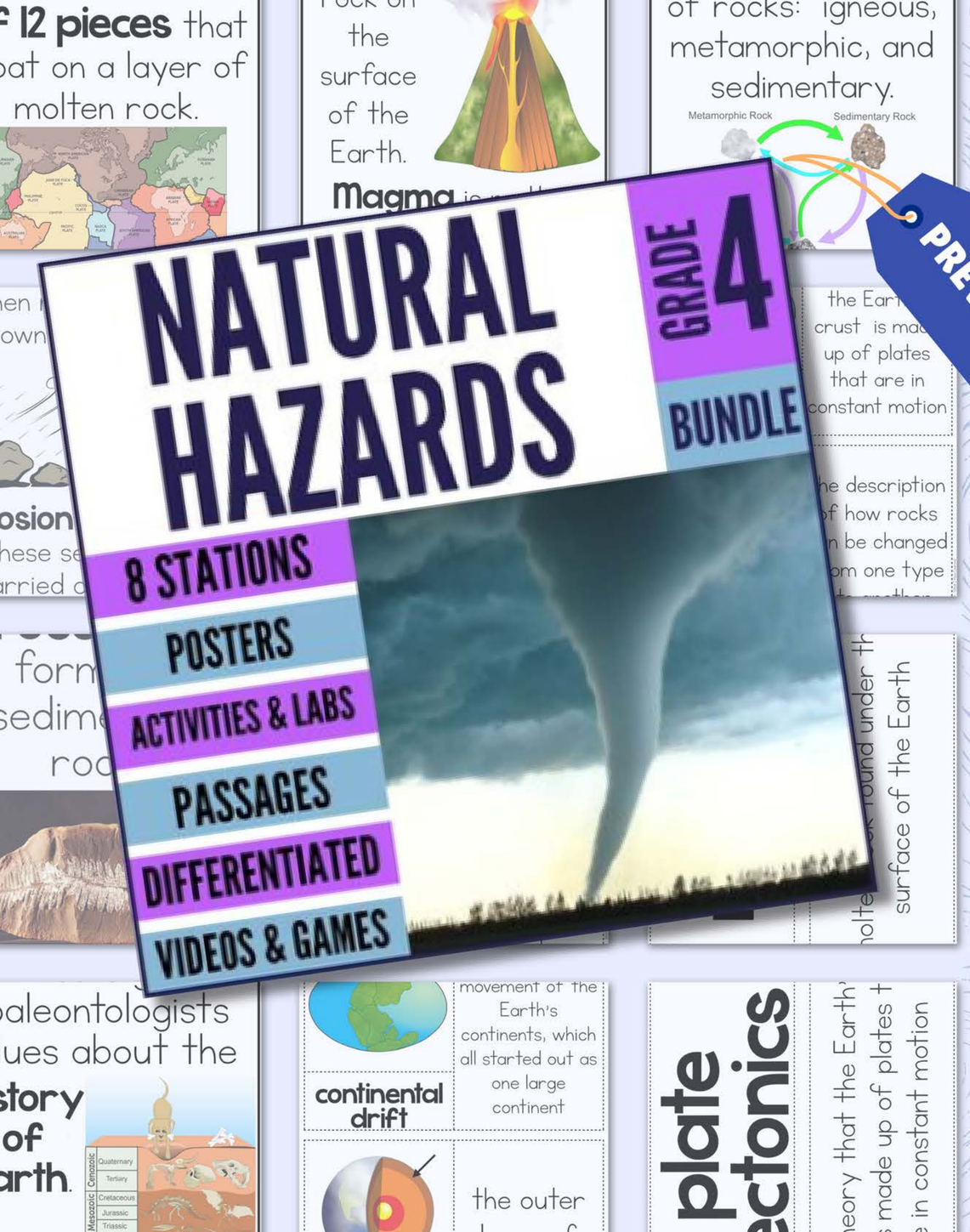


4TH GRADE

Engage, Analyze, Innovate!

NATURAL HAZARDS BUNDLE

Severe Weather NGSS 4th Grade Science Stations

KEEP SCROLLING TO SEE WHAT'S INSIDE!

YOU WILL LOVE THIS BECAUSE



Hands-On and Interactive Learning

With interactive activities including videos, games, design challenges, diagrams, and experiments, students engage actively, making complex concepts accessible and memorable.



Flexible Classroom Implementation

Multiple response formats and activity choices allow you to tailor instruction to diverse learners, supporting independent, group, and online environments.

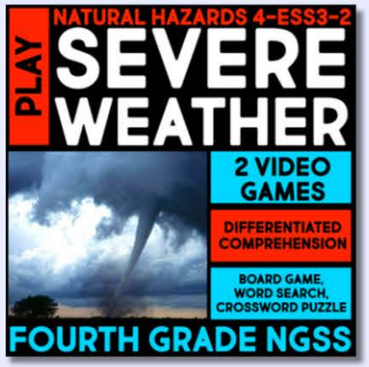


Aligned with NGSS

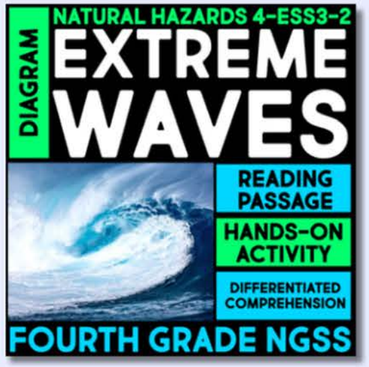
This bundle covers NGSS 4-ESS3.B, offering a complete exploration of natural hazards with stations that integrate real-world scenarios, design challenges, and evidence-based solutions.

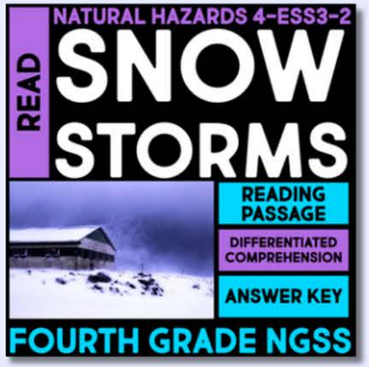
WHAT'S INCLUDED IN THE BUNDLE?

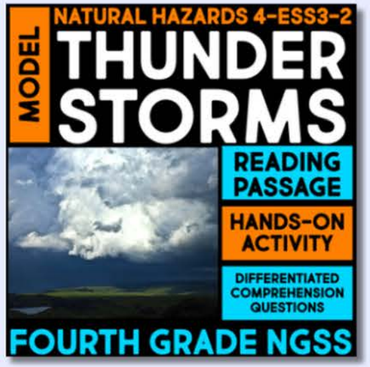


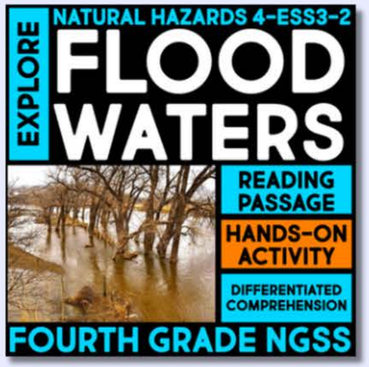














- 8 Science Stations aligned with the NGSS for 4th grade
- 6 Reading passages
- Hands-on activities
- Differentiated comprehension questions
- Digital Videos & Video Games
- Digital Google Slides & Forms

WATCH • PLAY • INVESTIGATE • DIAGRAM • READ • MODEL • EXPLORE • SORT

NATURAL HAZARDS STATION 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.

6 READING PASSAGES

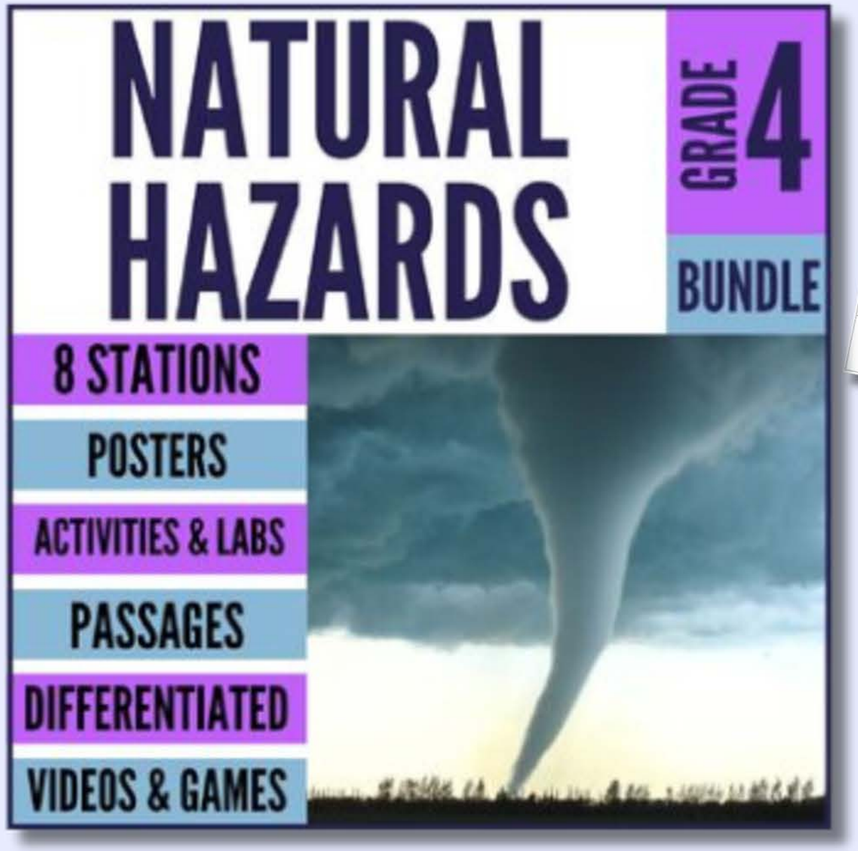


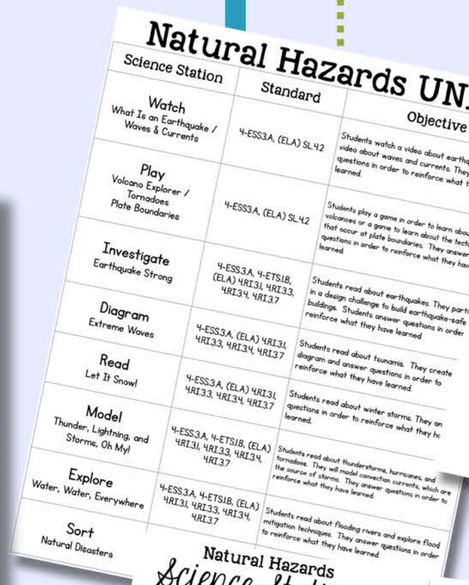
6 Reading Passages that provide all scientific background knowledge for each station

Available in two formats + Digital

Includes pictures and visuals

UNIT OVERVIEW




Natural Hazards UNIT

Science Station	Standard	Objective
Watch What Is an Earthquake / Waves & Currents	4-ESS3.A, (ELA) SL.4.2	Students watch a video about earthquakes or video about waves and currents. They answer questions in order to reinforce what they have learned.
Play Volcano Explorer / Tornadoes Plate Boundaries	4-ESS3.A, (ELA) SL.4.2	Students play a game in order to learn about volcanoes or a game to learn about the tectonic that occur at plate boundaries. They answer questions in order to reinforce what they have learned.
Investigate Earthquake Strong	4-ESS3.A, 4-ETS1.B, (ELA) 4.RI.3.3, 4.RI.3.4, 4.RI.3.7	Students read about earthquakes. They parti in a design challenge to build earthquake-safe buildings. Students answer questions in order reinforce what they have learned.
Diagram Extreme Waves	4-ESS3.A, (ELA) 4.RI.3.3, 4.RI.3.3, 4.RI.3.4, 4.RI.3.7	Students read about tsunamis. They create diagram and answer questions in order to reinforce what they have learned.
Read Let It Snow!	4-ESS3.A, (ELA) 4.RI.3.3, 4.RI.3.3, 4.RI.3.4, 4.RI.3.7	Students read about winter storms. They an questions in order to reinforce what they hc learned.
Model Thunder, Lightning, and Storms, Oh My!	4-ESS3.A, 4-ETS1.B, (ELA) 4.RI.3.1, 4.RI.3.3, 4.RI.3.4, 4.RI.3.7	Students read about thunderstorms, hurricanes, and tornadoes. They will model convection currents, which are the source of storms. They answer questions in order to reinforce what they have learned.
Explore Water, Water, Everywhere	4-ESS3.A, 4-ETS1.B, (ELA) 4.RI.3.1, 4.RI.3.3, 4.RI.3.4, 4.RI.3.7	Students read about flooding rivers and explore flood mitigation techniques. They answer questions in order to reinforce what they have learned.
Sort Natural Disasters		

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. Students play a video game, a board game, do a crossword puzzle or a word search.

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.


Natural Hazards
Science Stations

These Science Stations have several different ways students can display their understanding. Most of the variations are similar to each other, but differentiated for various classrooms and learning styles. Included are worksheets for both short-answer and fill-in-the-blank and task cards for both short-response and multiple choice responses. To provide even more support, give students a word list for the fill-in-the-blank options. Also included are vocabulary cards in two formats which could become a ninth station if needed.

Students are encouraged to use their Science Journals with the task cards, but worksheets are provided as well. Use the checklist to monitor student progress through the stations. The Science Stations are designed to last about 20 minutes each. Students may do one a day for eight days or two a day for four days. The following checklists will help you organize the stations.

In Fourth Grade, students are expected to "generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans." (4-ESS3-2). This correlates with the DCI 4-ESS3.B, which states, "A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts." All stations in this set meet the DCI, helping students gain an understanding of how disaster situations happen in nature, as well as how communities and individuals can mitigate the effects of natural hazards. The Investigate station goes into more detail and helps students generate and compare multiple building designs, as outlined in the Performance Expectation. The Explore station likewise helps students generate and compare multiple flood mitigation designs.

This station set integrates with 4-ESS2.A (Weathering and Erosion) and 4-ESS2.B (Plate Tectonics). Both ESS2 stations introduce the natural forces behind the natural hazards that affect communities and individuals. This station set (4-ESS3.B) is an extension of the stations in those two sets.

This DCI is the same as 3-ESS3.B. We have a set of stations for this DCI, in the Third Grade Weather & Climate Stations. The stations in the third grade station set have a reduced reading level and lower performance expectations.

The Investigate and Explore stations meet the Science and Engineering Practice of "Engaging in Argument from Evidence." Students are able to "make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem." The Crosscutting Concepts of "Cause and Effect" "Influence of Engineering, Technology and Science on Society and the Natural World," and "Science is a Human Endeavor" are addressed in each station of this station set.

Video & Game links are included in three formats: the original full link, a bit.ly link and a Google Shortlink. YouTube Videos are also available via SafeShare links in the three formats.

Watch a Video
Students watch a video about earthquakes or a video about waves and currents. They answer questions in order to reinforce what they have learned.

Play a Game
Students play a game in order to learn about volcanoes or a game to learn about the tectonic events that occur at plate boundaries. They answer questions in order to reinforce what they have learned.

Investigate
Students read about earthquakes. They participate in a design challenge to build earthquake-safe buildings. Students answer questions in order to reinforce what they have learned.

Draw a Diagram
Students read about tsunamis. They create a diagram and answer questions in order to reinforce what they have learned.

Read a Passage
Students read about winter storms. They answer questions in order to reinforce what they have learned.

Create a Model
Students read about thunderstorms, hurricanes, and tornadoes. They will model convection currents, which are the source of storms. They answer questions in order to reinforce what they have learned.

Explore
Students read about flooding rivers and explore flood mitigation techniques. They answer questions in order to reinforce what they have learned.

Sort
Students read about natural disasters and solutions for living in areas with natural disasters. They sort examples into two categories. They then answer questions in order to reinforce what they have learned.


Materials Checklist
Natural Hazards

Use the following checklist to make sure you have all the materials for your stations.

Watch a Video
- ☐ Computer / Device
- ☐ Directions Card
- ☐ Worksheet
- ☐ Task Cards
- ☐ Science Journal

Play a Video Game
- ☐ Computer
- ☐ Student Sheets
- ☐ Science Journal
- ☐ Student Direction Card
- ☐ Board Game (die & game pieces)
- ☐ Word Search or Crossword Puzzle

Investigate
- ☐ Student Instructions
- ☐ Response Sheet
- ☐ Task Cards
- ☐ Science Journal
- ☐ Skateboard
- ☐ Cardboard pieces of various sizes
- ☐ Scissors
- ☐ Scotch Tape
- ☐ Variety of materials for the earthquake retrofit: Wooden sticks/dowels/skewers, metal rods, paper clips (to be unbent), stronger tape, plastic wrap (to act like a fiberglass wrap that some builders use), etc.

Draw a Diagram
- ☐ Student Instructions
- ☐ Response Sheet
- ☐ Task Cards
- ☐ Science Journal
- ☐ Device
- ☐ Colored Pencils
- ☐ Scissors
- ☐ Tape
- ☐ Optional: Cardstock

Read a Passage
- ☐ Reading Passage
- ☐ Student Response Sheet
- ☐ Task Cards
- ☐ Science Journal

Create a Model
- ☐ Directions Cards
- ☐ Student Sheet
- ☐ Task Cards
- ☐ Science Journal
- ☐ Clear plastic box (larger than a shoebox size is best, though shoebox size will work)
- ☐ Pitcher with room temperature water (no color)
- ☐ Pitcher with warm dark red water
- ☐ Ice cubes dyed dark blue
- ☐ Colored pencils

Explore
- ☐ Directions Card
- ☐ Worksheet
- ☐ Response Sheet
- ☐ Task Cards
- ☐ Science Journal
- ☐ Plastic box (filled 2 inches with soil (see Teacher Instruction) - riverbed and sides, plus extra for reservoirs or levees in Part 2
- ☐ 2 Small cardstock houses (see Teacher Instruction)
- ☐ Pitcher of water
- ☐ Deep tray or extra-large baking pan
- ☐ Towels for cleanup
- ☐ Various materials for waterproofing: plastic wrap, packing tape
- ☐ Various materials for elevating the house: dowels, skewers, toothpicks, Lego® bricks
- ☐ Various materials for levees, dams, or reservoirs: extra river or fish tank rocks, laminated cards or something that could be a barrier

Sort
- ☐ Directions Card
- ☐ Sort Cards
- ☐ Scissors
- ☐ Glue
- ☐ Response Sheet
- ☐ Task Cards
- ☐ Science Journal

Natural Hazards Unit

Science Station Overview

Materials Checklist

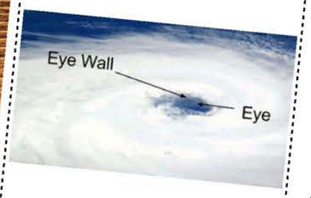
Science Stations

BIG IDEA POSTERS



BIG IDEA POSTERS THAT EXPLAIN THE KEY CONCEPTS.

VOCABULARY CARDS IN TWO FORMATS



center of a hurricane where there are usually no clouds and no wind

eye



when a liquid changes to a gas

evaporation

when water or ice falls from the sky in the form of rain, hail, snow, or sleet

precipitation



the sound that is made by a lightning bolt

thunder

condensation

when a gas changes to a liquid

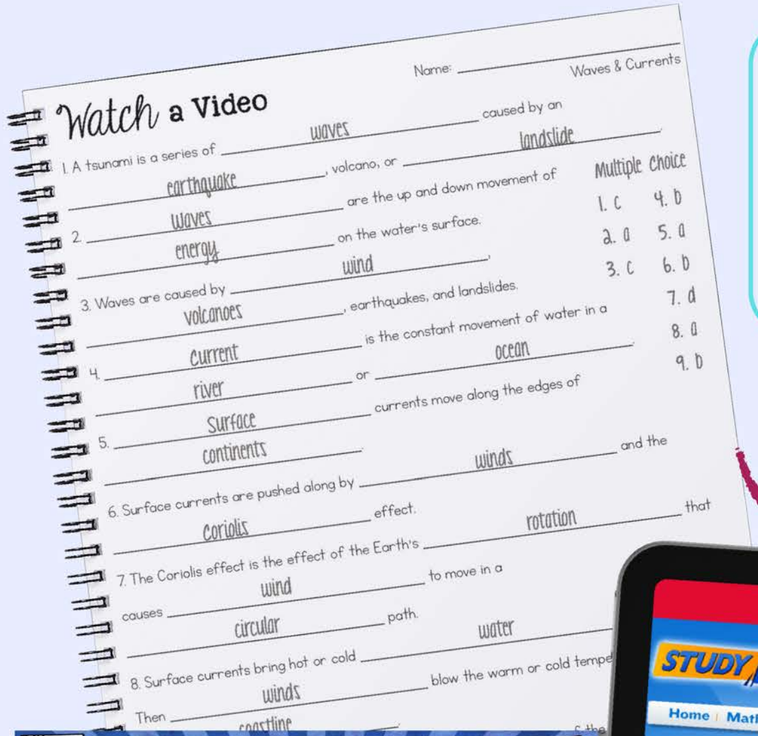
convection current

motion of a gas or liquid when the warmer parts rise and the colder parts sink

WITH PICTURES

WITHOUT PICTURE

SNEAK PEEK: ONE VIDEO FROM THE WATCH STATION


Watch a Video

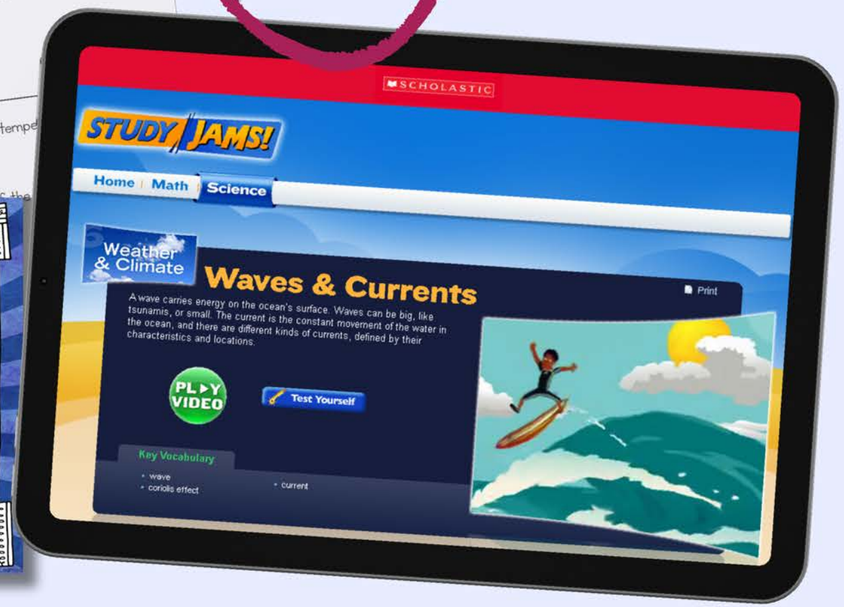
Name: _____ Waves & Currents

1. A tsunami is a series of waves caused by an earthquake, volcano, or landslide.
2. Waves are the up and down movement of energy on the water's surface.
3. Waves are caused by wind, volcanoes, earthquakes, and landslides.
4. A current is the constant movement of water in a river or ocean.
5. Surface currents move along the edges of continents.
6. Surface currents are pushed along by winds and the Coriolis effect.
7. The Coriolis effect is the effect of the Earth's rotation that causes wind to move in a circular path.
8. Surface currents bring hot or cold water. winds blow the warm or cold tempe
Then coastline

Multiple Choice
1. c 4. b
2. a 5. a
3. c 6. b
7. d
8. a
9. b


Watch a Video

Use your computer to watch
Waves & Currents



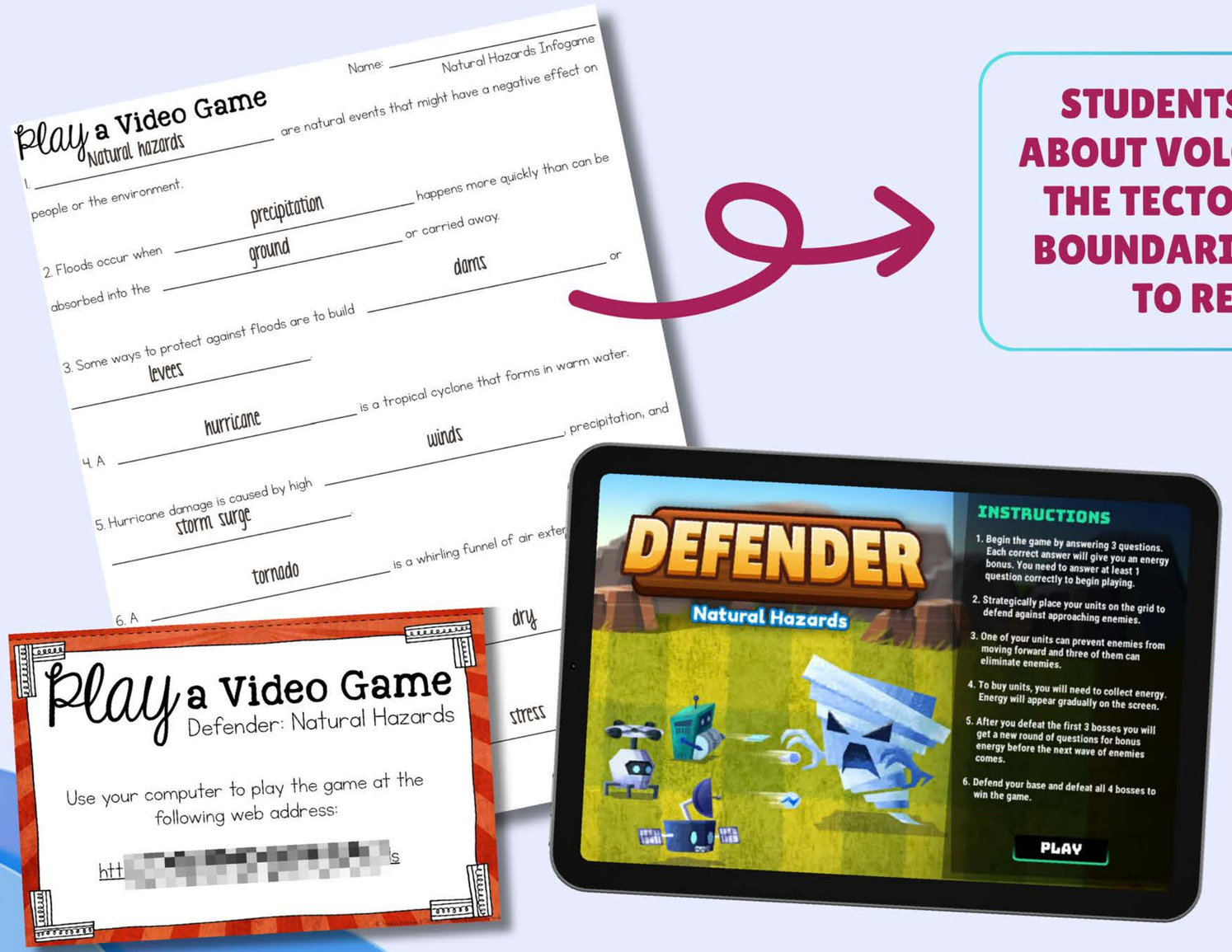
STUDENTS WATCH ONE OF TWO VIDEOS AND THEN ANSWER QUESTIONS ABOUT THE VIDEOS. VIDEOS INCLUDE: EARTHQUAKES OR WAVES AND CURRENTS.

> "This is a great addition to my current curriculum."
>
> - Karleen Fulbright

LEARN MORE

WATCH STATION

SNEAK PEEK: ONE GAME FROM THE PLAY STATION



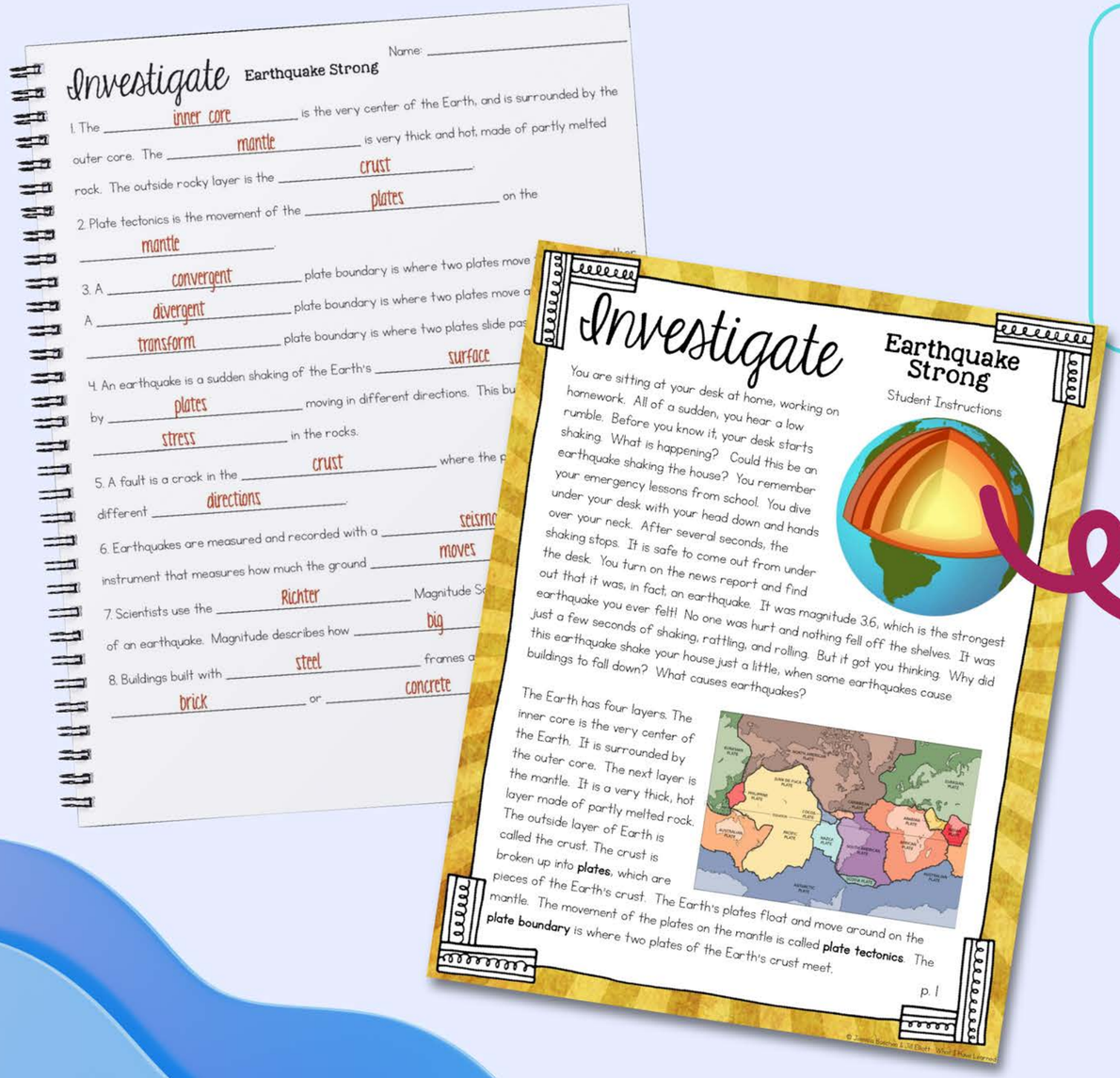
STUDENTS PLAY A VIDEO GAME AND LEARN ABOUT VOLCANOES OR A GAME TO LEARN BOUT THE TECTONIC EVENTS THAT OCCUR AT PLATE BOUNDARIES. STUDENTS ANSWER QUESTIONS TO REINFORCE THE NEW LEARNING.

> “Great resource - my kids loved it!”
>
> - Gwen Decker

LEARN MORE

PLAY STATION

SNEAK PEEK: PAGES FROM INVESTIGATE STATION



STUDENTS READ ABOUT EARTHQUAKES. THEY PARTICIPATE IN A DESIGN CHALLENGE TO BUILD EARTHQUAKE-SAFE BUILDINGS. STUDENTS THEN ANSWER QUESTIONS TO REINFORCE THE CONCEPTS LEARNED.

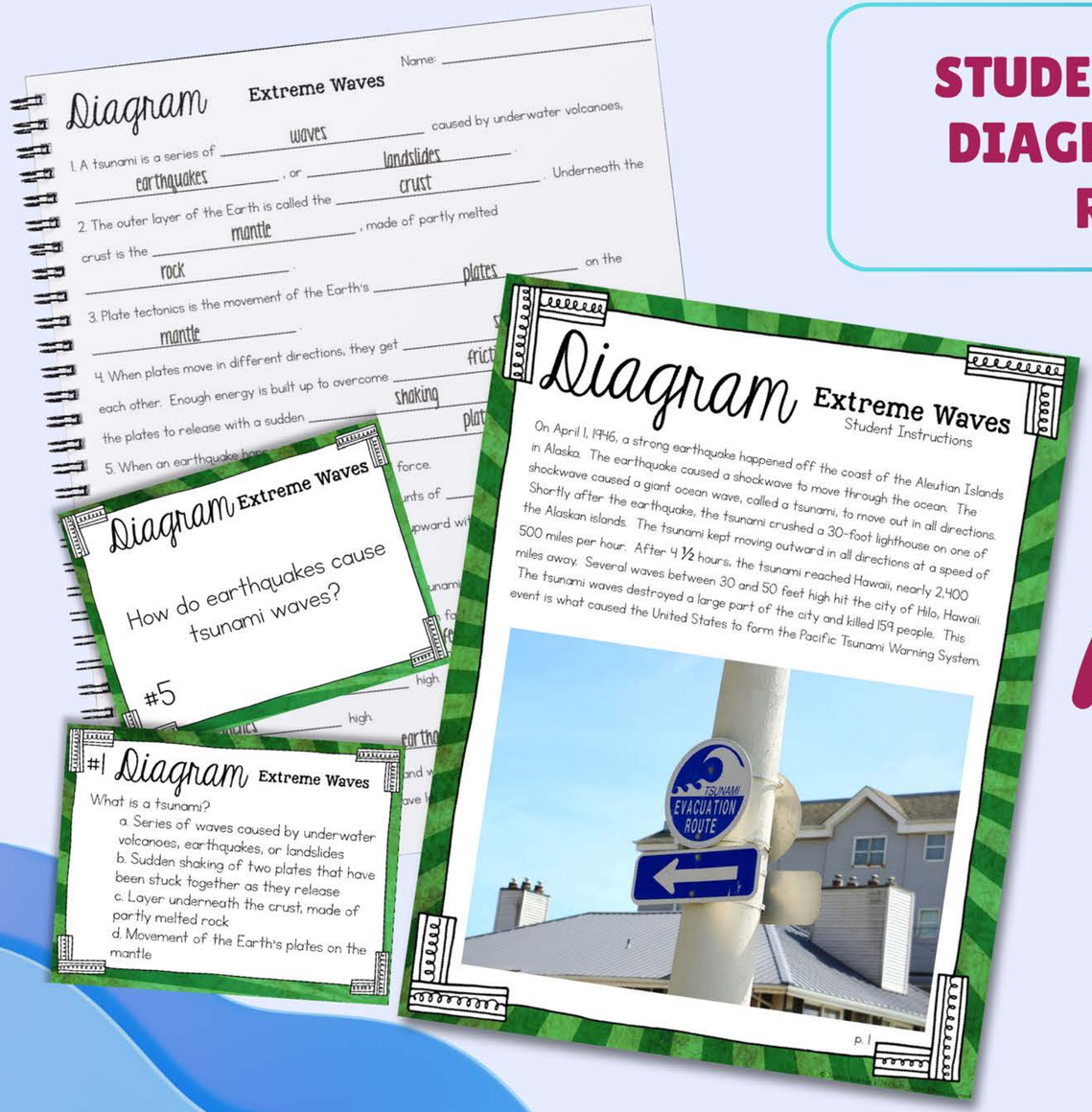
"This is a great resource for my STEM classes! Thank you!"

- Mandi D.

LEARN MORE

INVESTIGATE STATION

SNEAK PEEK: PAGES FROM DIAGRAM STATION



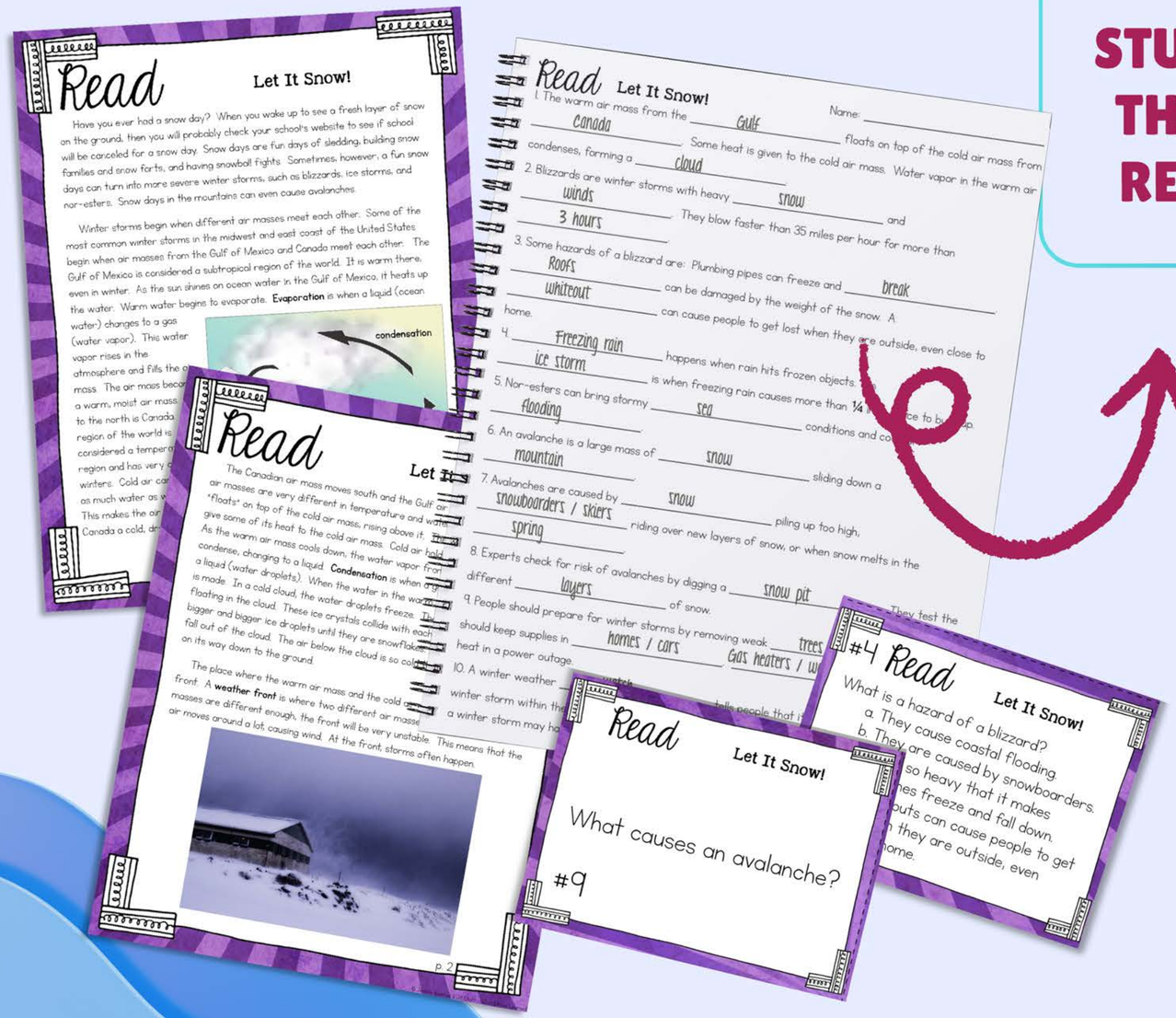
STUDENTS READ ABOUT TSUNAMIS. THEY CREATE A DIAGRAM AND ANSWER QUESTIONS IN ORDER TO REINFORCE WHAT THEY HAVE LEARNED.

> "They did a great job preparing this resource. Overall I really enjoyed it!"
>
> - Kailey Crockett

LEARN MORE

DIAGRAM STATION

SOME OF THE PAGES IN THE READ STATION



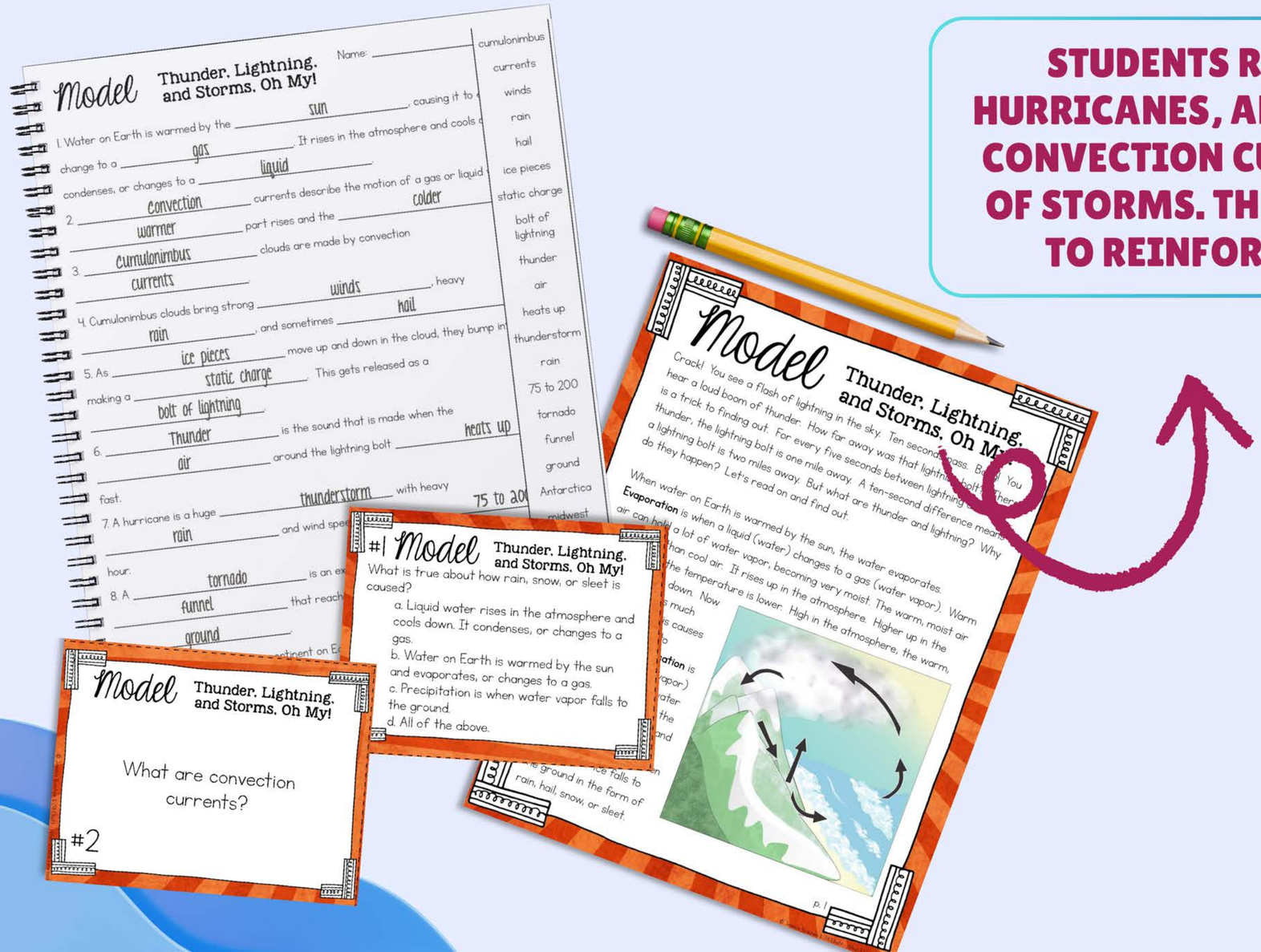
STUDENTS READ ABOUT WINTER STORMS. THEY ANSWER QUESTIONS IN ORDER TO REINFORCE WHAT THEY HAVE LEARNED.

> My students found this activity engaging and it was very helpful to my lesson planning.
>
> - Jean C.

LEARN MORE

READ STATION

SNEAK PEEK: PAGES FROM THE MODEL STATION



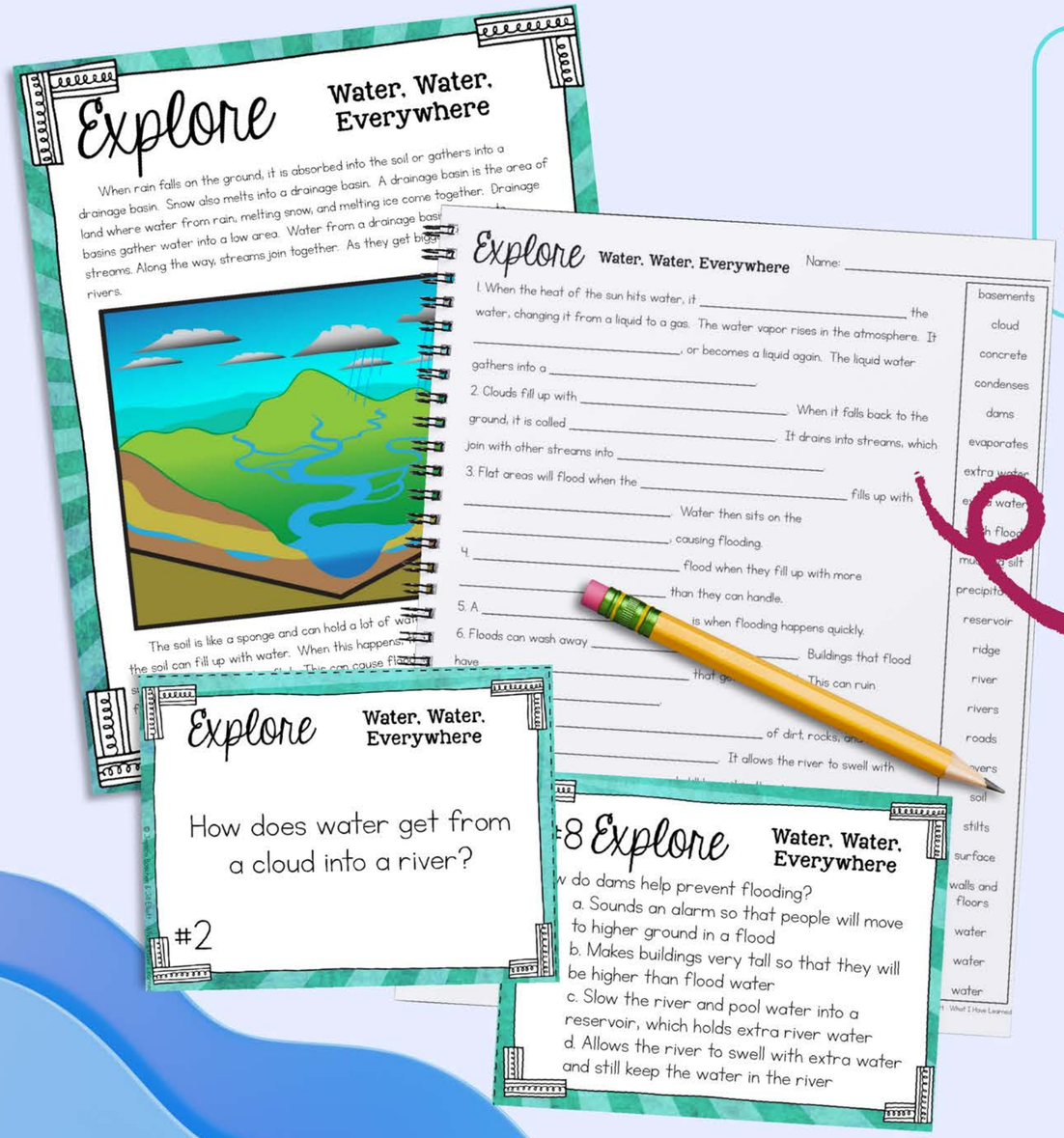
STUDENTS READ ABOUT THUNDERSTORMS, HURRICANES, AND TORNADOES. THEY WILL MODEL CONVECTION CURRENTS, WHICH ARE THE SOURCE OF STORMS. THEY ANSWER QUESTIONS IN ORDER TO REINFORCE WHAT THEY HAVE LEARNED.

> "This is a great resource for my STEM classes! Thank you!"
>
> - Mandi D.

LEARN MORE

MODEL STATION

A FEW PAGES FROM THE EXPLORE STATION



STUDENTS READ ABOUT FLOODING RIVERS AND EXPLORE FLOOD MITIGATION TECHNIQUES. THEY THEN ANSWER QUESTIONS ABOUT THE EXPLORATION.

> "Good resource, thank you!"
>
> - Special Ed1

LEARN MORE

EXPLORE STATION

A FEW PAGES FROM THE SORT STATION

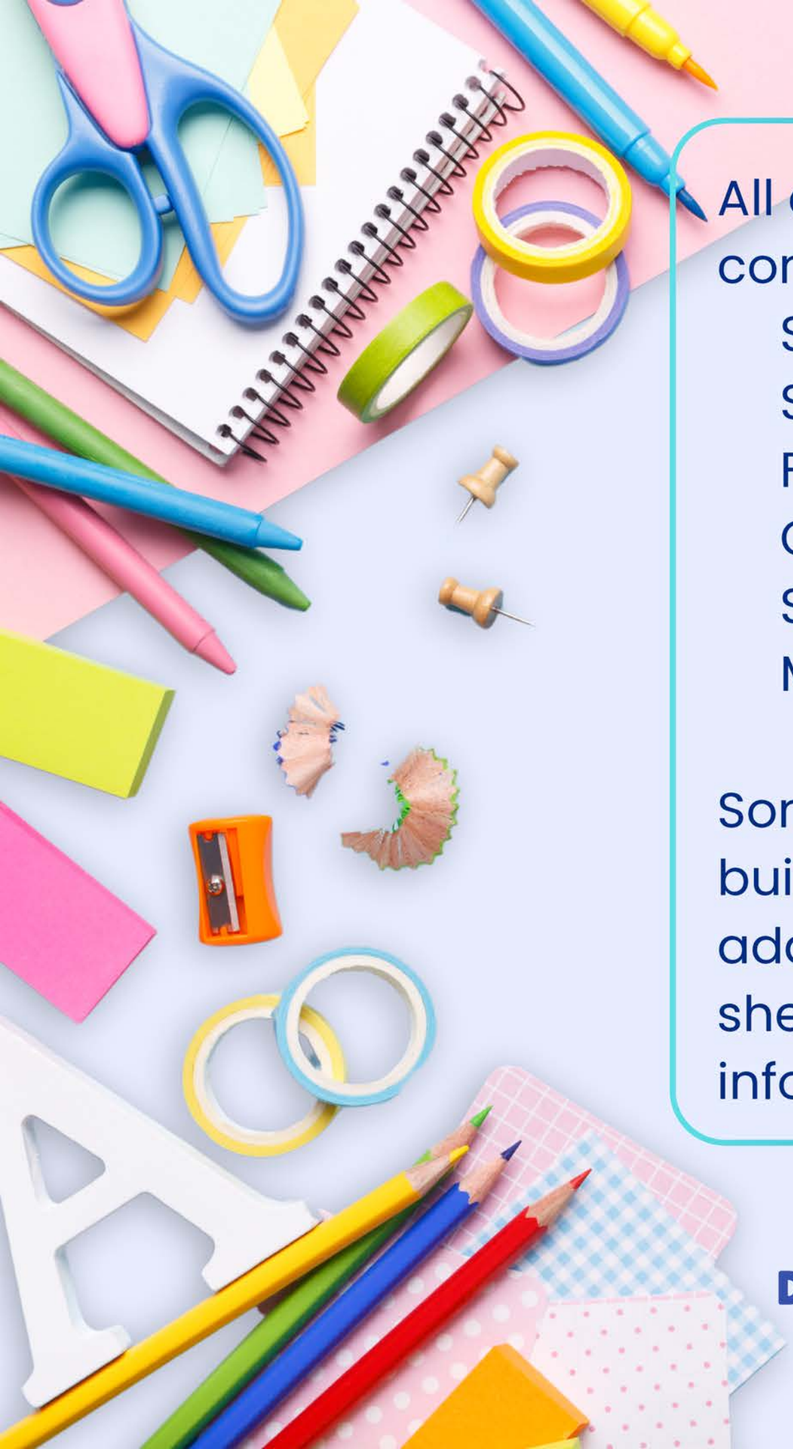


STUDENTS READ ABOUT NATURAL DISASTERS AND SOLUTIONS FOR LIVING IN AREAS WITH NATURAL DISASTERS. THEY SORT EXAMPLES INTO TWO CATEGORIES. STUDENTS THEN ANSWER QUESTIONS IN ORDER TO REINFORCE WHAT THEY HAVE LEARNED.

> "Thank you! I love this resource! Engaging and meets all needs."
>
> - Colleen C.

LEARN MORE

SORT STATION



All activities have the same basic components:

- Student Directions
- Short Answer Worksheet
- Fill-in-the-Blank Worksheet
- Cut & Paste Worksheet
- Short Answer Task Cards
- Multiple Choice Task Cards

Some activities have more reading to build background knowledge and additional worksheets or activity sheets to help organize the new information.

NOT ALL VERSIONS OF THE PAGES ARE DISPLAYED ON THE FOLLOWING PAGES, BUT ALL ARE IN EACH RESOURCE

DIGITAL VERSIONS

- ✔ Google Forms and/or
- ✔ Google Slides for every station
- ✔ Videos
- ✔ Video Games
- ✔ Digital Crossword Puzzles & Word Searches

Answer keys provided

CAN BE INDEPENDENT

- Watch
- Play
- Read
- Sort

MAY REQUIRE TEACHER SUPPORT

- Investigate
- Diagram
- Model
- Explore

TEACHER PREP

- Choose a topic and activities
- Choose which type of questions students will answer
- Set up the station using the included materials list
- Have students read the passage to build background knowledge (optional)
- Have students complete the stations using the included student directions

TEACHERS LOVE IT!

This is an amazing resource that I used for my severe weather robotics club. My students really enjoyed learning about this!

RockStar STEM



Great resource! I enjoy teaching my students about natural disasters. This resource has everything I need.

Megan Davis



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