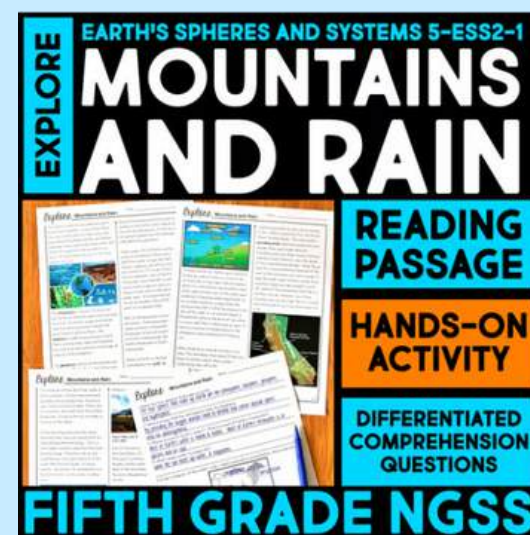
8 Hands-on Science Investigations

EARTH'S SPHERES & SYSTEMS BUNDLE



**KEEP SCROLLING TO SEE
WHAT'S INSIDE!**

WHAT'S INCLUDED IN THE BUNDLE?



- ✓ 8 Science Stations aligned with the NGSS for 5th grade
- ✓ 6 Reading passages
- ✓ Hands-on activities
- ✓ Differentiated comprehension questions
- ✓ Digital Videos & Video Games
- ✓ Digital Google Slides & Forms

6 READING PASSAGE



6 Reading Passages that provide
all scientific background
knowledge for each station

Available in two
formats + Digital

Includes pictures and
visuals

PAGE OVERVIEW

EARTH'S SPHERES & SYSTEMS

Labs, Projects, and Games



8 Hands-on Science Investigations

ADD TO CART



Earth's Spheres and Systems Unit BUNDLE

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.42 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.51, RF.54, WS.2, WS.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.51, RF.54, WS.2, WS.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	Four Spheres Part 1 and the Hydrosphere	5-ESS2-1 (ELA) RI.51, RI.52, RI.54, RI.57, RF.54, WS.2, WS.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 hypotheses. Students will then answer questions in order to reinforce what they have learned.
Read	Earth's Spheres	5-ESS2-1 (ELA) RI.51, RI.52, RI.54, RI.57, RF.54, WS.2, WS.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.51, RI.52, RI.54, RI.57, RF.54, WS.2, WS.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.51, RI.52, RI.54, RI.57, RF.54, WS.2, WS.8, (Math) S.G.A1 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.51, RI.52, RI.54, RI.57, RF.54, WS.2, WS.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.

Earth's Spheres and Systems Unit Bundle

Science Stations

NGSS Standards Overview 5-ESS2-1

Next Generation Science Standards are written to be "Three Dimensional." The following section explains how this set of science stations addresses the three dimensions of Performance Expectation, Disciplinary Core Idea, and Science and Engineering Practices/Crosscutting Concepts.

In Fifth Grade, students are expected to demonstrate understanding in the following area:

5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
[Clarification Statement: Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate; and the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, hydrosphere, atmosphere, and biosphere are each a system.]
[Assessment Boundary: Assessment is limited to the interactions of two systems at a time.]

This correlates with the DCIs DCI 5-ESS2.A which states:

ESS2.A: Earth Materials and Systems

Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather.

All stations in this set meet the DCI, helping students gain an understanding of the four Earth spheres that make up the Earth, its materials, and its processes.

Science and Engineering Practices

Developing and Using Models

Modeling in 3-5 builds on K-2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.

• Develop a model using an example to describe a scientific principle.

Crosscutting Concepts

Systems and System Models

• A system can be described in terms of its components and their interactions.

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.

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.

Investigate

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

Draw a Diagram

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

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.

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.

Explore

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

Sort

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

Earth's Spheres and Systems Unit Bundle

Materials Checklist

The following checklist is for the FULL UNIT BUNDLE.

Watch a Video

- ☐ Computer / Device
- ☐ Student Direction Card
- ☐ Response Sheet or Task Cards
- ☐ Science Journal (optional)

Play a Game

- ☐ Student Direction Card
- ☐ Board Game
- ☐ Die
- ☐ 2 Game Pieces
- ☐ Answer Key
- ☐ Word Search or Crossword Puzzle

Investigate

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

Draw a Diagram

- ☐ Reading Passage (optional)
- ☐ Student Direction Card
- ☐ Diagram Worksheet
- ☐ Response Sheet or Task Cards
- ☐ Science Journal (optional)
- ☐ Devices
- ☐ Materials for creating diagrams (see Teacher Instructions for ideas)

Read a Passage

- ☐ Reading Passage
- ☐ Response Sheet or Task Cards
- ☐ Science Journal (optional)

Create a Model

- ☐ Reading Passage (optional)
- ☐ Student Direction Card
- ☐ Model Worksheet
- ☐ Response Sheet or Task Cards
- ☐ Science Journal (optional)
- ☐ Device
- ☐ Materials for a three-dimensional model (clay, construction paper, glue, foam pieces, sediments, peat moss, etc.)

Explore

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

Sort

- ☐ Reading Passage (optional)
- ☐ Student Direction Card
- ☐ Larger Sort Cards or Worksheet
- ☐ Scissors
- ☐ Glue
- ☐ Response Sheet or Task Cards
- ☐ Science Journal (optional)

Table of Contents

Science Station Overview

Materials Checklist

Science Stations

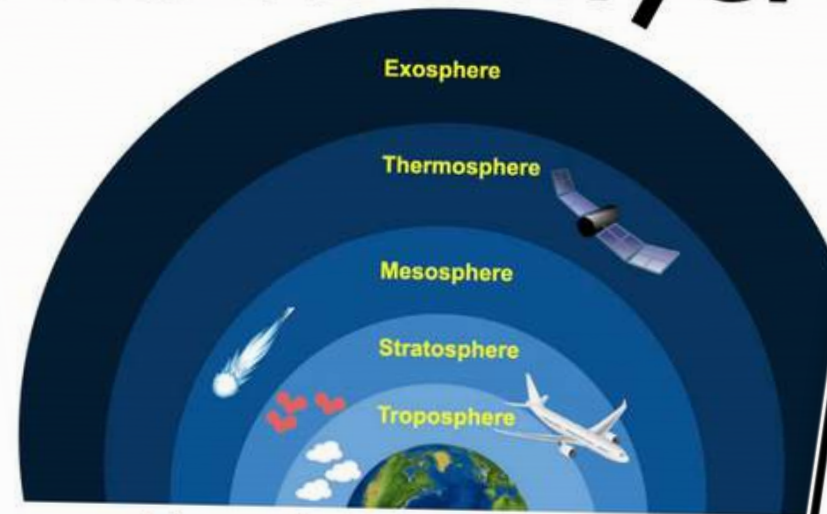
BIG IDEA POSTERS

There are four spheres that make up Earth:



the atmosphere, biosphere, geosphere, and hydrosphere.

The atmosphere has five layers



the troposphere, stratosphere, mesosphere, thermosphere, and exosphere.

The biosphere has five kingdoms of living things:

bacteria, protists, fungi, plants, and animals.



BIG IDEA POSTERS THAT EXPLAIN THE KEY CONCEPTS



atmosphere

part of the Earth that contains all the air and other gases that surround the Earth; found on the surface of the Earth and extends to space



biosphere

the part of Earth that contains all the living things; made up of the five kingdoms of protists, bacteria, plants, animals, and fungi.



kingdom

category of living things; The five kingdoms are protists (including algae), bacteria, plants, animals, and fungi.



hydrosphere

part of the Earth that contains all the solid, liquid, and gaseous water; found under the surface of the geosphere and extends into the atmosphere

VOCABULARY CARDS WITH PICTURE

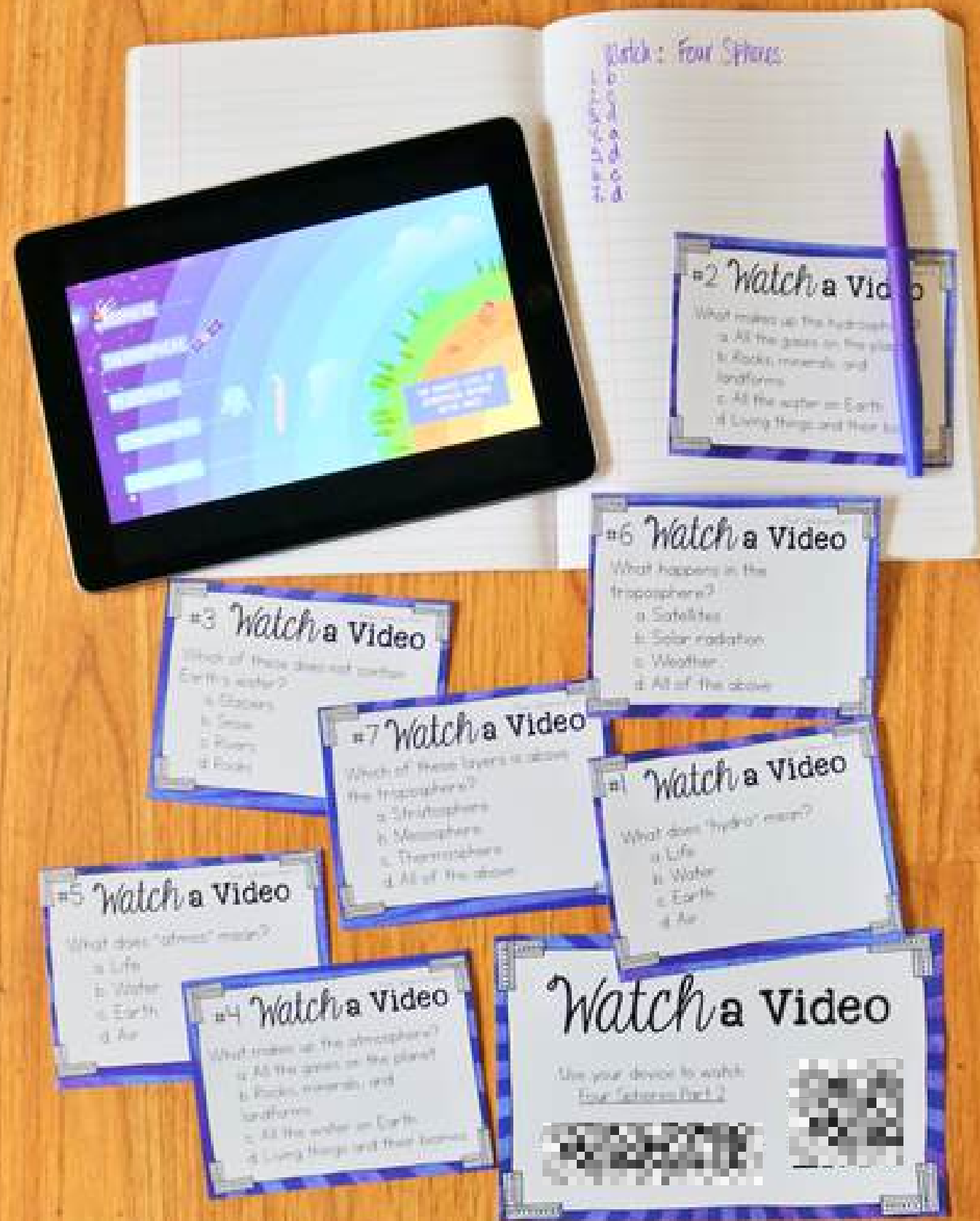
rock cycle

the description of how rocks can be changed from one type into another

runoff

water that moves downhill, filling bodies of water on Earth's surface or seeping into the ground and filling aquifers

VOCABULARY CARDS WITHOUT PICTURE



WATCH STATION

**ENGAGING EARTH SYSTEMS VIDEOS
WITH COMPREHENSION QUESTIONS
FOCUSED ON EARTH'S SPHERES AND
THEIR INTERACTIONS**

“ This is such a great
resource that I used
with my 6th
graders!
- Amanda Weaver ”



PLAY STATION

**CHOOSE FROM A BOARD GAME,
ACTIVE MOVEMENT GAME,
CROSSWORD, OR WORD SEARCH.**

Very engaging
supplement to my
curriculum. I love the
different activities.
- Nicole C.

Play a Cross Word Game Rocks, Weather

Play a Cross Word Game Water Cycle

Play a Cross Word Game Planets

WORD BANK:

atmosphere	ecosystem	hydrophere	convection
metamorphic	permafrost	prevailing winds	sediment
thermosphere	troposphere	lava	

INVESTIGATE STATION

**HANDS-ON INVESTIGATION EXPLORING
OCEAN ACTION, EROSION, DEPOSITION,
AND INTERACTIONS BETWEEN EARTH'S
SYSTEMS**

My students
“enjoyed this activity.
This activity was
easy to differentiate.”
- Kathleen C.

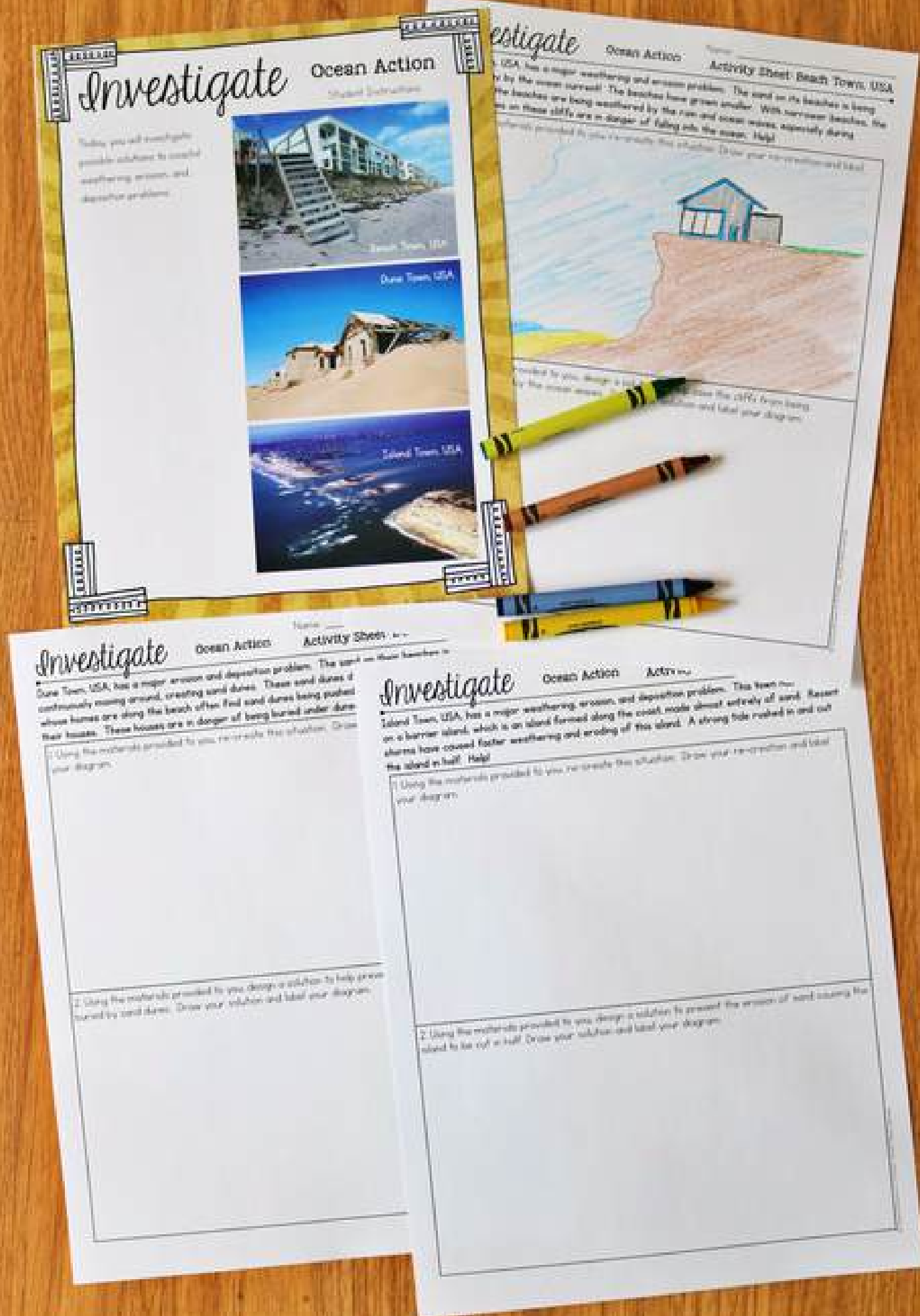


DIAGRAM STATION

LABEL AND ANALYZE ECOSYSTEMS, AND EARTH SYSTEM CONNECTIONS THROUGH VISUAL MODELING ACTIVITIES

This was a great
and helpful resource
for my students.
- Yulonda P.

Diagram Ecosystems and the Hydrosphere
Student Instructions
Today you will discuss how the biosphere and hydrosphere interact in an ecosystem. You will investigate what happens when a part of that ecosystem changes. You will then create a diagram to display those changes.

Ecosystem Activity:

1. Your teacher will assign you an ecosystem.
2. Using the information in the reading section AND the information you gather from your own research (using online sources and sources from books), complete the "Ecosystem Research" sheet.
3. Your teacher will give you a piece of paper describing changes that happen to your ecosystem. Using what you learned from your research, answer the questions on the "Activity Sheet."
4. Make a diagram showing what your ecosystem will look like after the changes. Label the parts of the hydrosphere and biosphere in your diagram. Show the adaptations the organisms have done to survive these changes.

Desert Ecosystem
Change: The water in the desert is running out. This has caused the organisms that lived in the desert to die. The organisms that do well in warmer water have moved in.

Tropical Ecosystem
Change: The temperature in your ecosystem has been rising. The permafrost is beginning to melt, which has changed the soil and created more bog-like areas.

Temperate Forest Ecosystem
Change: Your ecosystem is in its third year of drought. There has not been enough rain, so the plants are beginning to die.

Tropical Rainforest Ecosystem
Change: A massive storm has hit your ecosystem. The high winds ripped plants out of the ground. The water is now flooded everywhere.

Chaparral Ecosystem
Change: Wildfires are not natural events in the chaparral ecosystem. They have recently hit your ecosystem and are eating the native plants. To get the food they want, they dig deep to find insects and rodents, and they muddy up the streams that run through your area.

Desert Ecosystem
Change: A wildfire rages through your ecosystem. Many slow-growing plants burned in the fire. These plants were used by some animals for shade during the hot part of the day. They also stored a lot of water in their stems, so they were an important source of food and water for some animals. Now grasses are growing where the slow-growing plants were.

Grassland Ecosystem
Change: A farmer has bought a large plot of land in your ecosystem. He has cleared the land of his native plants to plant crops. He has brought in large irrigation systems to water these crops.

Tundra Ecosystem
Change: The snow goose population has increased this month. They are eating all the plants in sight. Their waste makes the water warmer than it has ever been. There are not enough birds to eat all of them.

Diagram Ecosystems and the Hydrosphere
Name of Ecosystem: Ocean
Describe the ecosystem:
The ocean is the largest ecosystem covering about 70% of the Earth's surface. It is made up of large connected bodies of salt water and the various plants and animals that live in them.

Describe what the hydrosphere (the solid, liquid, and gaseous water) is like in this ecosystem:
The ocean is primarily composed of liquid water with salt and other minerals. The ocean also contains large amounts of solid fresh water that is locked in polar ice caps.

Describe what the biosphere (the living things) is like in this ecosystem:
The ocean has plants, large and small. These plants generate about 70% of the Earth's oxygen. Animals also live in the ocean. Mammals, vertebrates, invertebrates, and birds all live in and rely on the ocean.

How do the biosphere and the hydrosphere interact? What adaptations do living things have for dealing with not enough or too much water?

READ STATION

INFORMATIONAL TEXT WITH COMPREHENSION QUESTIONS.

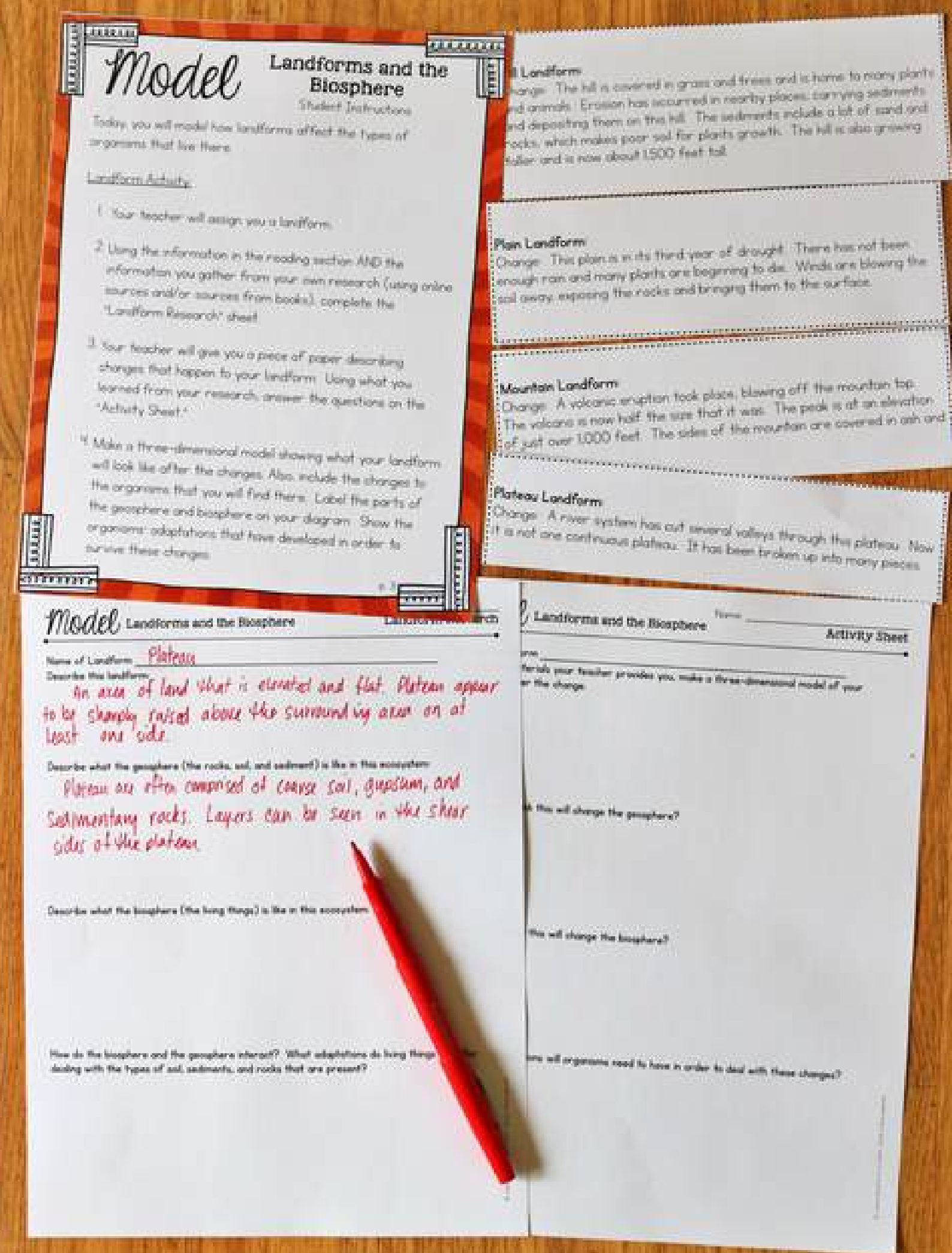
“Great resources,
easy to use, easy
to grade
- Jessica L.”



MODEL STATION

BUILD AND INVESTIGATE LANDFORMS AND BIOSPHERE CHANGES USING INQUIRY-BASED 3D MODELING ACTIVITIES

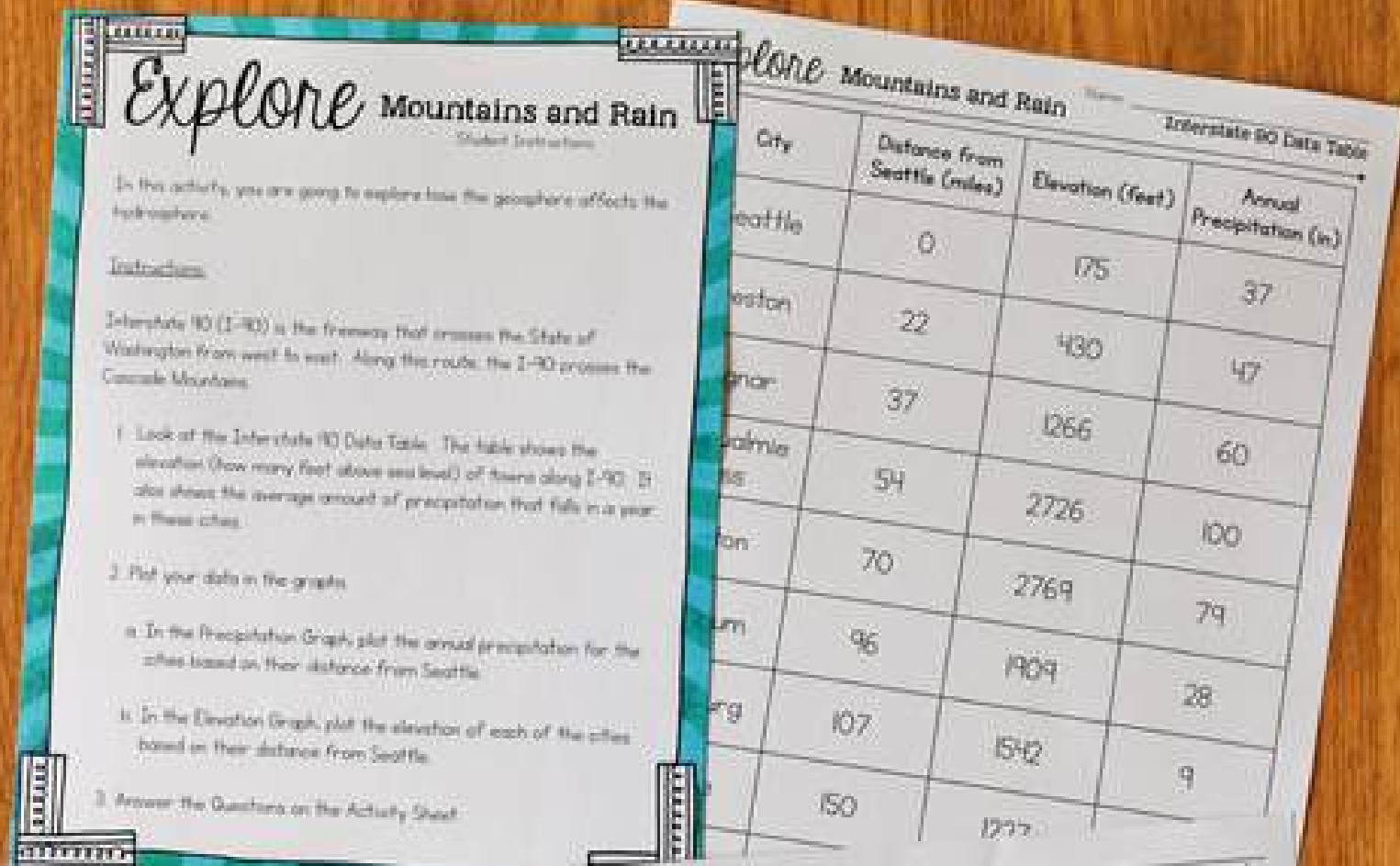
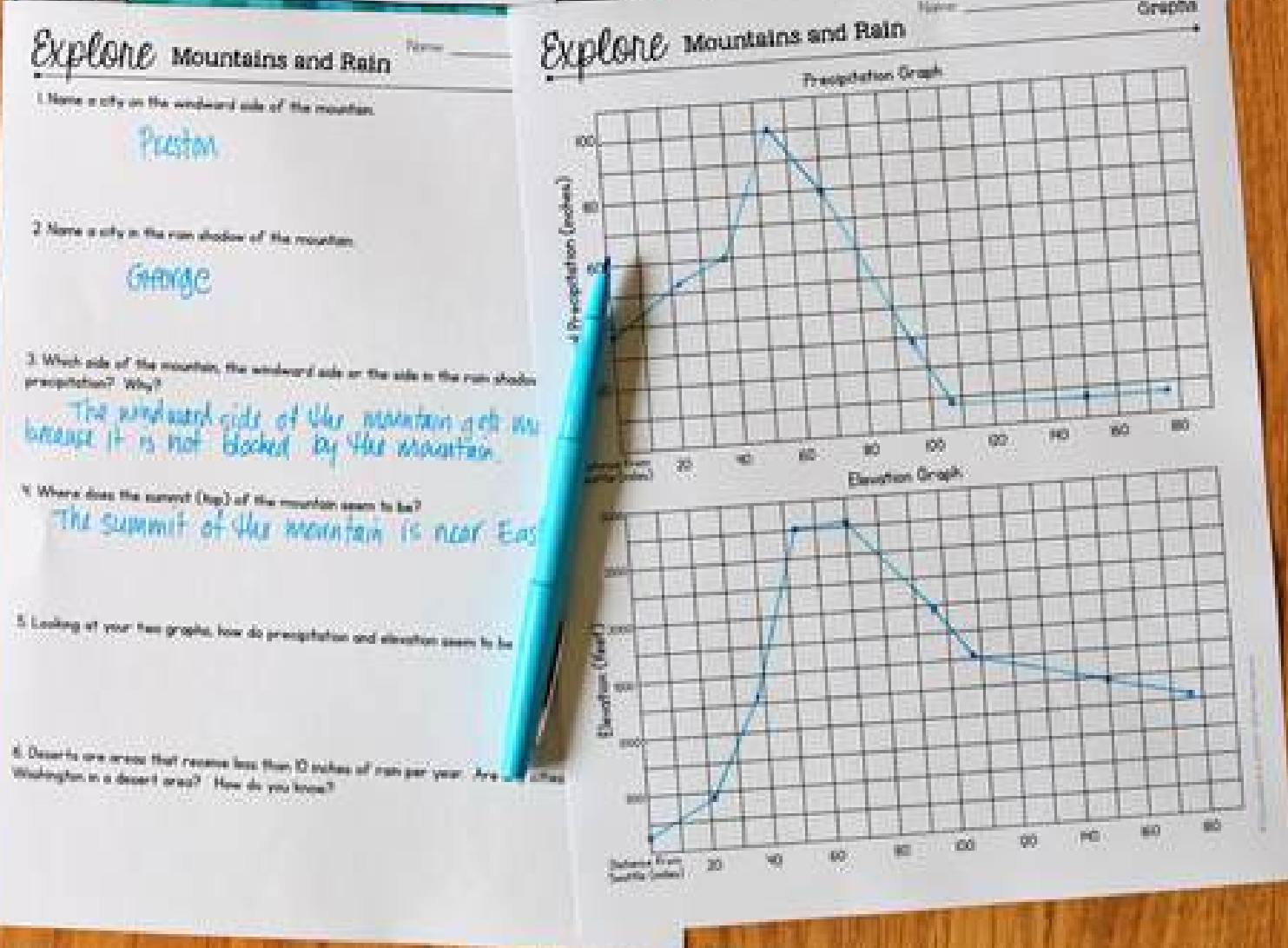
This was a great
addition to the stations
that I run in my science
class for this unit.
- Flamingo in 5th



EXPLORE STATION

**ANALYZE MOUNTAINS, PRECIPITATION,
RAIN SHADOWS, AND WEATHER
PATTERNS THROUGH GRAPHING AND
REAL-WORLD DATA ACTIVITIES**

Used this with my
5th graders along
our school
curriculum.
- Kelsey Sacco



◀ SORT STATION

CLASSIFY EXAMPLES OF THE GEOSPHERE, HYDROSPHERE, BIOSPHERE, AND ATMOSPHERE WITH INTERACTIVE CARD SORTING ACTIVITIES

Very much worth the money to get students thinking deeply about the TEK that was newly adopted this year as part of the new Texas 6 grade curriculum.

- MyScienceHeart



EARTH'S SPHERES ACTIVITIES

SUGGESTED USES

Learning Stations

Use all eight stations or just a few as learning stations that students complete at their own pace.

Science Centers

Set up a rotation where students visit each center to complete the activities.

Whole Class

Use the activities in a whole class format.

Small Group

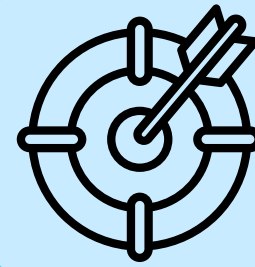
Use the activities with a small group who need extra help.

YOU WILL LOVE THIS BECAUSE



Covers Earth Systems in One Unit

Students explore Earth's spheres, ecosystems, erosion, atmospheric layers, and landforms through engaging, connected learning experiences.



Direct NGSS Alignment

All activities support the NGSS standard 5-ESS2-1 helps students observe and think critically while helping them retain important science concepts.



Saves Teachers Valuable Time

With ready-to-use materials, digital options, and answer keys included, teachers can quickly implement engaging science instruction.

TEACHERS LOVE IT!



*"So many great resources!
Used this with my 5th
graders along our school
curriculum. I loved that
there were different
components for each of the
different Earth Systems."*

Kelsey S.



*These activities helped solidify
sphere interactions for my
students. The variety of
activities gave me many
meaningful experiences to
share with them. Thank you!*

Meridy W.



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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.



What I have **LEARNED**