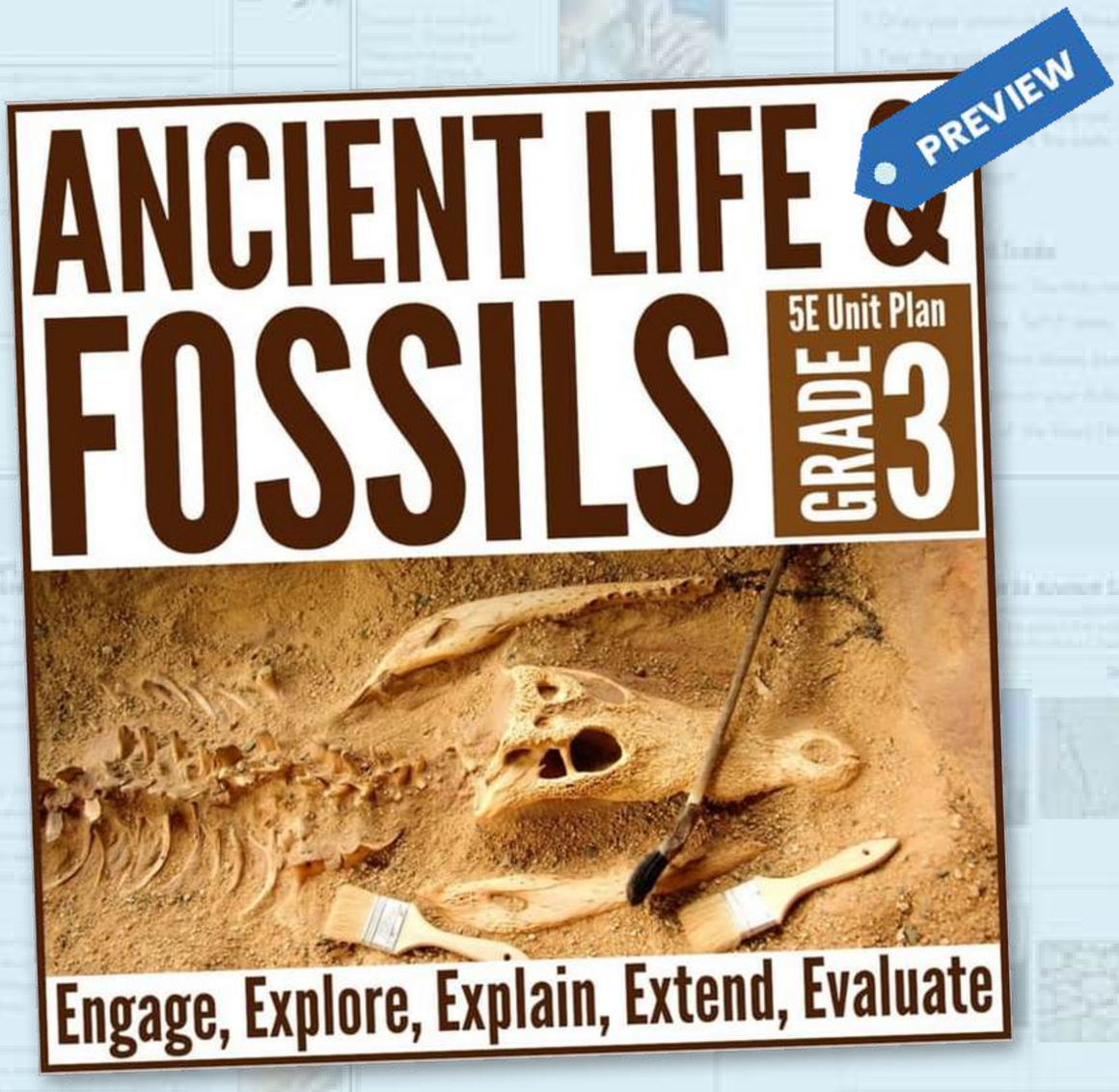


A Complete 5E Science Unit with Lesson Plans

3RD GRADE

ANCIENT LIFE & FOSSILS

Engage, Explore, Explain, Extend, Evaluate

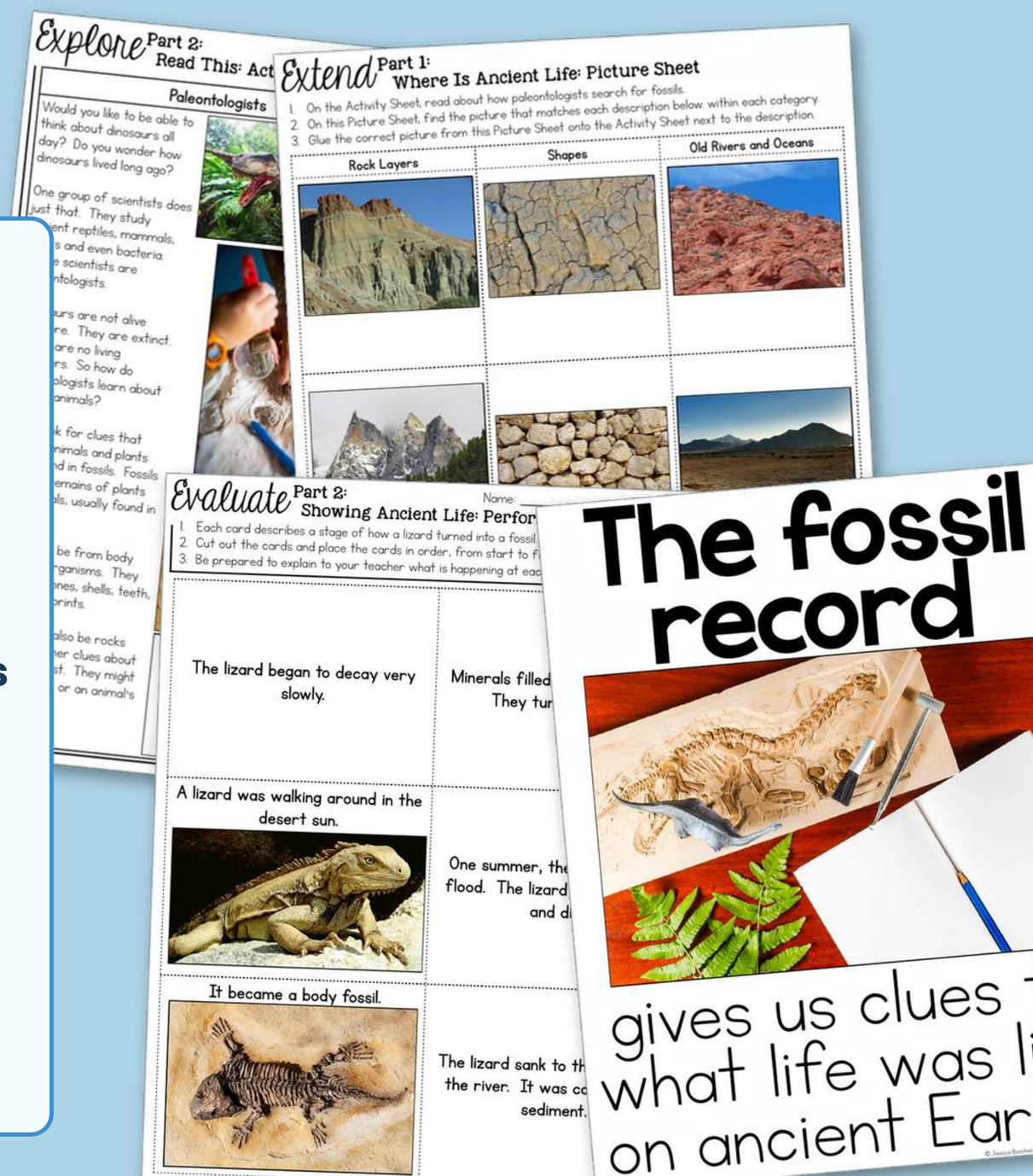
NGSS 3-LS4-1

KEEP SCROLLING TO SEE WHAT'S INSIDE!

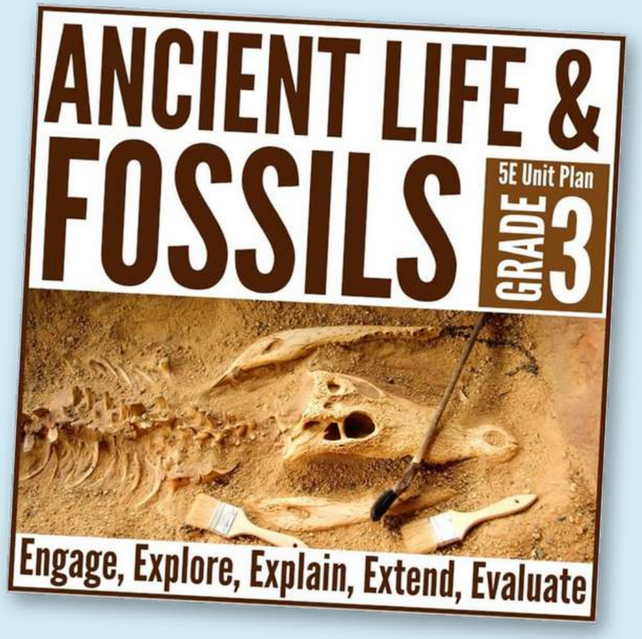
WHAT'S INCLUDED

5E ANCIENT LIFE & FOSSILS UNIT

- 190+ Page 5E Unit Plan
- Lesson Plans for All 5 Phases
- Teacher Notes and Misconceptions
- Materials Checklist and 4 Timelines
- Fossil Dig and Fossil Track Investigations
- Reading Passages on Paleontologists and Fossils
- Vocabulary Cards and Big Idea Posters
- Exit Tickets in 3 Formats
- Performance Assessment
- Answer Keys for Student Pages
- Google Slides and Google Forms Versions



UNIT AT A GLANCE



- Students dig for fossils, make fossil tracks, and excavate a plaster rock.
- Teacher background, lesson plans, and student pages in every phase.
- Aligned to NGSS 3-LS4-1.

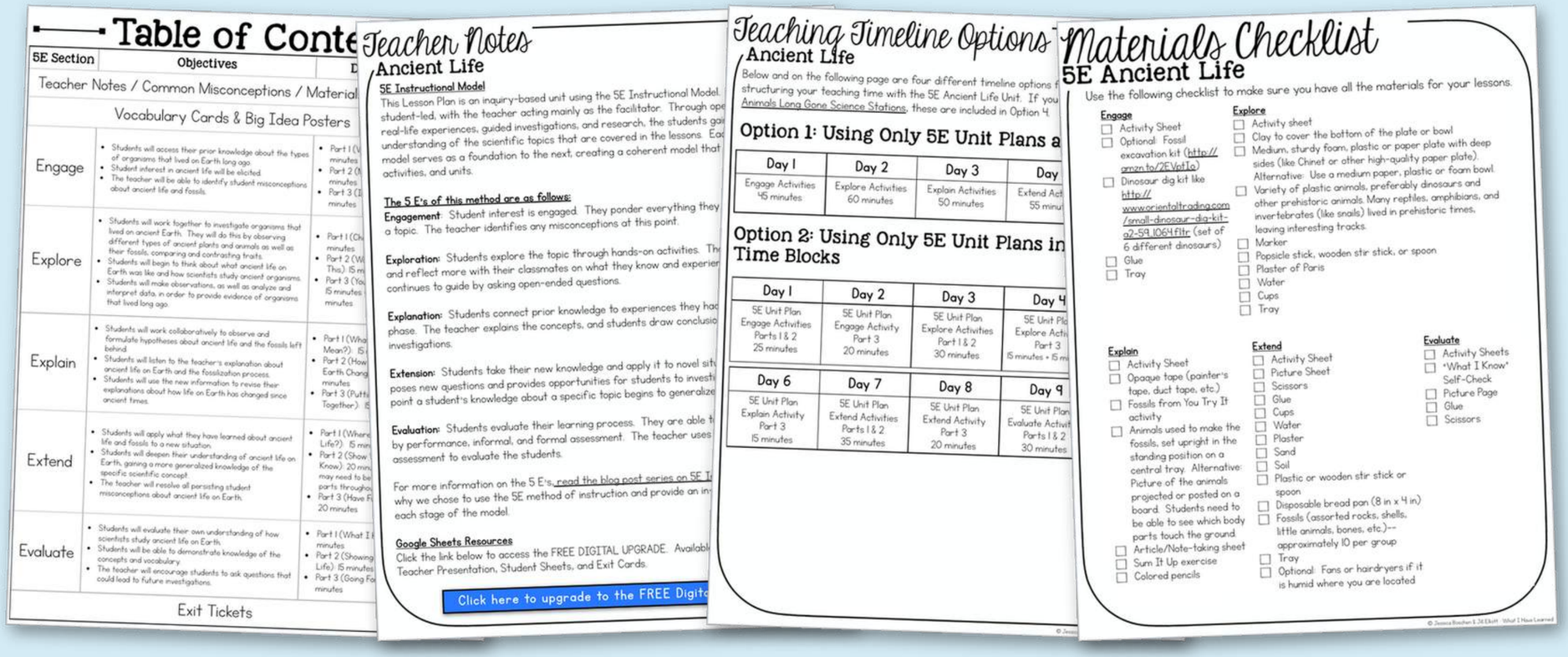
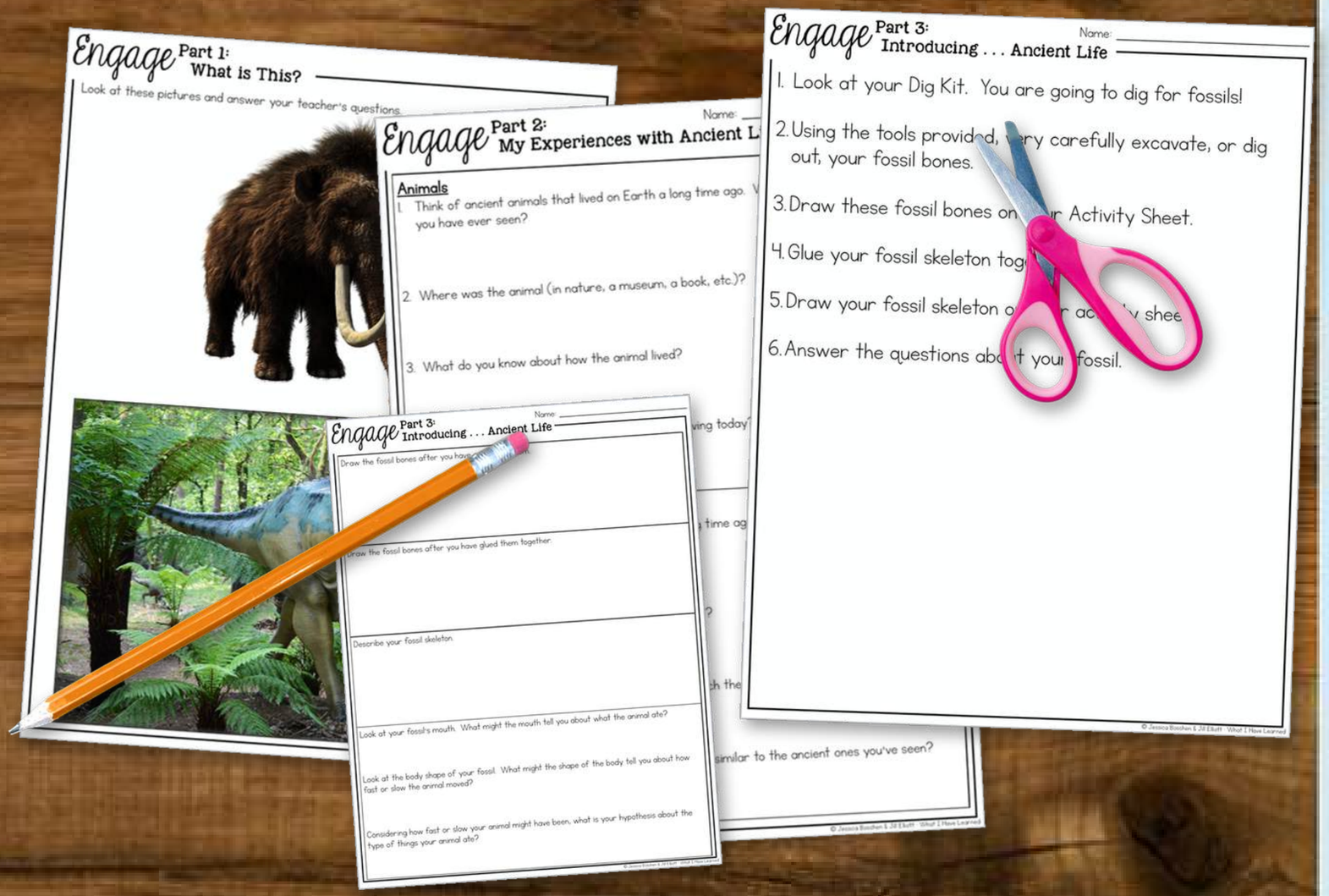


Table of Contents **Teacher Notes** **Timeline Options** **Materials Checklist**

ENGAGE



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

E E E E E

Spark curiosity with a fossil dig

1 What Is This?

Students look at ancient animals and answer questions about how they lived.

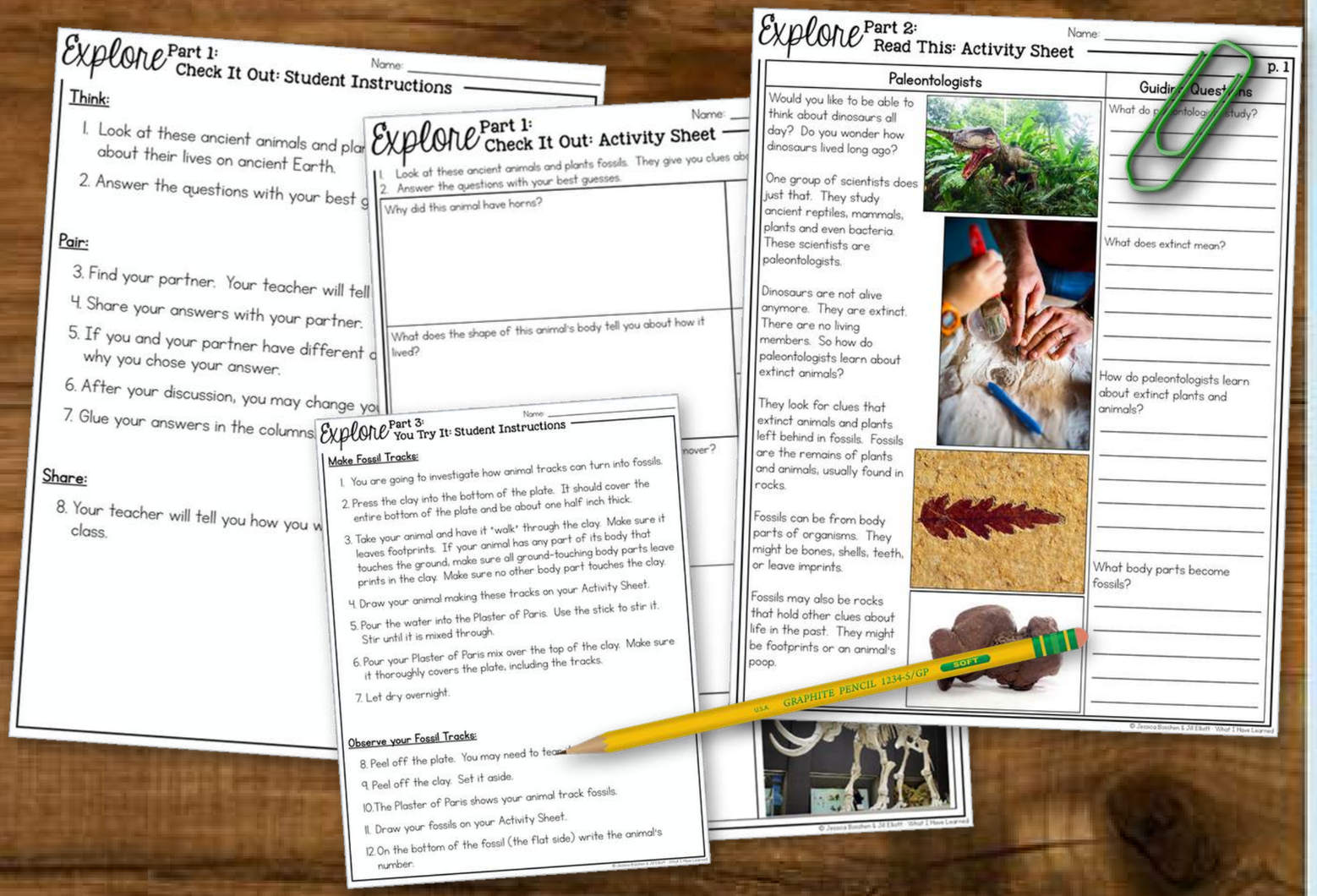
2 My Experiences

Students share what they know about ancient animals and plants and what is alike today.

3 Introducing Ancient Life

Students dig out fossil bones with a dig kit and glue the skeleton together.

EXPLORE



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

E E E E E

Investigate ancient organisms and their fossils

1 Check It Out

Students study ancient animal fossils and use clues to guess how each animal lived.

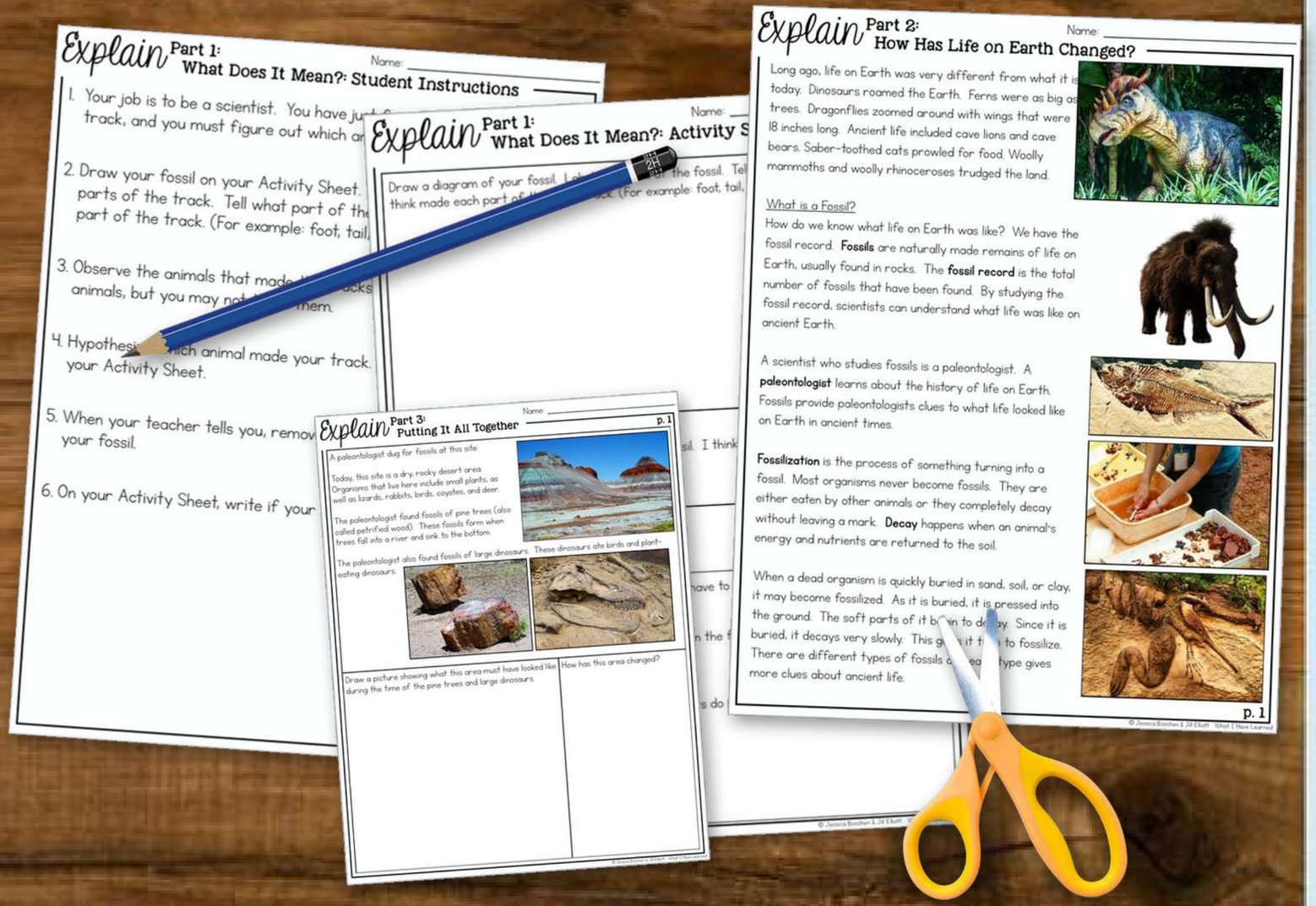
2 Watch and Read This

Students read about paleontologists and what they learn from fossils.

3 You Try It

Students press animal tracks into clay and pour plaster to make fossil tracks.

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 act as scientists and figure out which animal made a fossil track.

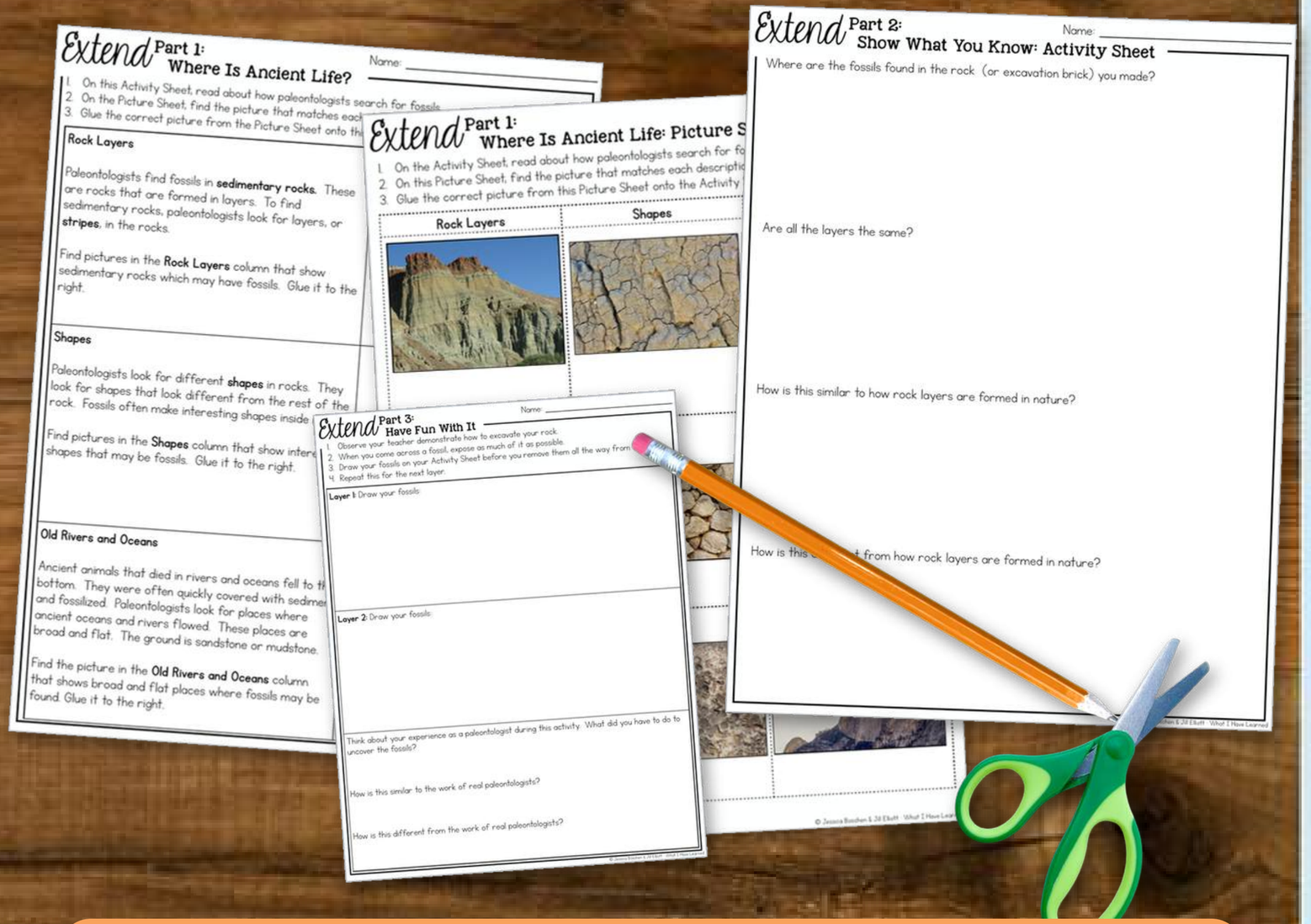
2 How Has Life on Earth Changed?

Students read about the fossil record, fossilization, and the three fossil types.

3 Putting It All Together

Students read about three dig sites and draw how each area has changed.

EXTEND



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

E E E E E

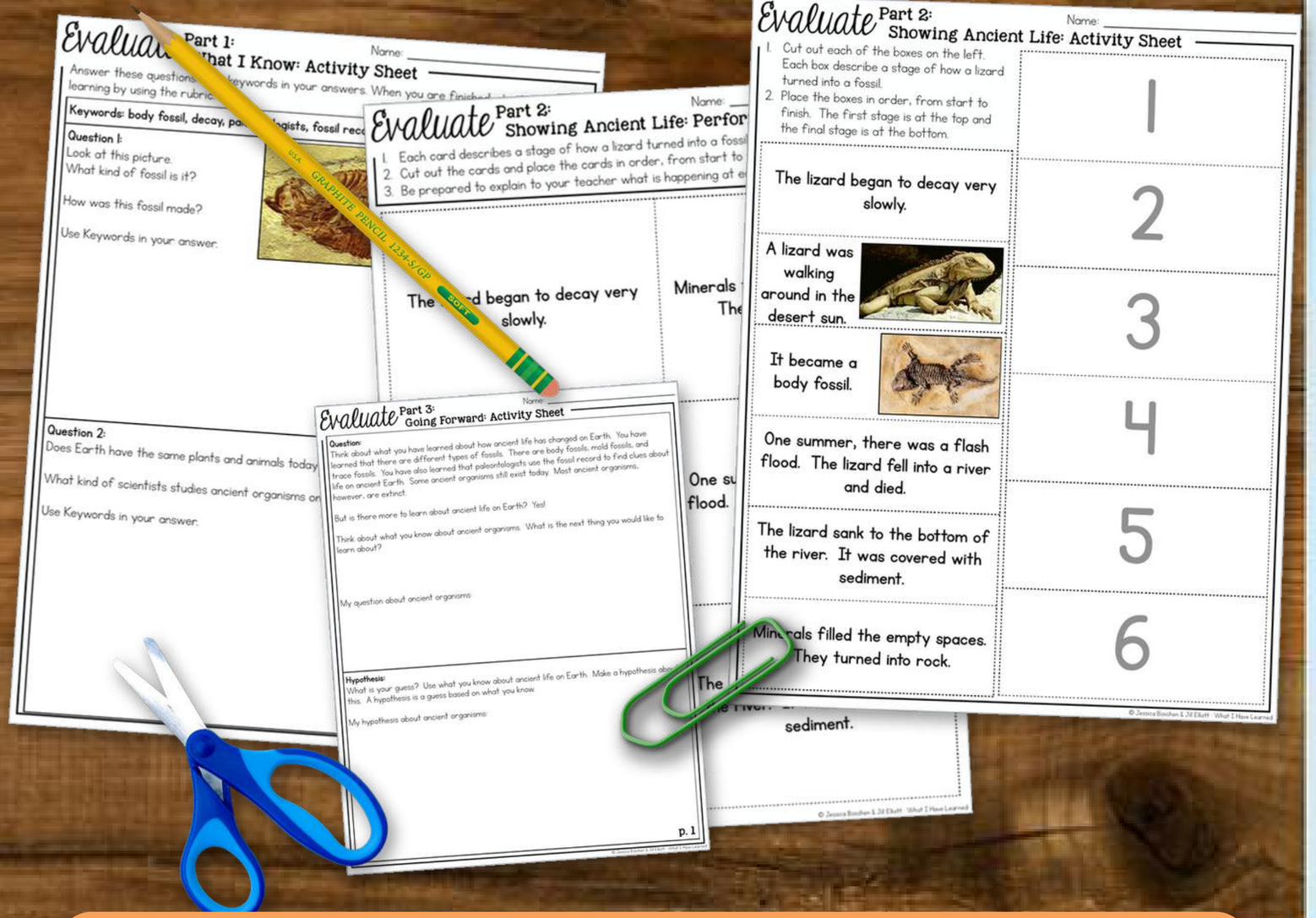
Apply fossil clues to new places

1. **Where Is Ancient Life?**
   Students match pictures of rock layers, shapes, and old rivers to where fossils are found.

2. **Show What You Know**
   Students build layered plaster rocks with fossils inside.

3. **Have Fun With It**
   Students excavate a fossil brick like a real paleontologist.

EVALUATE



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

E E E E E

Check understanding with evidence

1 What I Know

Students name a fossil type, explain how it formed, and score themselves with a rubric.

2 Showing Ancient Life

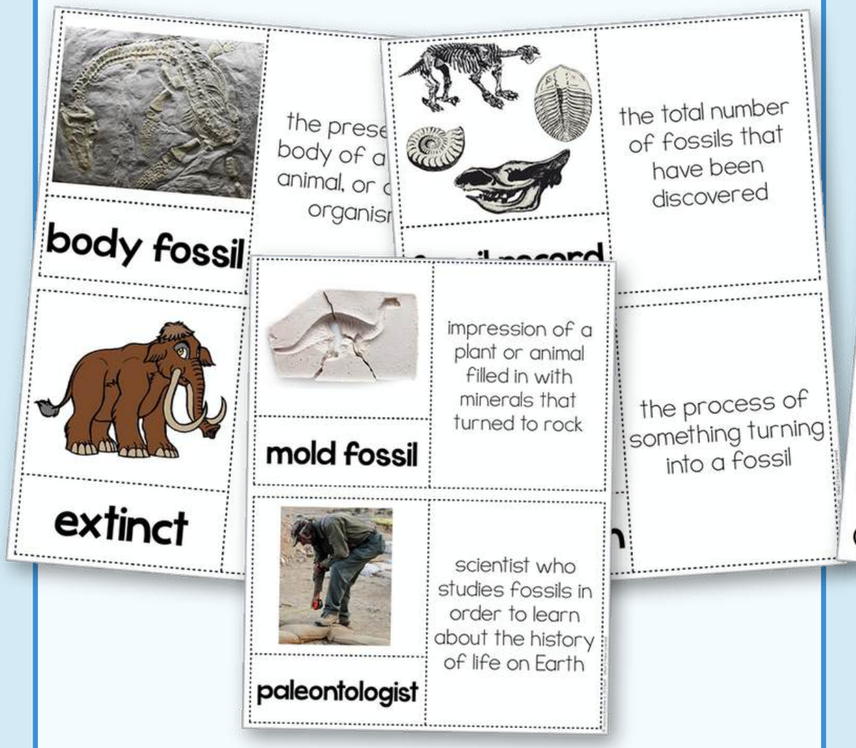
Students put the stages of a lizard turning into a fossil in order.

3 Going Forward

Students write a new question and plan an experiment about ancient life.

VOCABULARY, POSTERS & EXIT TICKETS

VOCABULARY CARDS



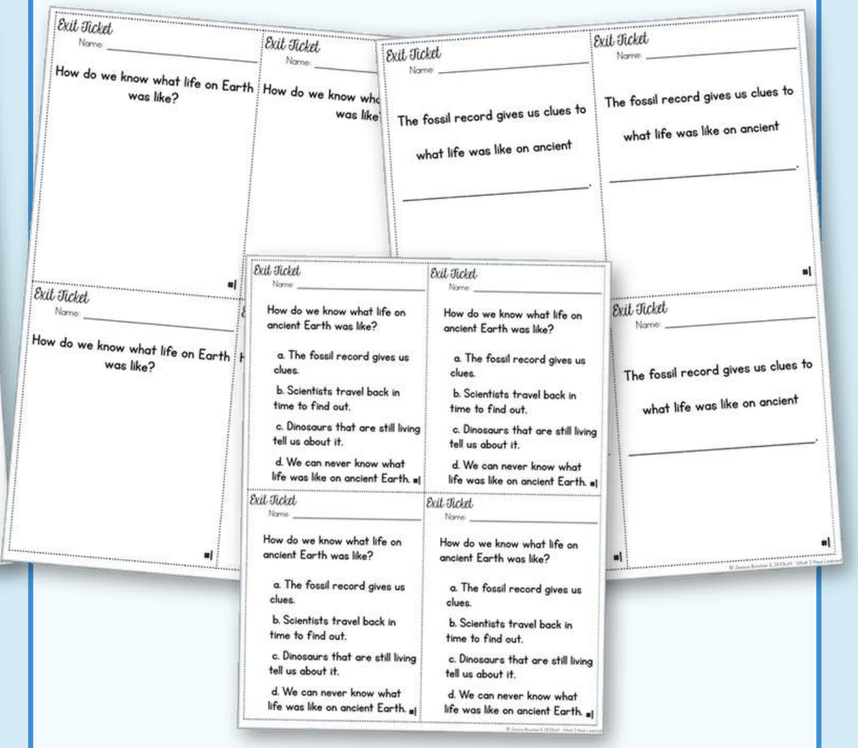
Picture cards and word cards for body fossil, extinct, fossil record, mold fossil, and more.

BIG IDEA POSTERS



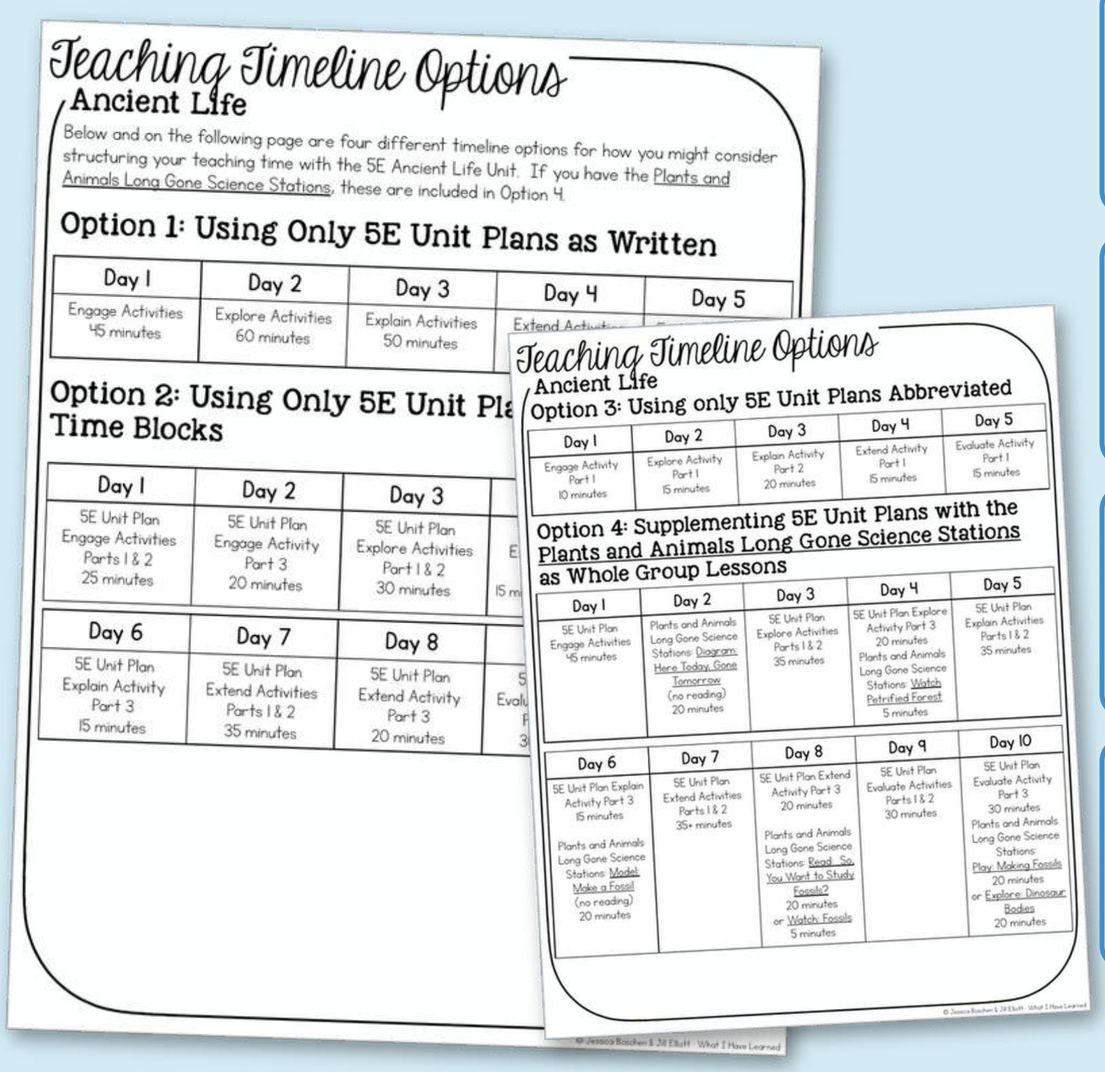
Six posters on the fossil record, fossil types, and extinct organisms.

EXIT TICKETS



10 exit tickets, each in short answer, fill-in-the-blank, and multiple choice formats.

WAYS TO USE IN YOUR CLASSROOM



Teaching Timeline Options

Ancient Life

Below and on the following page are four different timeline options for how you might consider structuring your teaching time with the 5E Ancient Life Unit. If you have the Plants and Animals Long Gone Science Stations, these are included in Option 4.

Option 1: Using Only 5E Unit Plans as Written

Day 1	Day 2	Day 3	Day 4	Day 5
Engage Activities 45 minutes	Explore Activities 60 minutes	Explain Activities 50 minutes	Extend Activi...	

Option 2: Using Only 5E Unit Pla... Time Blocks

Day 1	Day 2	Day 3	
5E Unit Plan Engage Activities Parts 1 & 2 25 minutes	5E Unit Plan Engage Activity Part 3 20 minutes	5E Unit Plan Explore Activities Part 1 & 2 30 minutes	E... 15 mi...

Day 6	Day 7	Day 8	
5E Unit Plan Explain Activity Part 3 15 minutes	5E Unit Plan Extend Activities Parts 1 & 2 35 minutes	5E Unit Plan Extend Activity Part 3 20 minutes	5 Evalu... P... 3...

Teaching Timeline Options

Ancient Life

Option 3: Using only 5E Unit Plans Abbreviated

Day 1	Day 2	Day 3	Day 4	Day 5
Engage Activity Part 1 10 minutes	Explore Activity Part 1 15 minutes	Explain Activity Part 2 20 minutes	Extend Activity Part 1 15 minutes	Evaluate Activity Part 1 15 minutes

Option 4: Supplementing 5E Unit Plans with the Plants and Animals Long Gone Science Stations as Whole Group Lessons

Day 1	Day 2	Day 3	Day 4	Day 5
5E Unit Plan Engage Activities 45 minutes	Plants and Animals Long Gone Science Stations: Diagram: Here Today, Gone Tomorrow (no reading) 20 minutes	5E Unit Plan Explore Activities Parts 1 & 2 35 minutes	5E Unit Plan Explore Activity Part 3 20 minutes Plants and Animals Long Gone Science Stations: Watch Petrified Forest 5 minutes	5E Unit Plan Explain Activities Parts 1 & 2 35 minutes

Day 6	Day 7	Day 8	Day 9	Day 10
5E Unit Plan Explain Activity Part 3 15 minutes Plants and Animals Long Gone Science Stations: Model: Make a Fossil (no reading) 20 minutes	5E Unit Plan Extend Activities Parts 1 & 2 35+ minutes	5E Unit Plan Extend Activity Part 3 20 minutes Plants and Animals Long Gone Science Stations: Read: So, You Want to Study Fossils? 20 minutes or Watch: Fossils 5 minutes	5E Unit Plan Evaluate Activities Parts 1 & 2 30 minutes	5E Unit Plan Evaluate Activity Part 3 30 minutes Plants and Animals Long Gone Science Stations: Play: Making Fossils 20 minutes or Explore: Dinosaur Bodies 20 minutes

© Jessica Boschen & Jill Elliott · What I Have Learned

1

Whole-Class 5E Unit

Teach one phase a day over 5 days as written, with 45 to 60 minutes per phase.

2

Shorter Science Blocks

Spread the unit across 10 days in shorter time blocks when science minutes are limited.

3

Alongside Science Stations

Add the Plants and Animals Long Gone Science Stations for a 10-day plan.

4

Formative Checks

Use the exit tickets throughout the unit to see who needs reteaching before the performance activity.

TEACHING TIMELINE OPTIONS

Option 1 — 5 days
As Written

Day 1	Day 2	Day 3	Day 4	Day 5
Engage	**Explore**	**Explain**	**Extend**	**Evaluate**
45 min	60 min	50 min	55 min	45 min

Option 2 — 10 days
Shorter Time Blocks

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

Option 3 — 5 days
Abbreviated

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

Option 4 — 10 days
With Science Stations

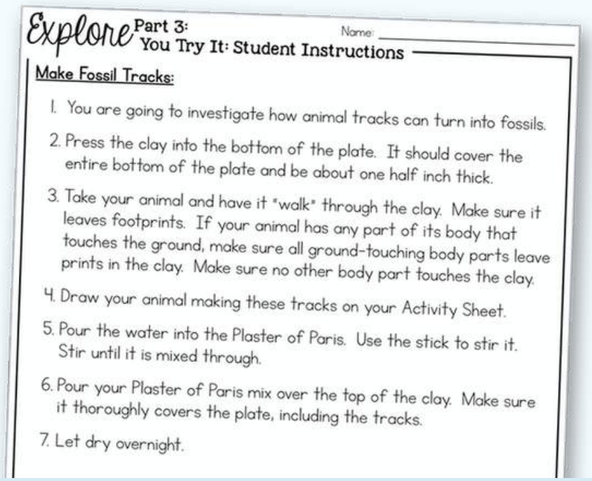
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Engage	**Diagram**	**Explore 1-2**	**Explore 3**	**Explain 1-2**	**Explain 3**	**Extend 1-2**	**Extend 3**	**Evaluate 1-2**	**Evaluate 3**
45 min	20 min	35 min	20 min +5 station	35 min	15 min +20 station	35 min	20 min +20 station	30 min	15 min +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 dig for fossils, make fossil tracks, and excavate a rock, so ancient life feels real.



Explore Part 3: You Try It: Student Instructions

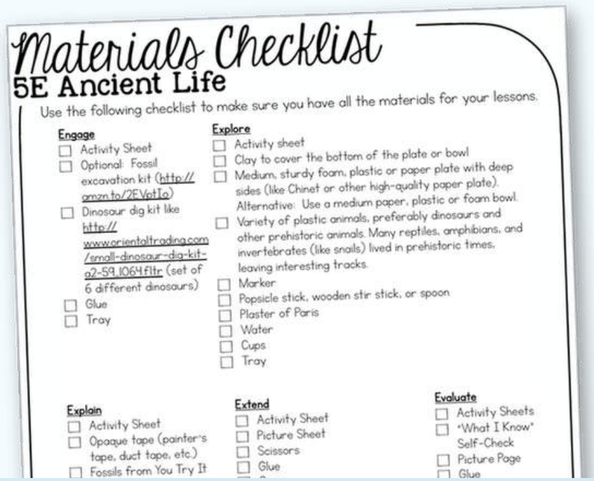
Name: _____

Make Fossil Tracks:

1. You are going to investigate how animal tracks can turn into fossils.
2. Press the clay into the bottom of the plate. It should cover the entire bottom of the plate and be about one half inch thick.
3. Take your animal and have it "walk" through the clay. Make sure it leaves footprints. If your animal has any part of its body that touches the ground, make sure all ground-touching body parts leave prints in the clay. Make sure no other body part touches the clay.
4. Draw your animal making these tracks on your Activity Sheet.
5. Pour the water into the Plaster of Paris. Use the stick to stir it. Stir until it is mixed through.
6. Pour your Plaster of Paris mix over the top of the clay. Make sure it thoroughly covers the plate, including the tracks.
7. Let dry overnight.

Planned and Ready to Teach

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



Materials Checklist

5E Ancient Life

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

Engage
- ☐ Activity Sheet
- ☐ Optional: Fossil excavation kit (http://amzn.to/2EVptIa)
- ☐ Dinosaur dig kit like http://www.orientaltrading.com/small-dinosaur-dig-kit-a2-59_1064.fltr (set of 6 different dinosaurs)
- ☐ Glue
- ☐ Tray

Explore
- ☐ Activity sheet
- ☐ Clay to cover the bottom of the plate or bowl
- ☐ Medium, sturdy foam, plastic or paper plate with deep sides (like Chinet or other high-quality paper plate). Alternative: Use a medium paper, plastic or foam bowl.
- ☐ Variety of plastic animals, preferably dinosaurs and other prehistoric animals. Many reptiles, amphibians, and invertebrates (like snails) lived in prehistoric times, leaving interesting tracks.
- ☐ Marker
- ☐ Popsicle stick, wooden stir stick, or spoon
- ☐ Plaster of Paris
- ☐ Water
- ☐ Cups
- ☐ Tray

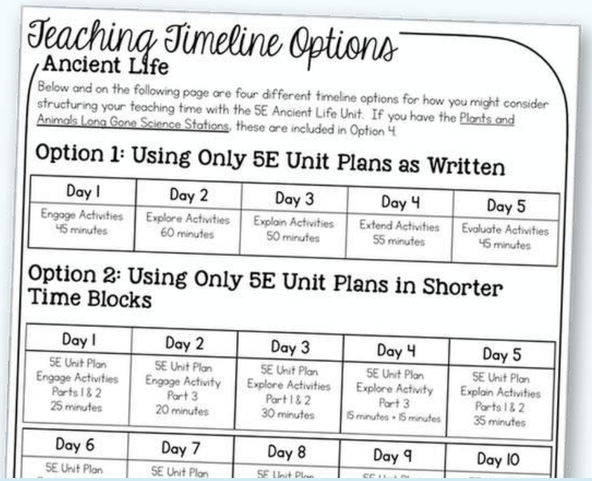
Explain
- ☐ Activity Sheet
- ☐ Opaque tape (painter's tape, duct tape, etc.)
- ☐ Fossils from You Try It

Extend
- ☐ Activity Sheet
- ☐ Picture Sheet
- ☐ Scissors
- ☐ Glue

Evaluate
- ☐ Activity Sheets
- ☐ "What I Know" Self-Check
- ☐ Picture Page
- ☐ Glue

Fits Your Schedule

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



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Option 2: Using Only 5E Unit Plans in Shorter Time Blocks

Day 1	Day 2	Day 3	Day 4	Day 5
5E Unit Plan Engage Activities Parts 1 & 2 25 minutes	5E Unit Plan Engage Activity Part 3 20 minutes	5E Unit Plan Explore Activities Part 1 & 2 30 minutes	5E Unit Plan Explore Activity Part 3 15 minutes + 15 minutes	5E Unit Plan Explain Activities Parts 1 & 2 35 minutes
Day 6	**Day 7**	**Day 8**	**Day 9**	**Day 10**
5E Unit Plan	5E Unit Plan	5E Unit Plan		

TEACHERS LOVE IT!

★★★★★

Such a creative and thorough thematic unit! Very hands-on and engaging for students.

Danielle S.

★★★★★

Great use of the 5E model. Very interactive and engaging.

Angie G.

★★★★★

I loved all of the different activities there were to help the students learn about fossils.

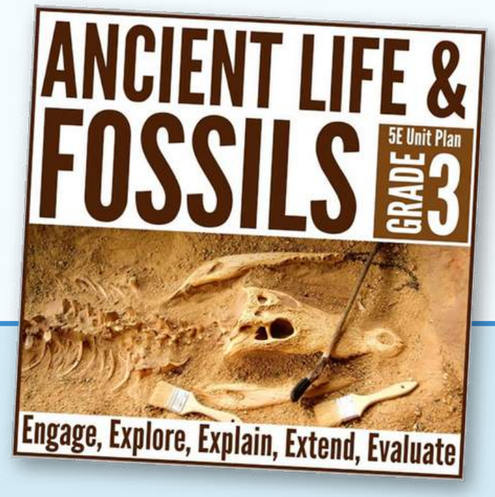
Sofia F.





READY FOR YOUR CLASSROOM

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



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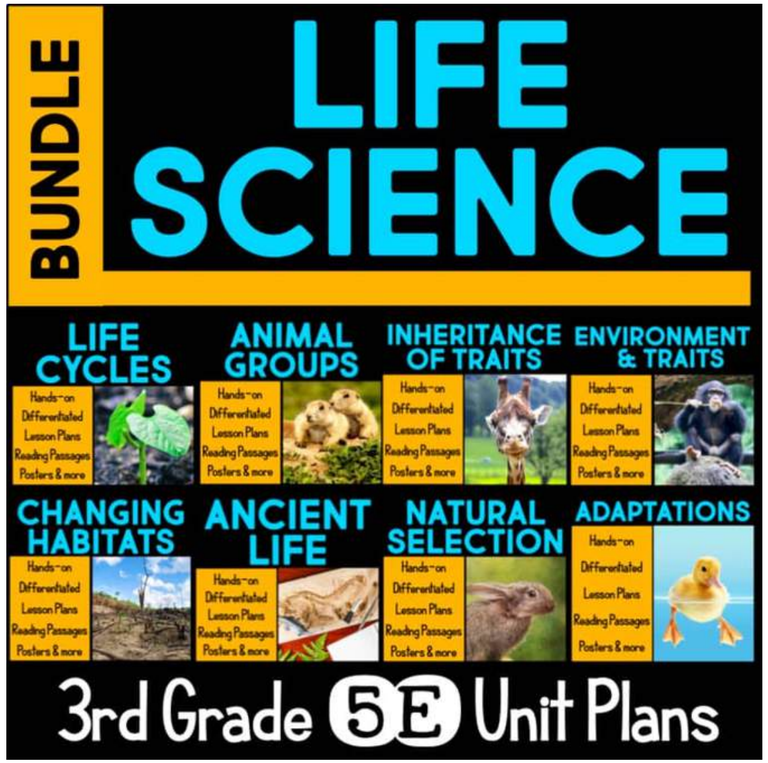
Save with a topic bundle or the full-year bundle.

TOPIC BUNDLE

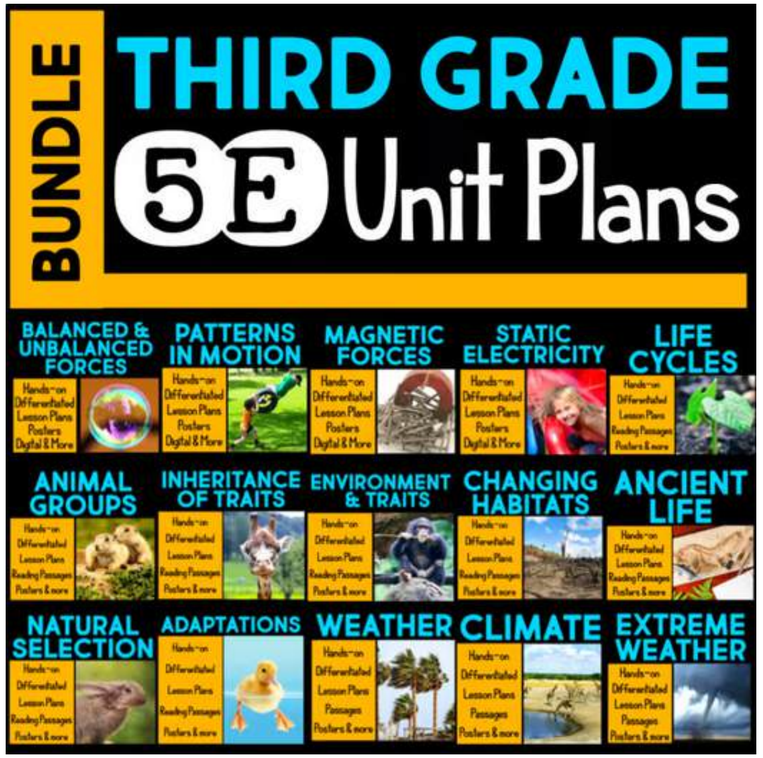
GOOD VALUE



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