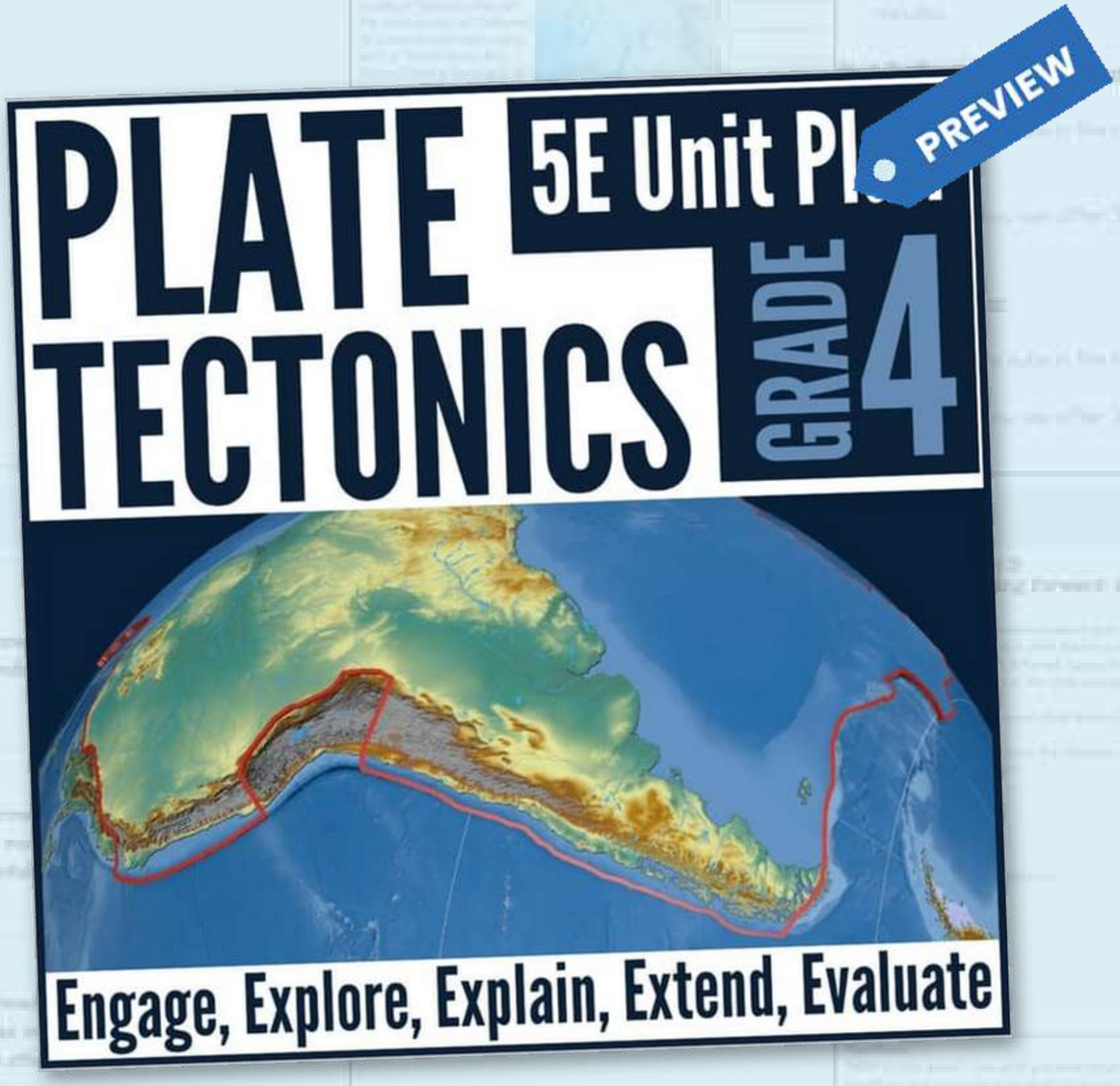


A Complete 5E Science Unit with Lesson Plans

4TH GRADE

PLATE TECTONICS

Engage, Explore, Explain, Extend, Evaluate

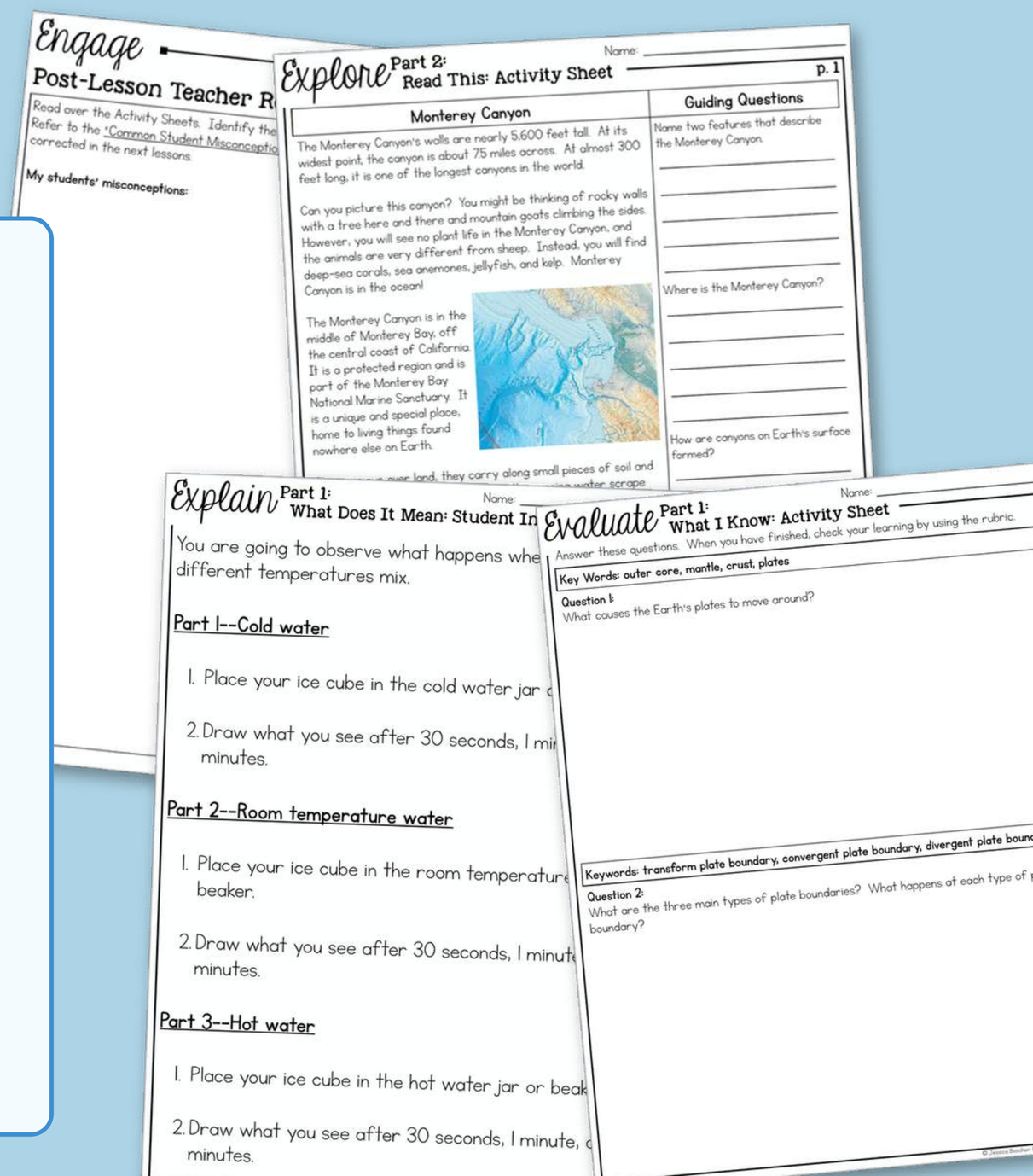
NGSS 4-ESS2-2

KEEP SCROLLING TO SEE WHAT'S INSIDE!

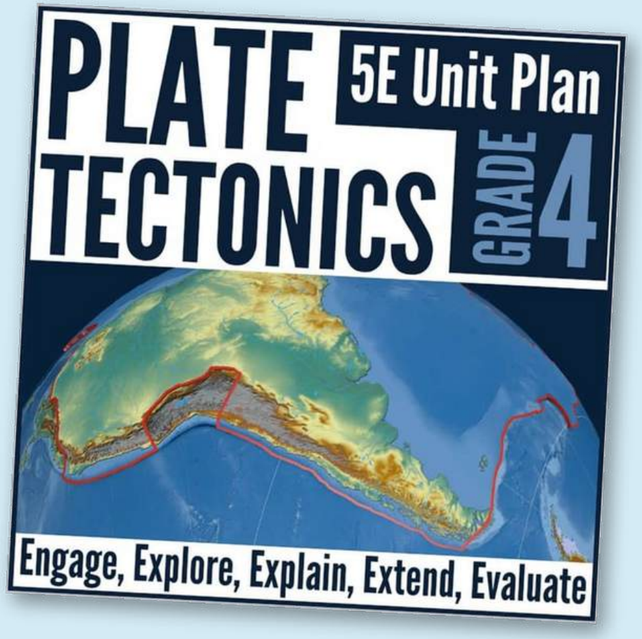
WHAT'S INCLUDED

5E PLATE TECTONICS UNIT

- 220+ Page 5E Unit Plan
- Lesson Plans for All 5 Phases
- Teacher Notes and Misconceptions
- Materials Checklist and 4 Timelines
- Hands-On Plate Tectonics Investigations
- Reading Passages on Earth's Features
- Vocabulary Cards and Big Idea Posters
- Exit Tickets in 3 Formats
- Performance Assessment and Model
- Answer Keys for Student Pages
- Google Slides and Google Forms Versions



UNIT AT A GLANCE



- Students map tectonic features, model moving plates, and investigate patterns on Earth.
- Teacher background, lesson plans, and student pages in every phase.
- Aligned to NGSS 4-ESS2-2.

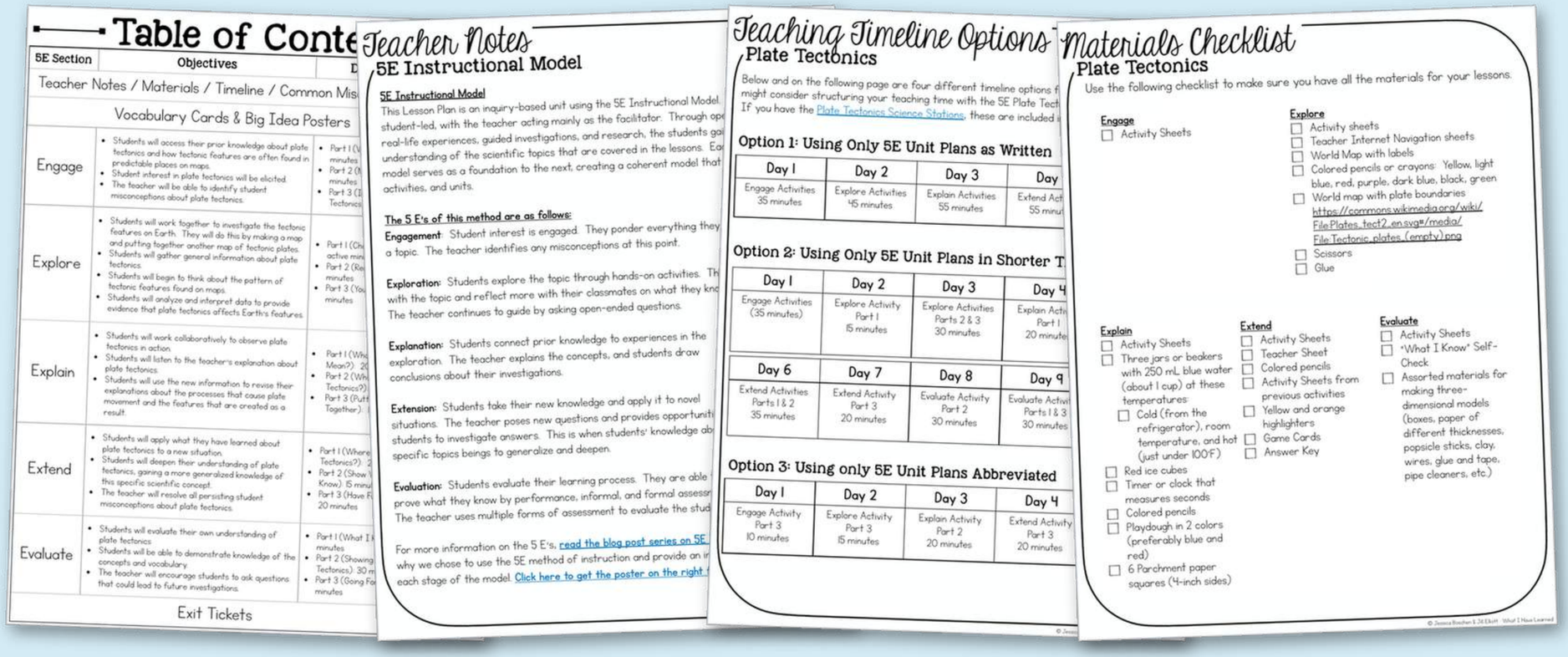
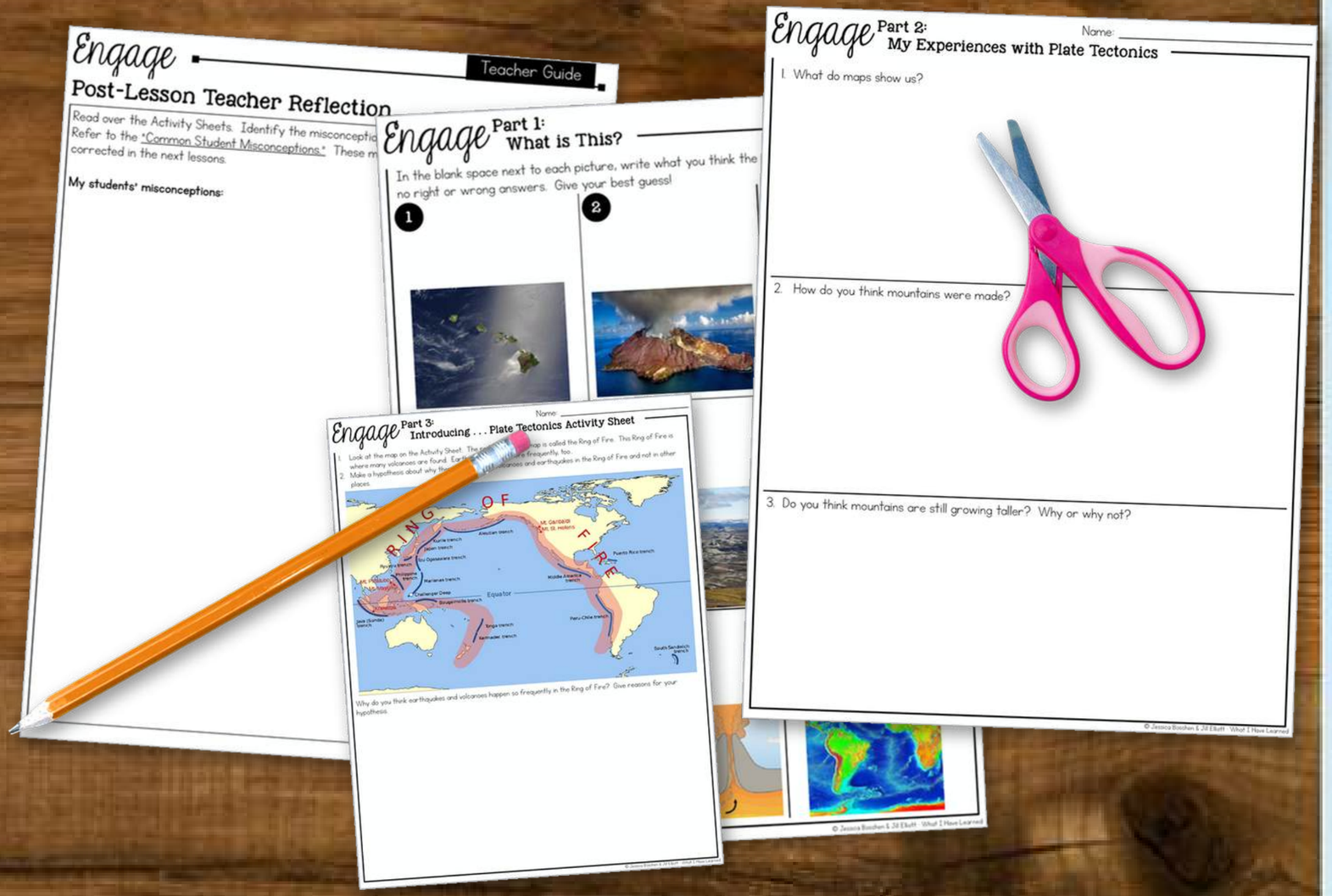


Table of Contents **Teacher Notes** **Timeline Options** **Materials Checklist**

ENGAGE



Teacher background, lesson plans, student pages, and answer key

E E E E E

Spark curiosity about Earth's patterns

1

What Is This?

Students study maps and pictures of tectonic features and make observations.

2

My Experiences

Students connect Earth features and maps to what they already know.

3

Introducing Plate Tectonics

Students use maps to notice patterns and begin forming questions.

EXPLORE



Teacher background, lesson plans, student pages, and answer key

E E E E E

Investigate maps, boundaries, and Earth's features

1 Check It Out

Students study maps of Earth's features and look for patterns.

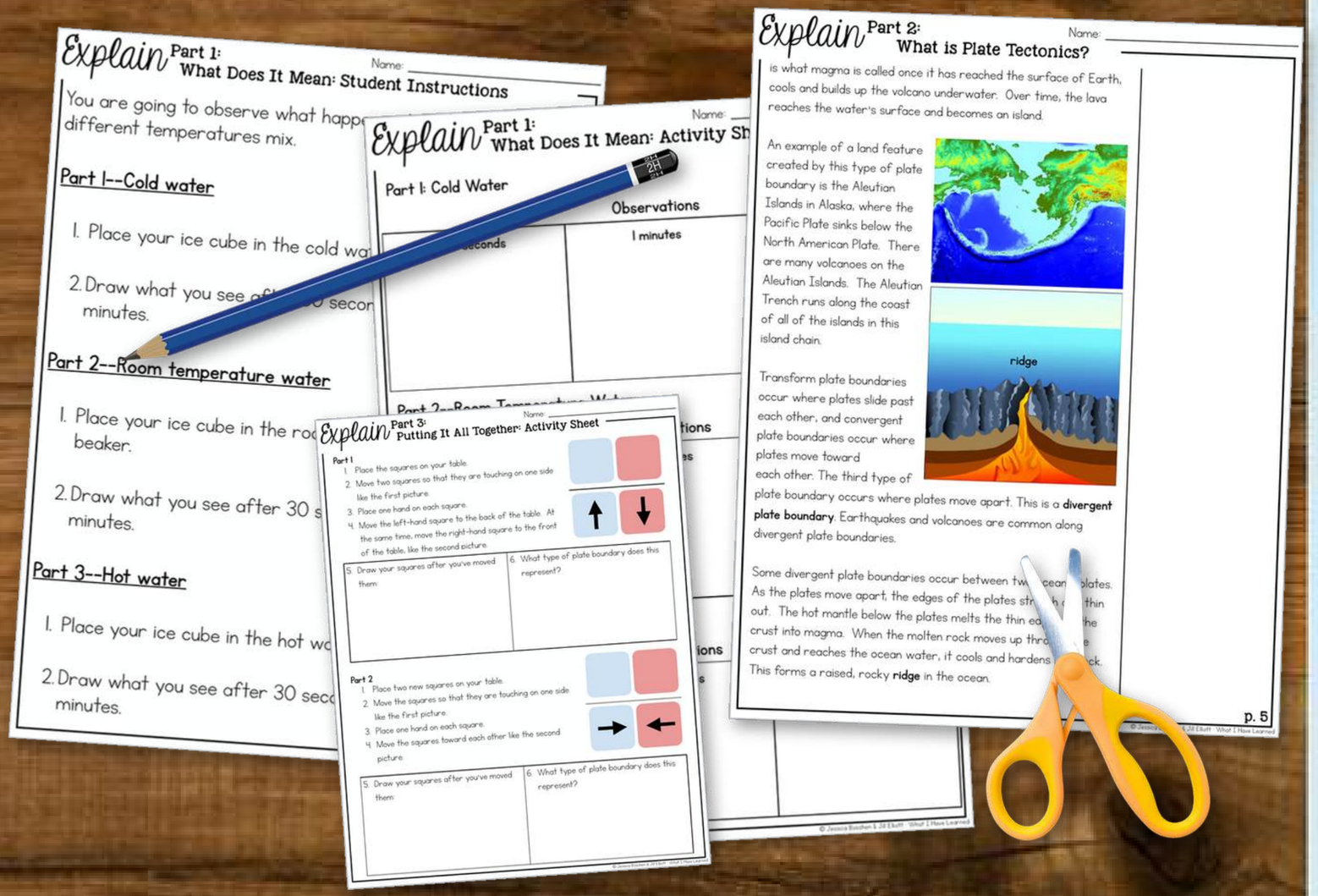
2 Read This

Students read about Monterey Canyon and record evidence.

3 You Try It

Students assemble and interpret a plate-boundary map.

EXPLAIN



Teacher background, lesson plans, student pages, and answer key

E E E E E

Build explanations from evidence

1 What Does It Mean?

Students model plate movement and record what they observe.

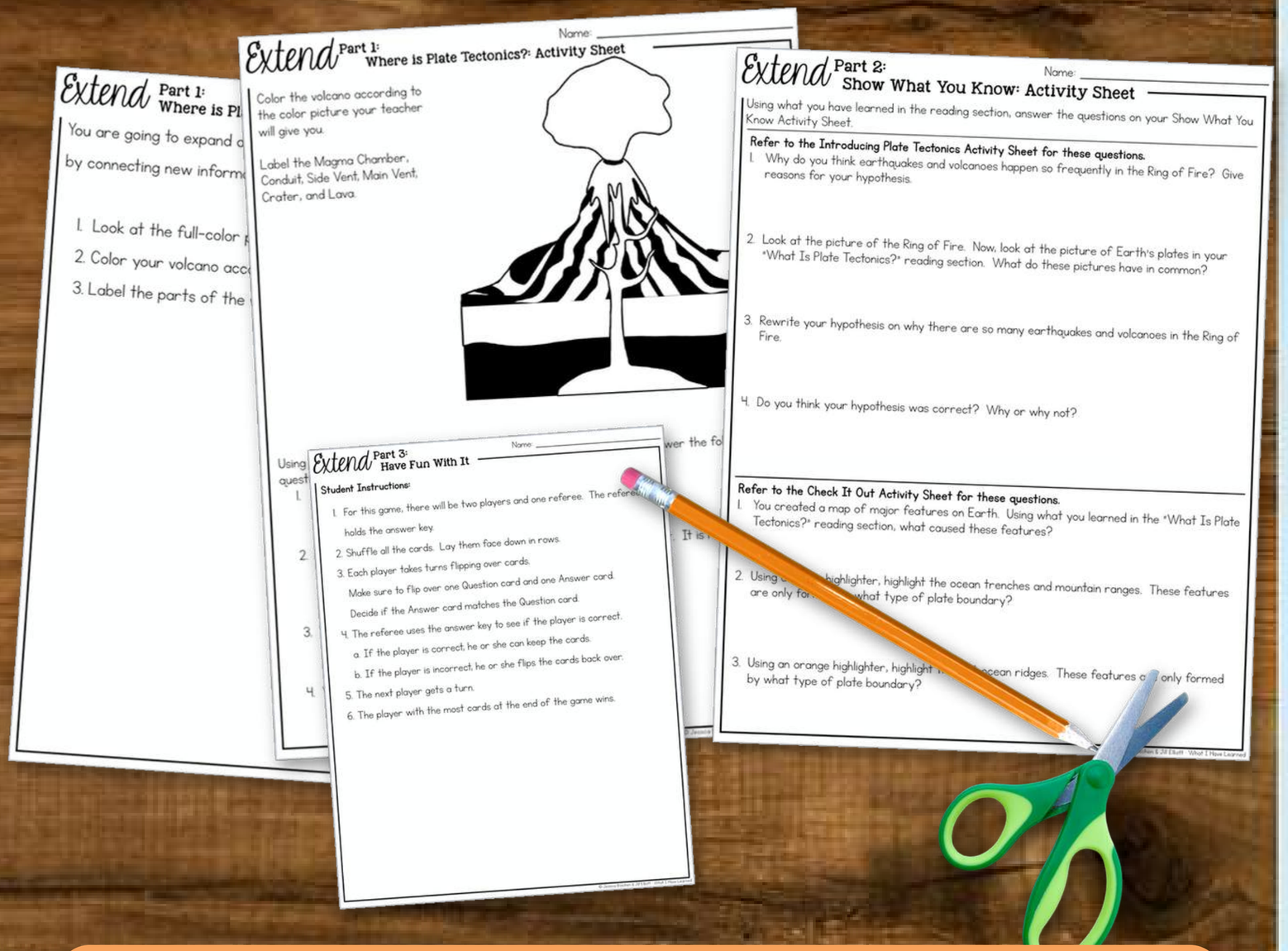
2 What Is Plate Tectonics?

Students read about plates, the mantle, and plate boundaries.

3 Putting It All Together

Students create diagrams that explain plate movement and Earth's features.

EXTEND



Teacher background, lesson plans, student pages, and answer key

E E E **E** E

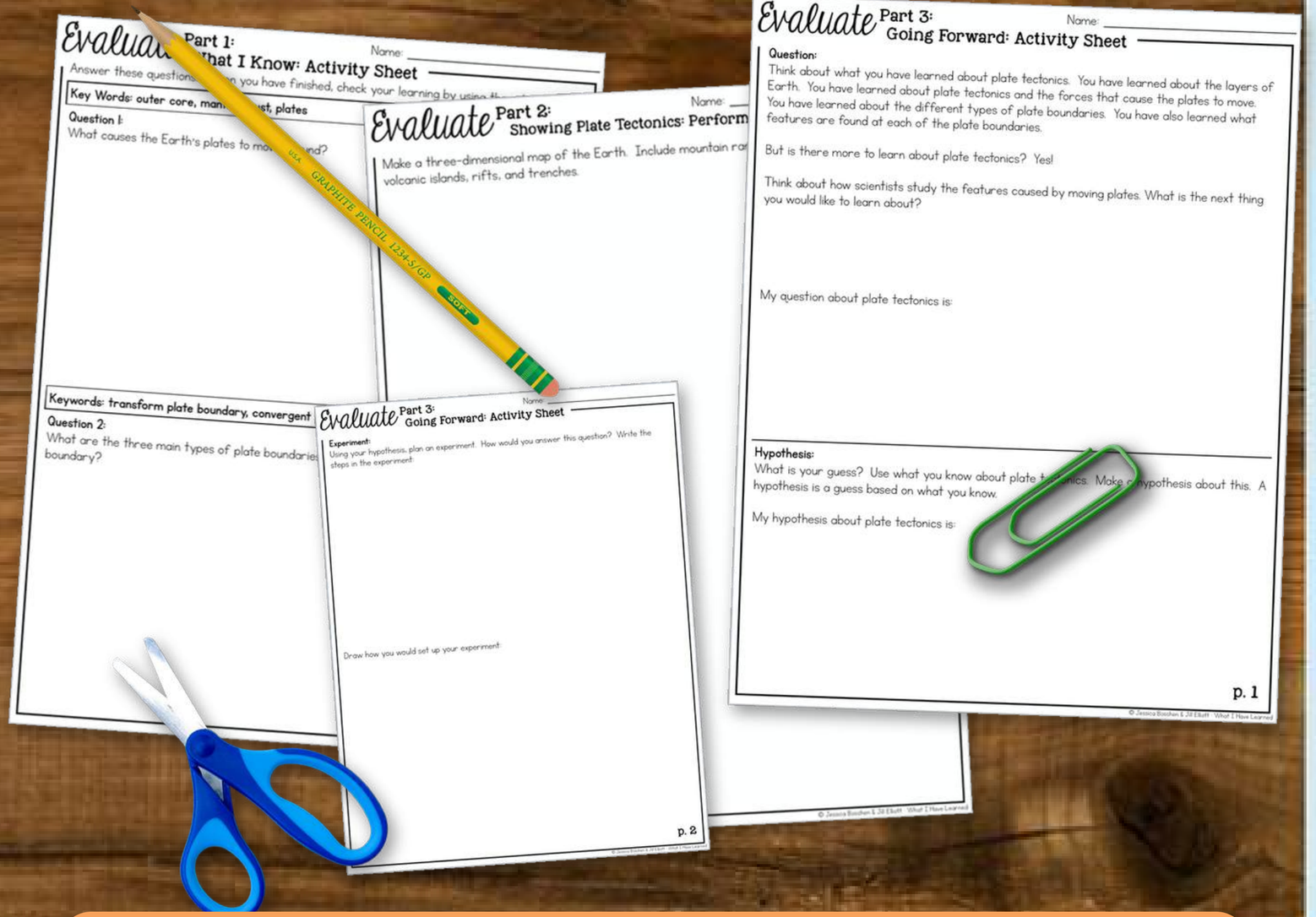
Apply plate tectonics to new situations

1 Where Is Plate Tectonics?
Students use maps and evidence to investigate where plate tectonics occurs.

2 Show What You Know
Students connect evidence from the unit to plate tectonics.

3 Have Fun With It
Students review key ideas with a plate tectonics game.

EVALUATE



Teacher background, lesson plans, student pages, and answer key

E E E E E

Show understanding with map evidence

1 What I Know

Students answer questions about key concepts and vocabulary.

2 Showing Plate Tectonics

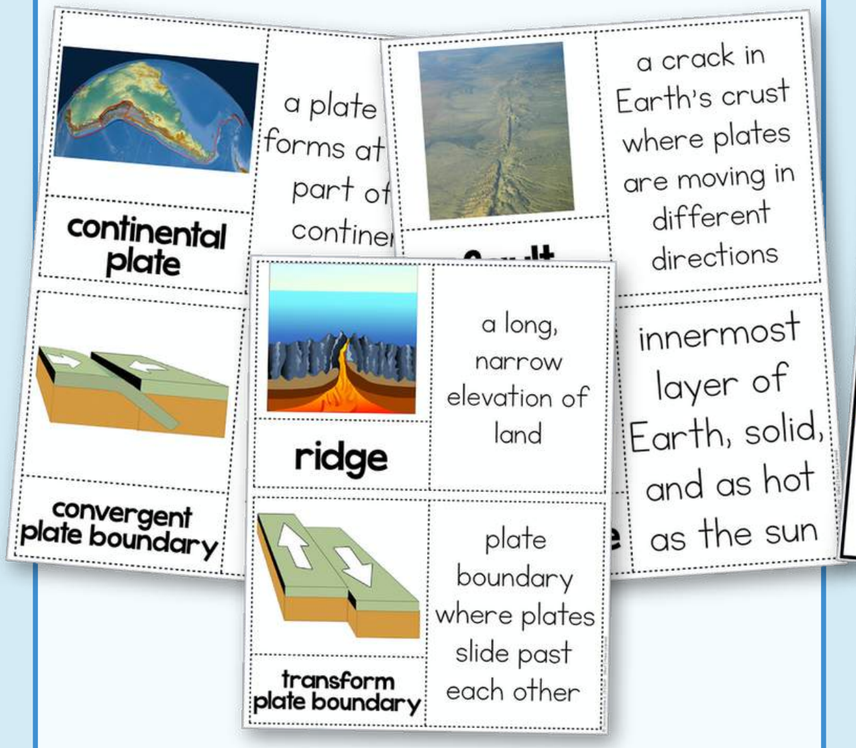
Students use evidence to show how plate tectonics shapes Earth.

3 Going Forward

Students write a question and plan an investigation about plate tectonics.

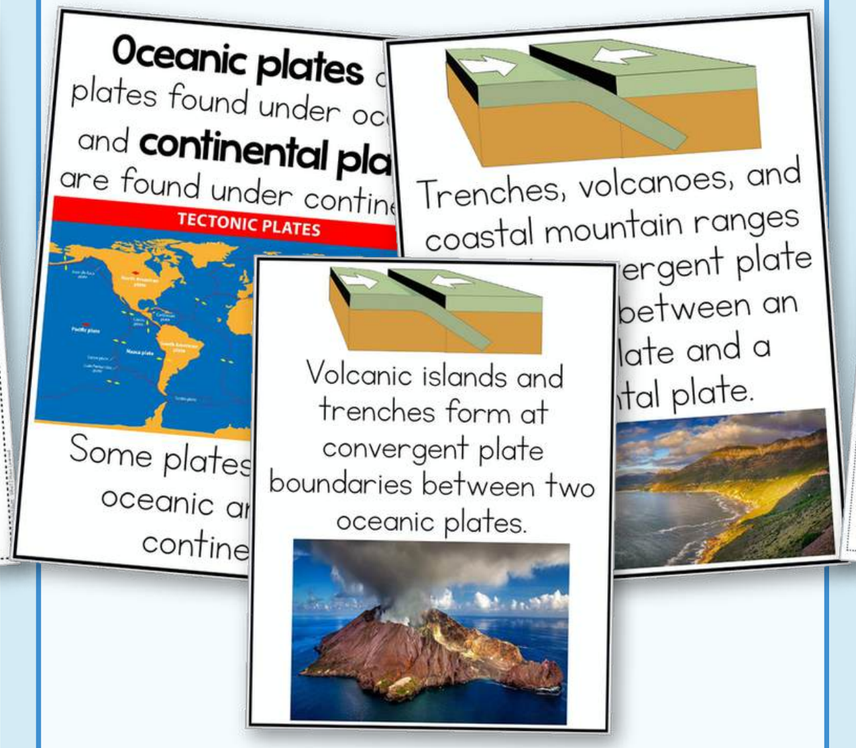
VOCABULARY, POSTERS & EXIT TICKETS

VOCABULARY CARDS



Picture cards and word cards for plate tectonics, Earth's features, boundaries, and related vocabulary.

BIG IDEA POSTERS



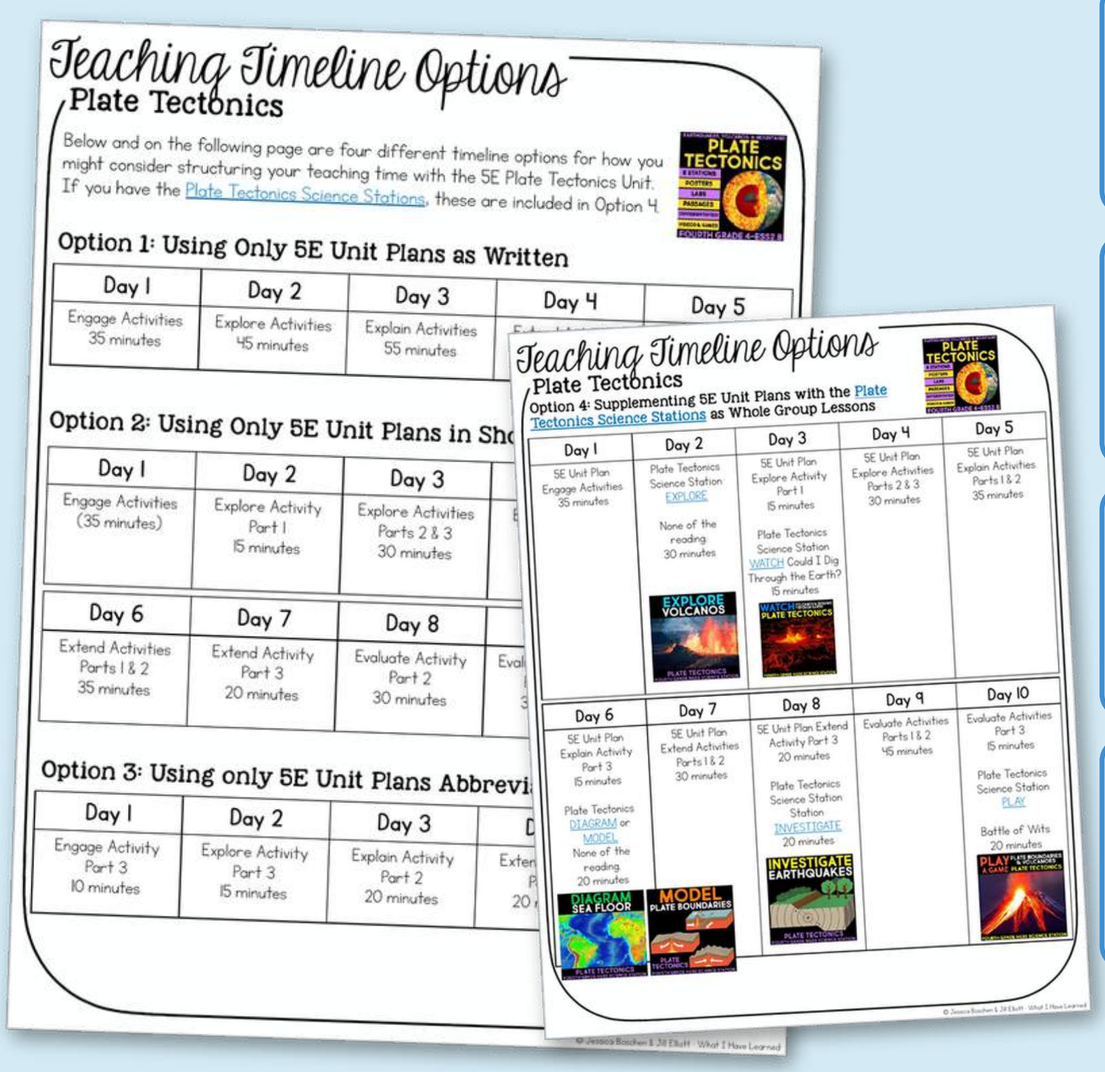
Big idea posters on maps, plate movement, boundaries, and Earth's changing surface.

EXIT TICKETS



Exit-ticket topics in short answer, fill-in-the-blank, and multiple-choice formats.

WAYS TO USE IN YOUR CLASSROOM



1

Whole-Class 5E Unit

Teach one phase a day over 5 days as written, with 35 to 60 minutes per phase.

2

Shorter Time Blocks

Spread the unit across 9 days in shorter blocks when science minutes are limited.

3

Alongside Science Stations

Add the Plate Tectonics Science Stations for a 10-day plan.

4

Formative Checks

Use the exit tickets throughout the unit and pair the performance activity with a final model.

TEACHING TIMELINE OPTIONS

Option 1 — 5 days
As Written

Day 1	Day 2	Day 3	Day 4	Day 5
Engage	**Explore**	**Explain**	**Extend**	**Evaluate**
35 min	45 min	55 min	55 min	60 min

Option 2 — 9 days
Shorter Time Blocks

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Engage	**Explore 1**	**Explore 2-3**	**Explain 1**	**Explain 2-3**	**Extend 1-2**	**Extend 3**	**Evaluate 2**	**Evaluate 1 & 3**
35 min	15 min	30 min	20 min	35 min	35 min	20 min	30 min	30 min

Option 3 — 5 days
Abbreviated

Day 1	Day 2	Day 3	Day 4	Day 5
Engage 3	**Explore 3**	**Explain 2**	**Extend 3**	**Evaluate 1**
10 min	15 min	20 min	20 min	15 min

Option 4 — 10 days
With Science Stations

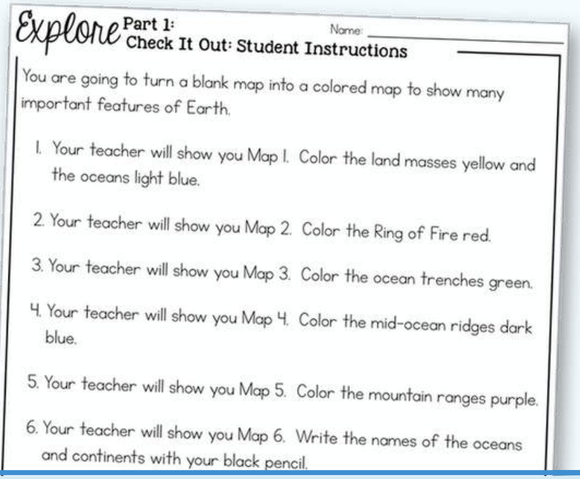
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Engage	**Explore Station**	**Explore 1**	**Explore 2-3**	**Explain 1-2**	**Explain 3**	**Diagram**	**Extend 1-2**	**Extend 3**	**Evaluate 1-2**
35 min	30 min	15 min	30 min +15 station	35 min	15 min	20 min	30 min	20 min +20 station	45 min +15 +20 station

Orange days are Science Station lessons. Magenta notes are extra station activities you can add that day.

YOU WILL LOVE THIS BECAUSE

Hands-On From Day One

Students map Earth's features, model plate boundaries, and use evidence to explain plate tectonics.



Explore Part 1: Check It Out: Student Instructions

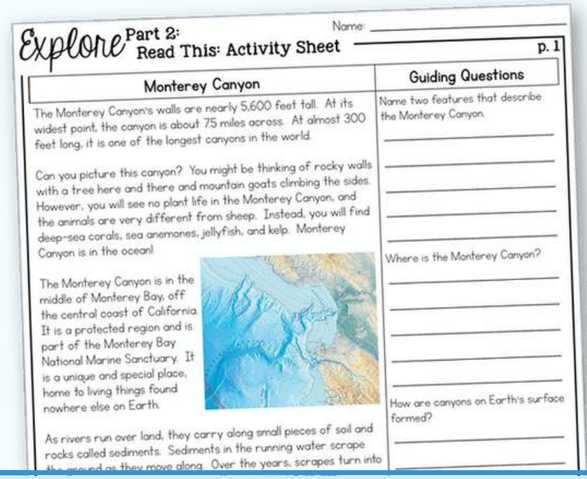
Name: _____

You are going to turn a blank map into a colored map to show many important features of Earth.

1. Your teacher will show you Map 1. Color the land masses yellow and the oceans light blue.
2. Your teacher will show you Map 2. Color the Ring of Fire red.
3. Your teacher will show you Map 3. Color the ocean trenches green.
4. Your teacher will show you Map 4. Color the mid-ocean ridges dark blue.
5. Your teacher will show you Map 5. Color the mountain ranges purple.
6. Your teacher will show you Map 6. Write the names of the oceans and continents with your black pencil.

Planned and Ready to Teach

Teacher notes, a misconceptions guide, a materials checklist, and answer keys are done for you.



Explore Part 2: Read This: Activity Sheet

Name: _____

p. 1

Monterey Canyon

The Monterey Canyon's walls are nearly 5,600 feet tall. At its widest point, the canyon is about 75 miles across. At almost 300 feet long, it is one of the longest canyons in the world.

Can you picture this canyon? You might be thinking of rocky walls with a tree here and there and mountain goats climbing the sides. However, you will see no plant life in the Monterey Canyon, and the animals are very different from sheep. Instead, you will find deep-sea corals, sea anemones, jellyfish, and kelp. Monterey Canyon is in the ocean!

The Monterey Canyon is in the middle of Monterey Bay, off the central coast of California. It is a protected region and is part of the Monterey Bay National Marine Sanctuary. It is a unique and special place, home to living things found nowhere else on Earth.

As rivers run over land, they carry along small pieces of soil and rocks called sediments. Sediments in the running water scrape

Guiding Questions

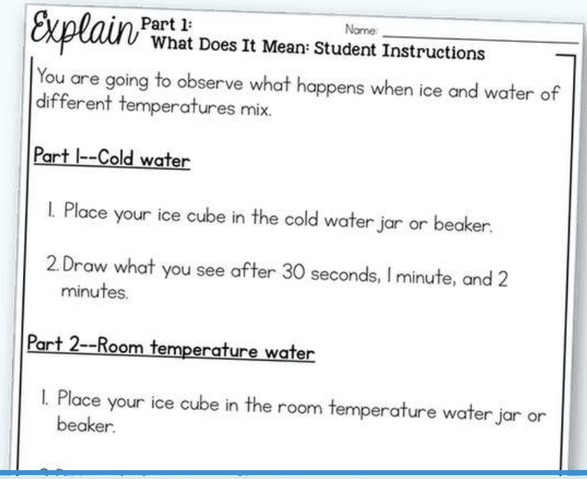
Name two features that describe the Monterey Canyon.

Where is the Monterey Canyon?

How are canyons on Earth's surface formed?

Fits Your Schedule

Choose from 4 timeline options, and use the Google Slides and Google Forms versions for a print or digital classroom.



Explain Part 1: What Does It Mean: Student Instructions

Name: _____

You are going to observe what happens when ice and water of different temperatures mix.

Part 1--Cold water

1. Place your ice cube in the cold water jar or beaker.
2. Draw what you see after 30 seconds, 1 minute, and 2 minutes.

Part 2--Room temperature water

1. Place your ice cube in the room temperature water jar or beaker.

TEACHERS LOVE IT!

★★★★★

This resource is exactly what I was looking for to teach my science rotations!

Breanna J.

★★★★★

These were great activities to use with my supplemental students in small group for extra teaching and practice.

Caren P.

★★★★★

Great resource, I was struggling to teach this standard to my students. This resource really helped my students understand.

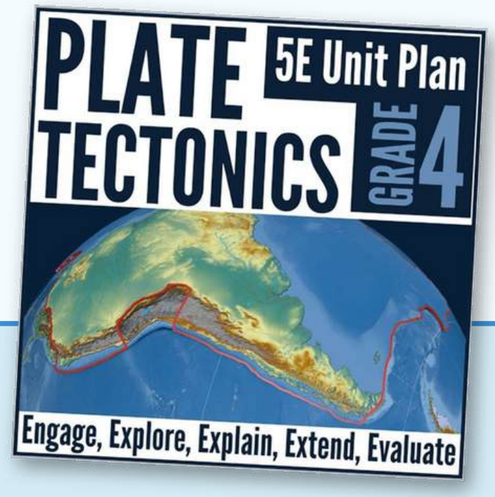
Jennifer E.





READY FOR YOUR CLASSROOM

- **Instant digital download**
- **Print and use the activities**
- **Google Slides and Forms versions**

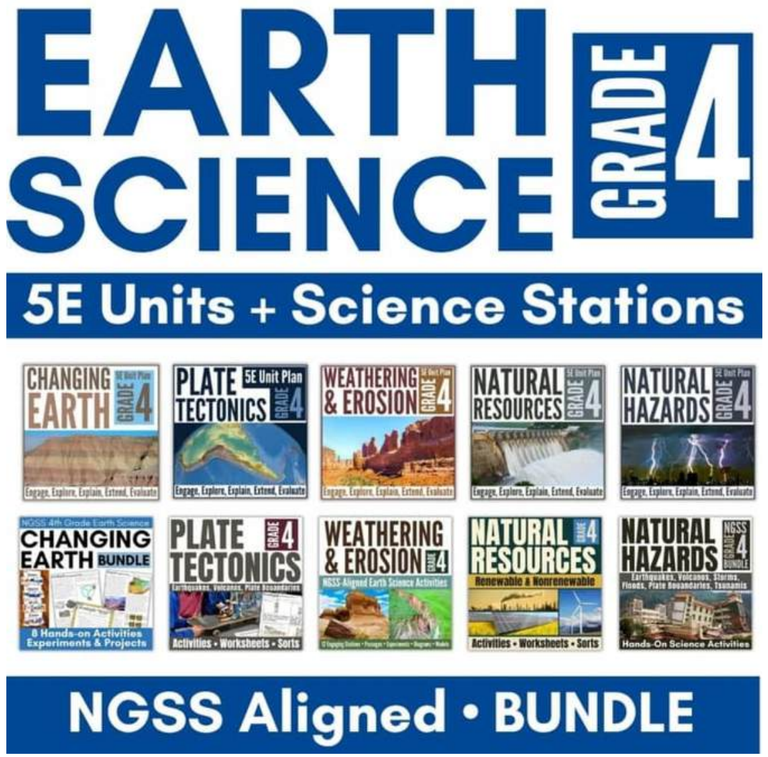


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Save with a topic bundle or the full-year bundle.

TOPIC BUNDLE

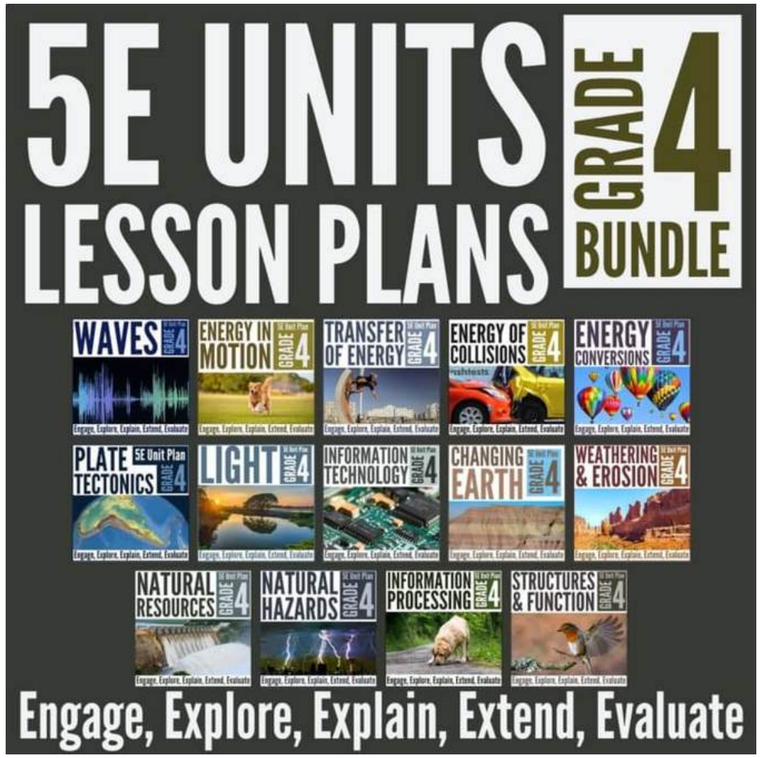
GOOD VALUE



SEE THE BUNDLE

FULL-YEAR BUNDLE

BEST VALUE



SEE THE BUNDLE

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