

Investigate Stars Like Real Scientists!

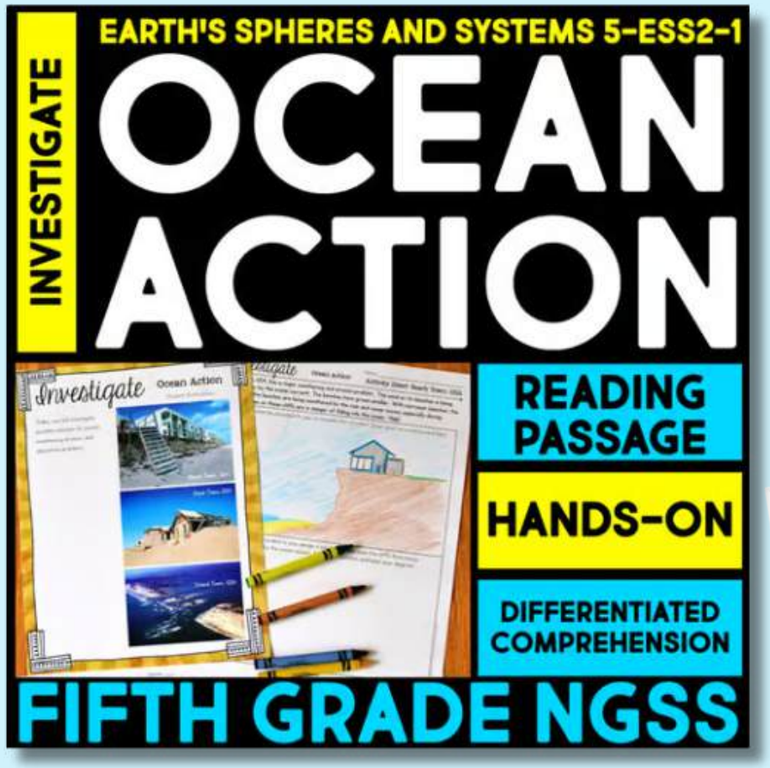
5TH GRADE

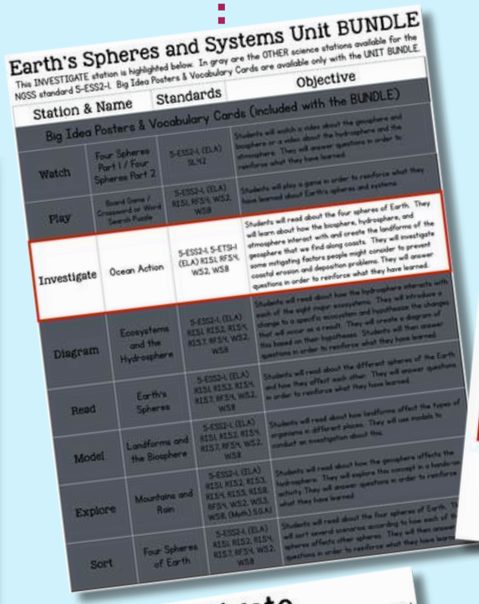
INVESTIGATE OCEAN ACTION

EARTH'S SPHERES

KEEP SCROLLING TO SEE WHAT'S INSIDE!

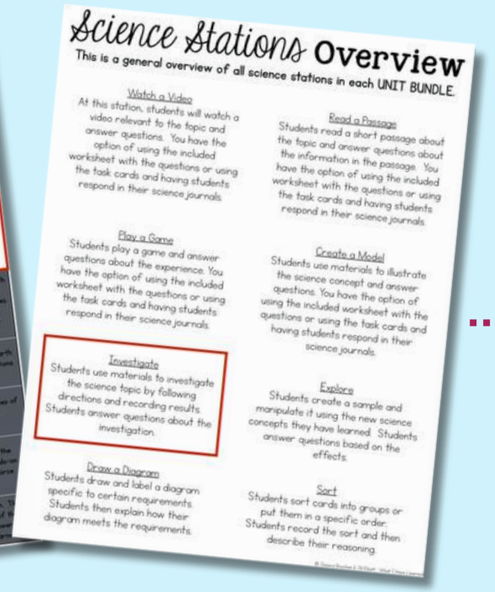
ACTIVITY OVERVIEW




Earth's Spheres and Systems Unit BUNDLE

This INVESTIGATE 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.N2	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, 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.5.1, RF.5.4, 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 — Ecosystems and the Hydrosphere	5-ESS2-1 (ELA) RI.5.1, RI.5.3, RI.5.4, RI.5.7, RF.5.4, 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 their hypotheses. 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.5.3, RI.5.4, RI.5.7, RF.5.4, 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.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, 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.5.1, RI.5.2, RI.5.3, RI.5.4, RI.5.5, RI.5.8, RF.5.4, WS.2, WS.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, 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.


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.

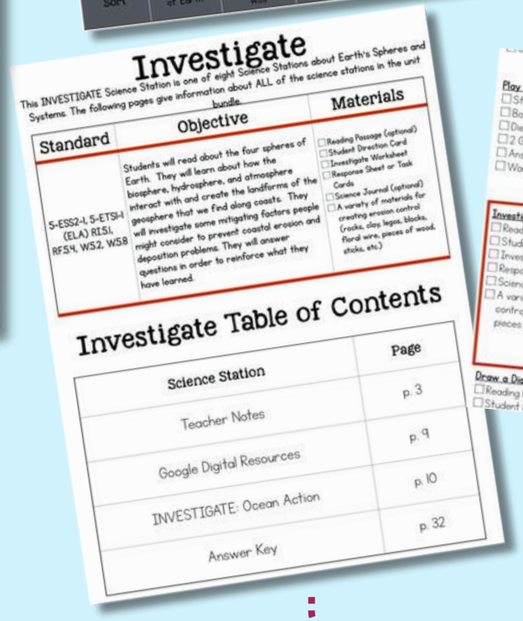
Draw a Diagram
Students draw and label a diagram specific to certain requirements. Students then explain how their diagram meets the requirements.

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.

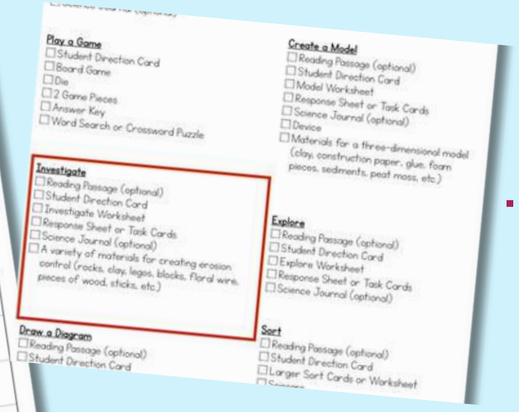

Investigate

This INVESTIGATE 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, 5-ETS1-1 (ELA) RI.5.1, RF.5.4, 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.	☐ Reading Passage (optional) ☐ Student Direction Card ☐ Investigate Worksheet ☐ Response Sheet or Task Cards ☐ Science Journal (optional) ☐ A variety of materials for creating erosion control (rocks, clay, legos, blocks, floral wire, pieces of wood, sticks, etc.)

Investigate Table of Contents

Science Station	Page
Teacher Notes	p. 3
Google Digital Resources	p. 9
INVESTIGATE: Ocean Action	p. 10
Answer Key	p. 32


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)
☐ A variety of materials for creating erosion control (rocks, clay, legos, blocks, floral wire, pieces of wood, sticks, etc.)

Draw a Diagram
☐ Reading Passage (optional)
☐ Student Direction Card

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

Table of Contents

Science Station Overview

Materials Checklist

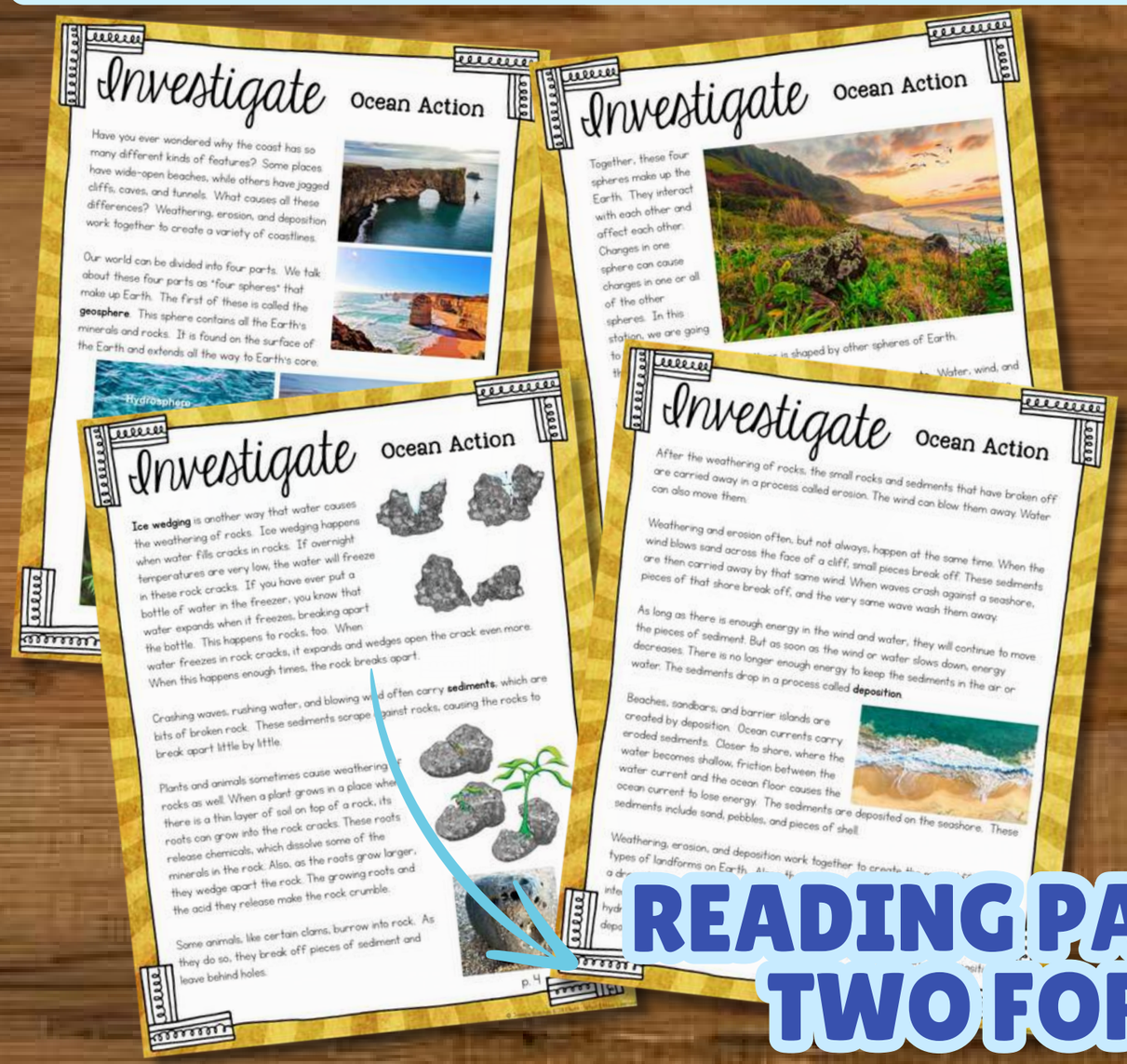
Teacher Notes & Table of Contents

WHAT'S INCLUDED
INVESTIGATE SCIENCE STATION

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



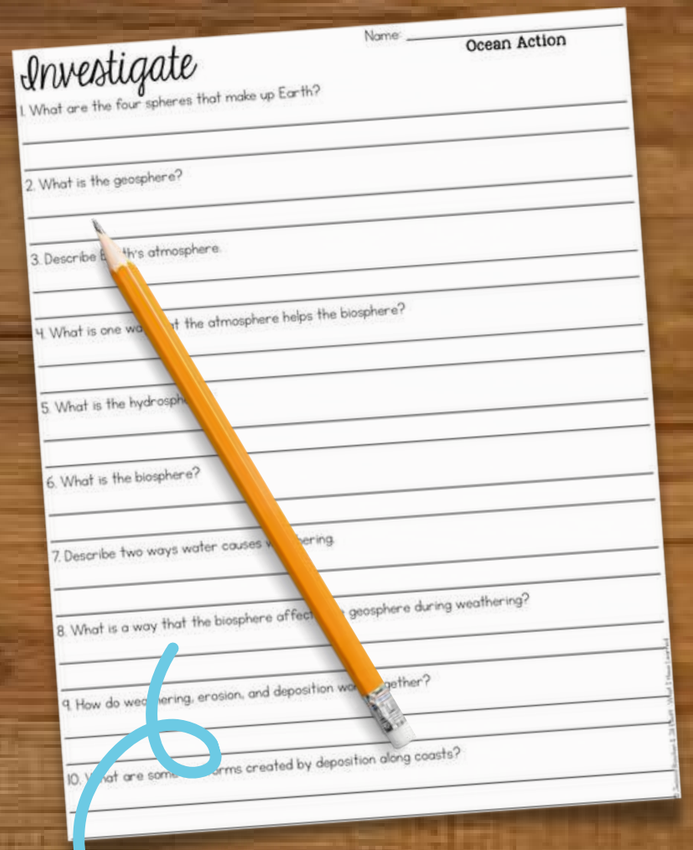
INVESTIGATE: READING PASSAGE

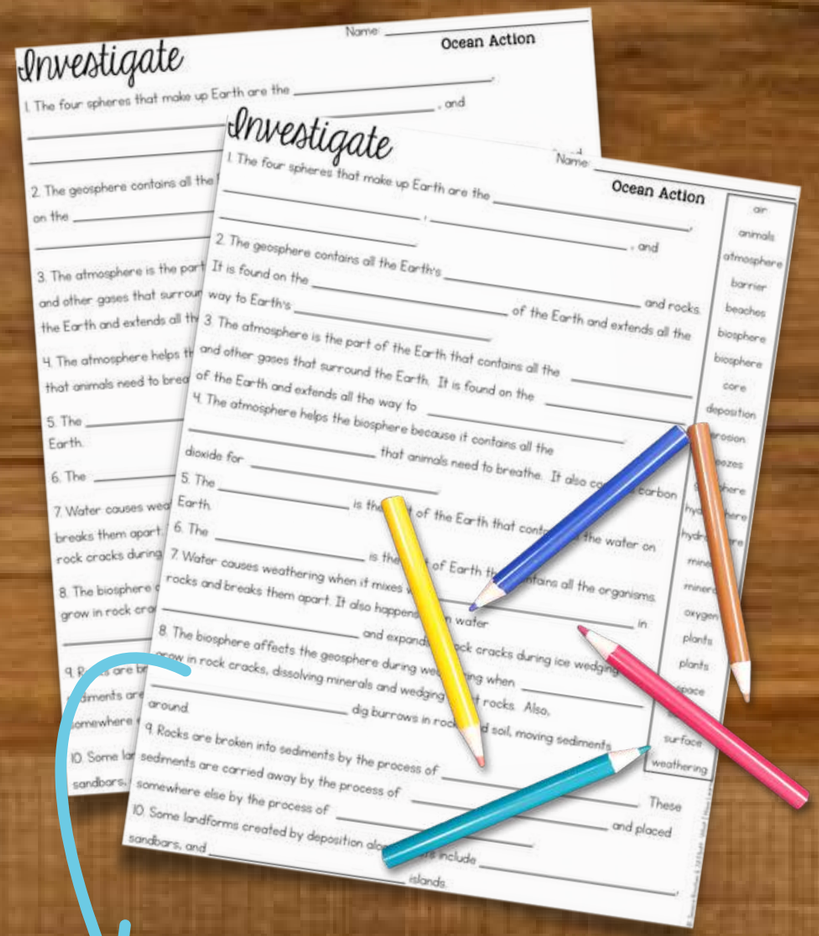


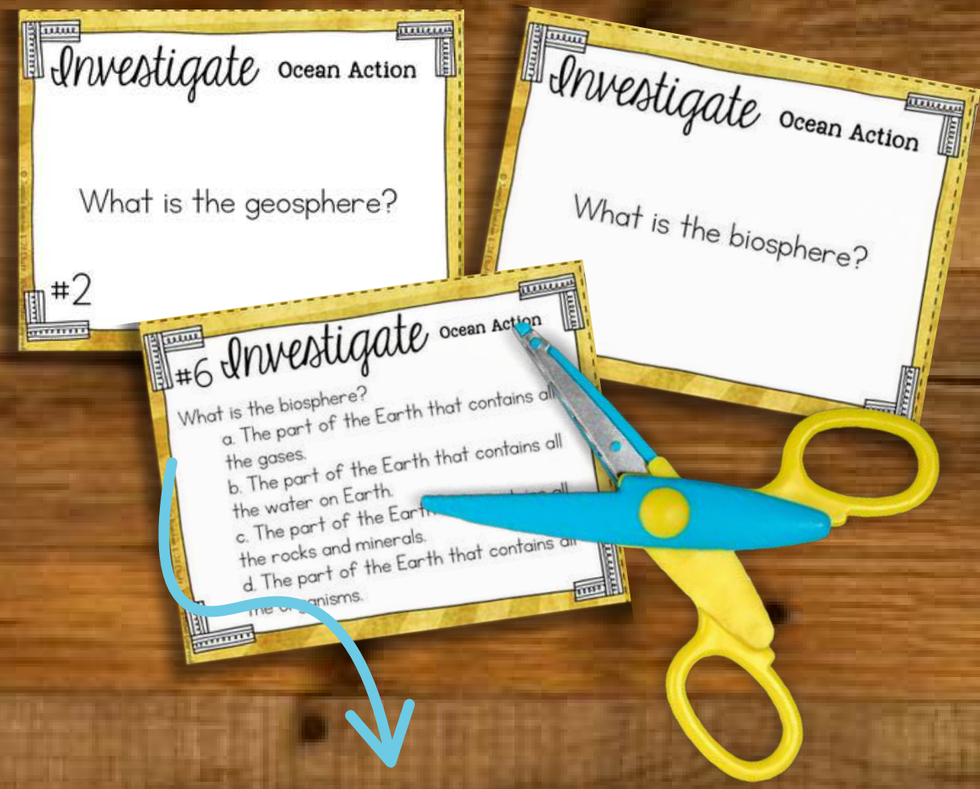
READING PASSAGE IN TWO FORMATS


Classroom - 16 x 9
Investigate
Ocean Action
Beach Town, USA
Dune Town, USA
Island Town, USA
ENGAGING ACTIVITY
& WORKSHEETS

DIFFERENTIATED QUESTIONS







SHORT ANSWER

FILL-IN-THE BLANK

TASK CARDS: SHORT ANSWER & MULTIPLE CHOICE

Investigate Ocean Action

Have you ever wondered why the coast has so many different kinds of features? Some places have wide-open beaches, while others have jagged cliffs, caves, and tunnels. What causes all these differences? Weathering, erosion, and deposition work together to create a variety of coastlines.





Our world can be divided into four parts. We talk about these four parts as "four spheres" that make up Earth. The first of these is called the **geosphere**. This sphere contains all the Earth's minerals and rocks. It is found on the surface of the Earth and extends all the way to Earth's core.







Investigate Ocean Action

The geosphere contains **soil**, which helps plants to grow. It is also where all the land features are, like mountains, volcanoes, caves, islands, canyons, and valleys. The sandy beaches and jagged cliffs along coasts are part of the geosphere.

The **atmosphere** is the part of the Earth that contains all the air and other gases that surround the Earth. It is found on the surface of the Earth and extends all the way to space. The atmosphere contains the oxygen we need to breathe as well as the carbon dioxide needed by plants and other organisms for **photosynthesis**. It also is where all the weather patterns take place.



The **hydrosphere** is the part of the Earth that contains all the water on Earth. This includes solid water, like snow, ice, and glaciers. Liquid water can be found in rain, oceans, lakes, rivers, and underground. Water can be found in the form of a gas. It is found in the air.

contains
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drosphere.

p. 2

Investigate Ocean Action

Name: _____

1. What are the four spheres that make up Earth?
The four spheres that make up Earth are the geosphere, hydrosphere, atmosphere, and biosphere.

2. What is the geosphere?
The geosphere contains all the Earth's minerals and rocks. It is found on the surface of the Earth and extends all the way to Earth's core.

3. Describe Earth's atmosphere.
The atmosphere is the part of the Earth that contains all the air and other gases that surround the Earth. It is found on the surface of Earth and extends all the way to space.

4. What is one way that the atmosphere helps the biosphere?
Answers vary, choose 1: The atmosp… the biosphere because it contains all the oxygen that animals need to bre… …on dioxide for plants.

5. What is the hydrosphere?
The hydrosphere is the part … water on Earth.

6. What is the biosphere?
The biosphere is the part of Earth … …rms.

7. Describe two ways water causes weatherin…
Choose two: Water causes weathering when it mixes wit… …d breaks them apart; when water freezes and expands in rock cracks during ice wedging, when… …sediments along rocks.

8. What is a way that the biosphere affects the geosph… …ing?
Choose one: The biosphere affects the geosphere during weathering … …rock cracks, dissolving minerals and also wedging apart rocks. Also, animals dig burrows … …ing sediments around.

9. How do weathering, erosion, and deposition work togethe…
Rocks are broken into sediments by weathering. These … …rried away by erosion and placed somewhere else by deposition.

10. What are some landforms created by deposition along co…
Some landforms created by deposition along coasts incl… …s, and barrier islands.

Investigate Ocean Action

What is the geosphere?

#2

Investigate Ocean Action

What are some landforms created by deposition along coasts?

#10

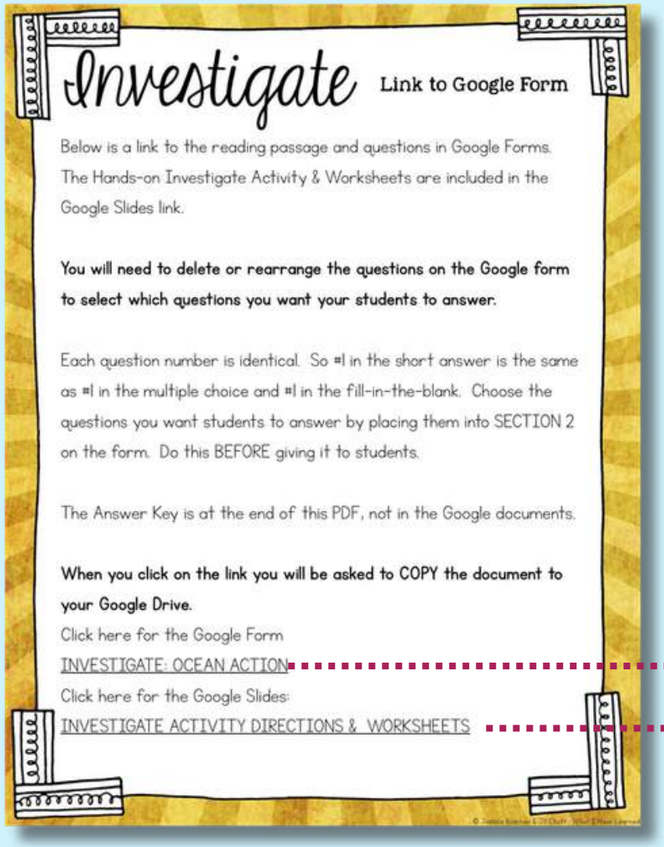
#6 Investigate Ocean Action

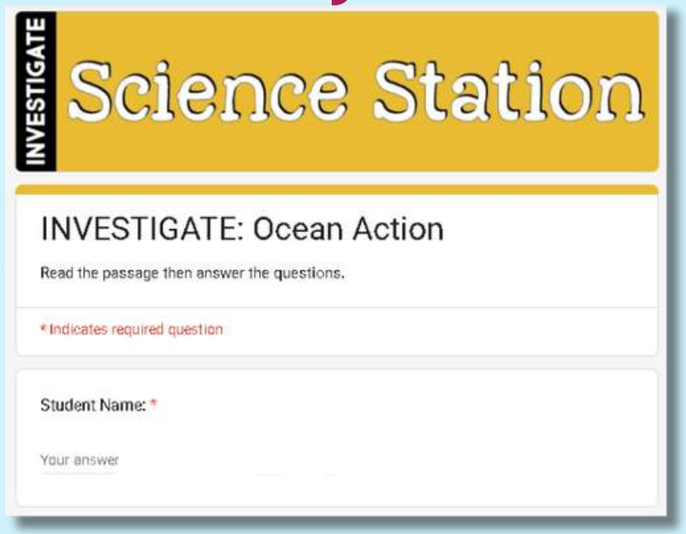
What is the biosphere?
a. The part of the Earth that contains all the gases.
b. The part of the Earth that contains all the water on Earth.
c. The part of the Earth that contains all the rocks and minerals.
d. The part of the Earth that contains all the organisms.

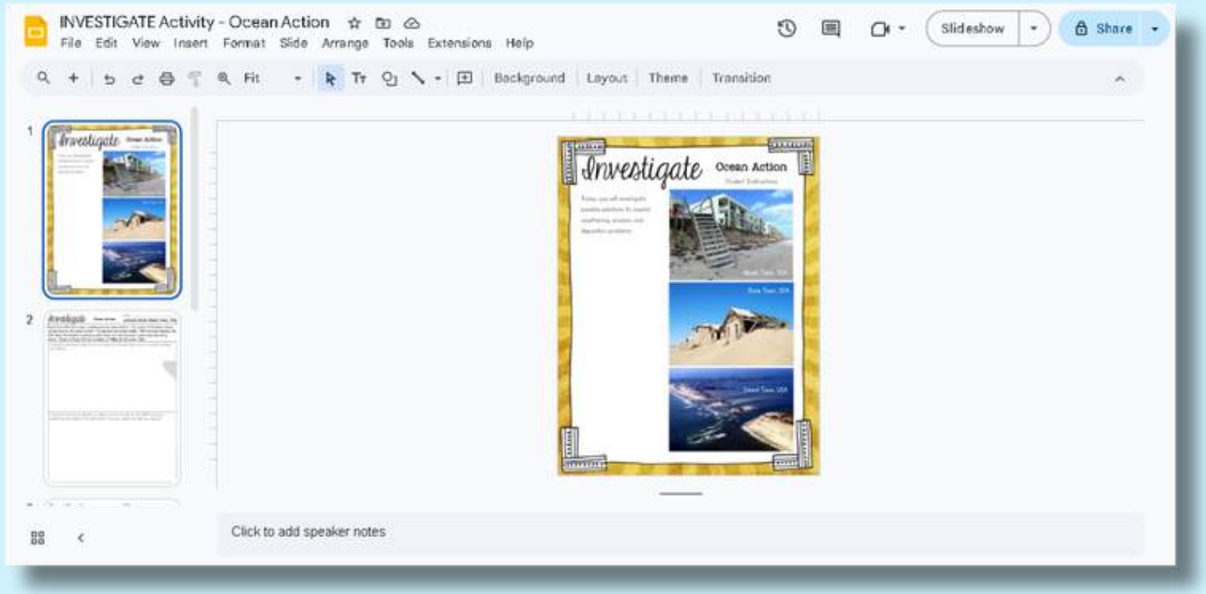


ADD TO CART

DIGITAL VERSIONS







DIGITAL VERSIONS

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

Answer keys provided

YOU WILL LOVE THIS BECAUSE



Hands-On Discovery

Students actively measure and test instead of just reading about the concept.



Multiple Response Formats

Differentiated questions (short answer, blanks, task cards, multiple-choice) ensure every student can access and demonstrate understanding effectively.



Teacher-Friendly Design

Includes teacher notes, answer keys, and ready-to-use materials—minimizing prep time while maximizing instructional impact in your classroom.

TEACHERS LOVE IT!

★★★★★

Used with my students to start a unit on oceans and how we can innovate a project for this year's FLL theme.

Elizabeth L.

★★★★★

I used the passage and questions to explain how spheres interact with the example of weathering and erosion.

Madison G.





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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