

A Complete 5E Science Unit with Lesson Plans

4TH GRADE

STRUCTURES AND FUNCTIONS

Engage, Explore, Explain, Extend, Evaluate

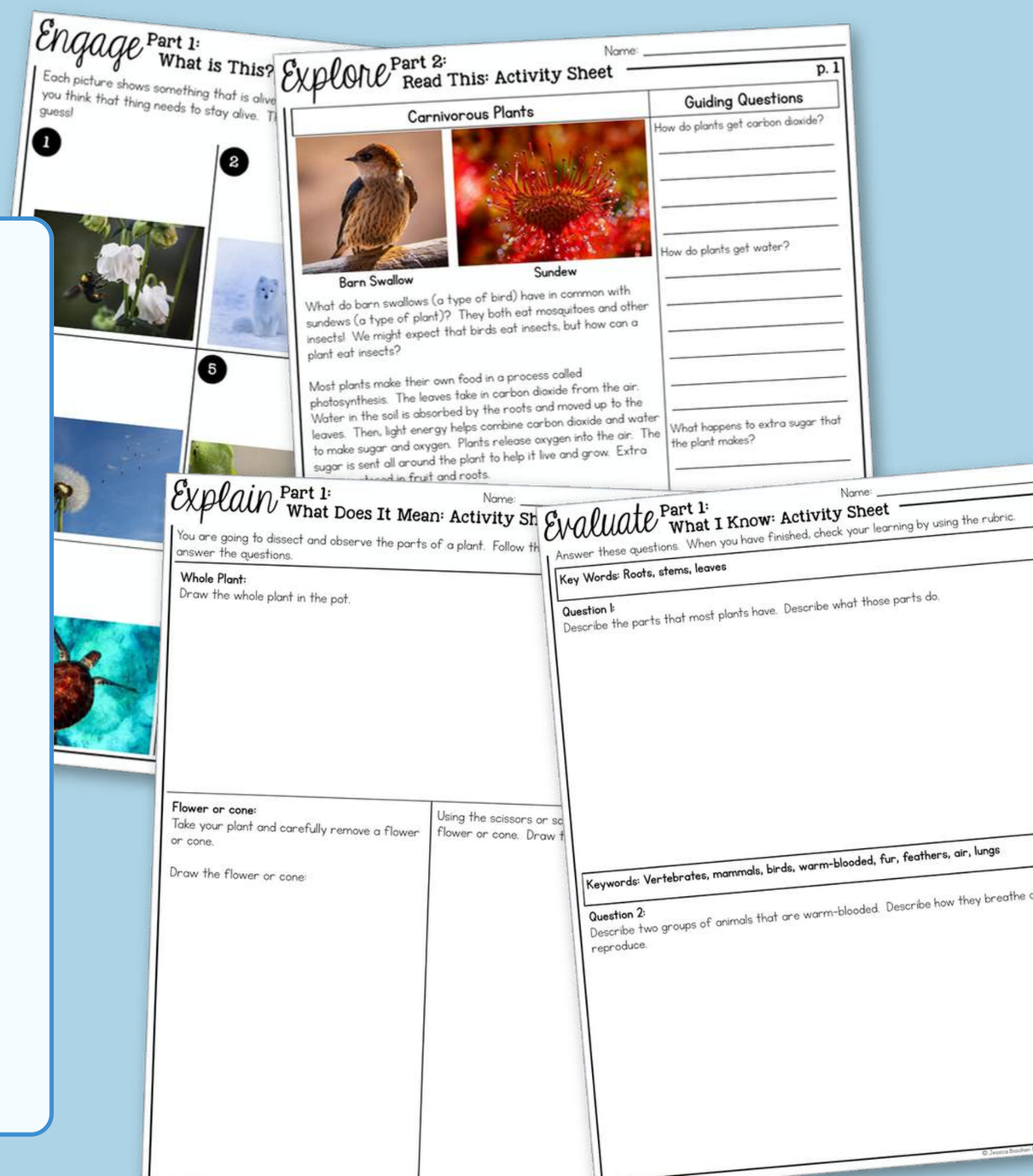
NGSS 4-LS1-1

KEEP SCROLLING TO SEE WHAT'S INSIDE!

WHAT'S INCLUDED

5E STRUCTURES AND FUNCTIONS UNIT

- 250+ Page 5E Unit Plan
- Lesson Plans for All 5 Phases
- Teacher Notes and Misconceptions
- Materials Checklist and 4 Timelines
- Hands-On Plant and Animal Investigations
- Reading Passages on Living Things
- 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 investigate seeds, plants, animals, and the structures that help organisms survive.
- Teacher background, lesson plans, and student pages in every phase.
- Aligned to NGSS 4-LS1-1.

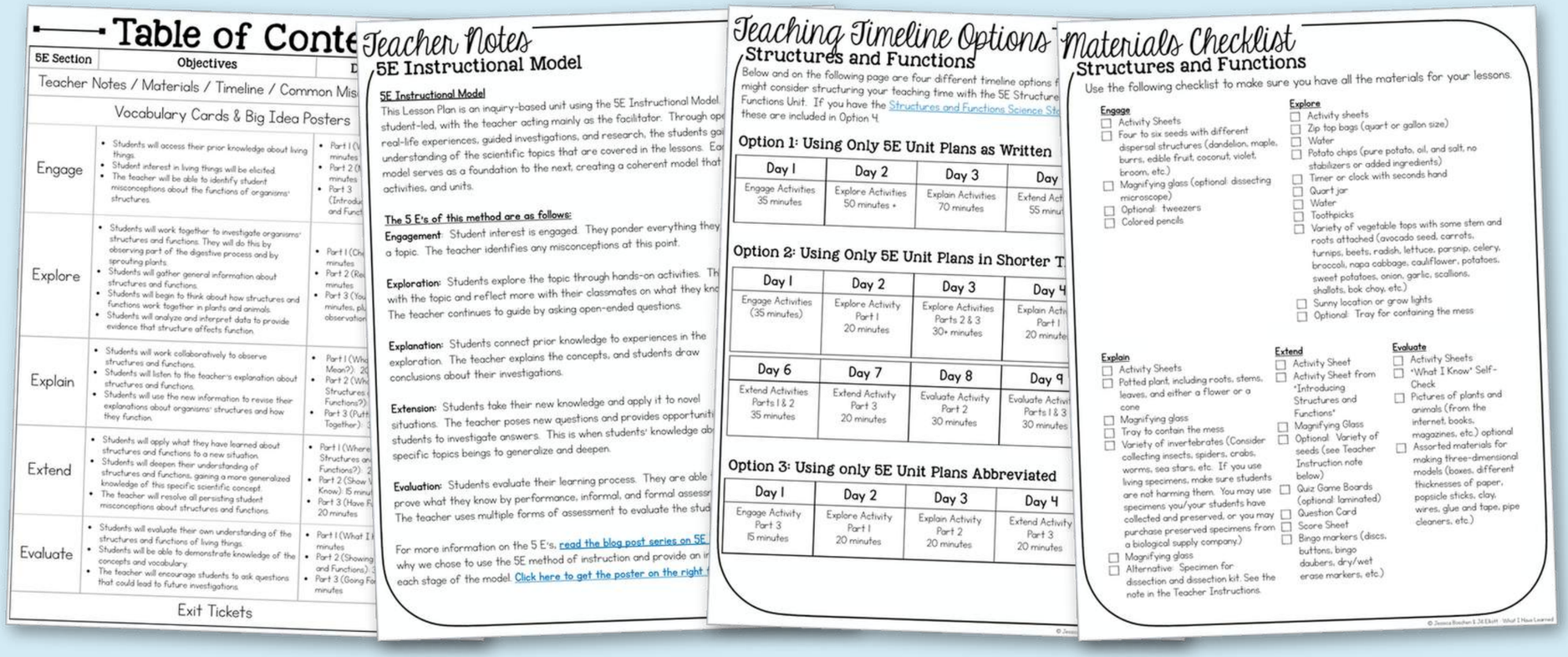


Table of Contents **Teacher Notes** **Timeline Options** **Materials Checklist**

ENGAGE



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

E E E E E

Spark curiosity about living things

1 What Is This?

Students study living things and make observations about their structures.

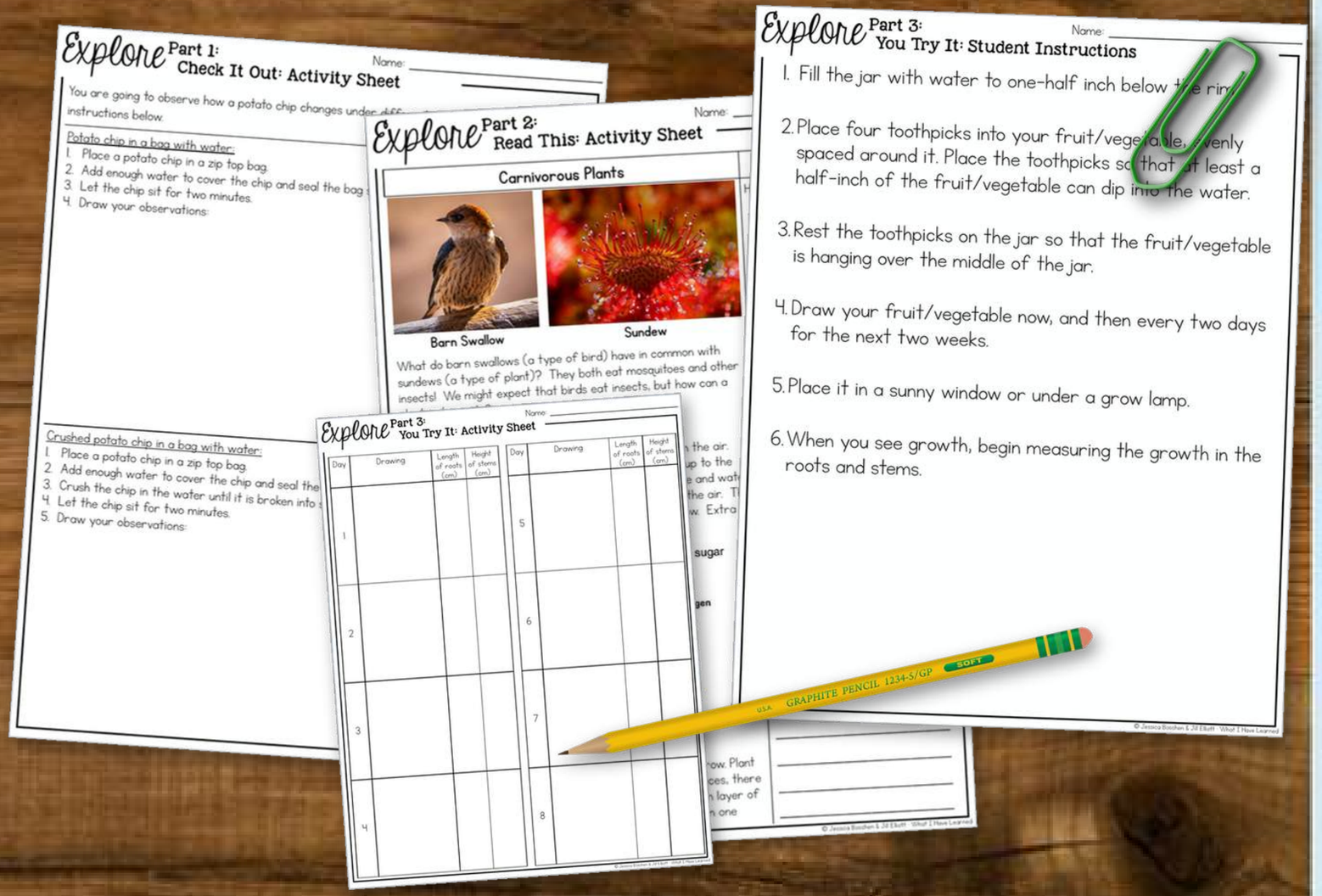
2 My Experiences

Students connect plant and animal structures to how living things grow and survive.

3 Introducing Structures and Functions

Students examine seeds and think about what each part does.

EXPLORE



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

E E E E E

Investigate plant and animal structures

1 Check It Out

Students observe what happens as a potato chip begins the digestive process.

2 Read This

Students read about carnivorous plants and how their structures help them get nutrients.

3 You Try It

Students sprout a plant and record changes in roots and stems over time.

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 observe a whole plant and its parts, then record what each structure does.

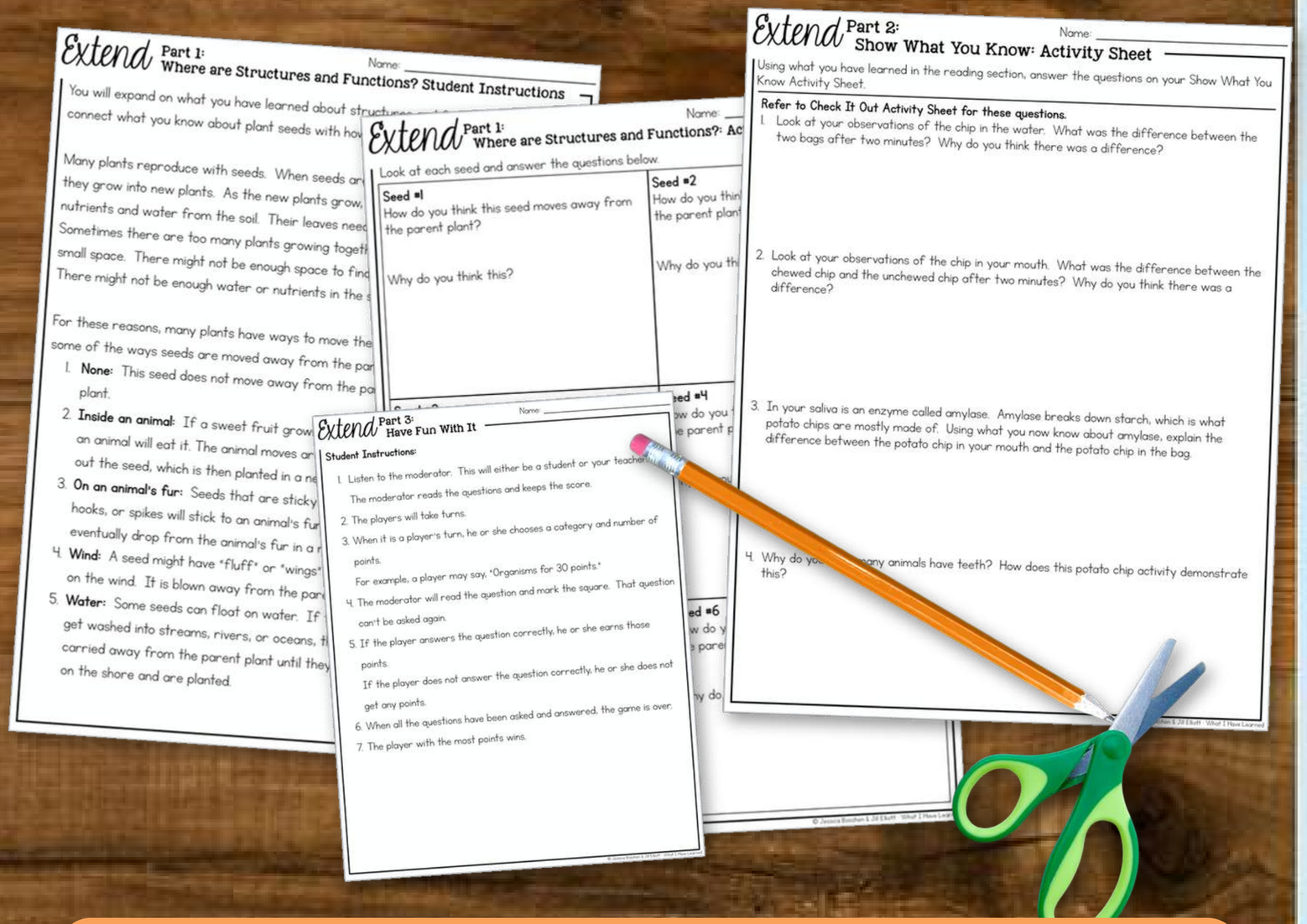
2 What Are Structures and Functions?

Students read about plant and animal groups and the structures that help them live.

3 Putting It All Together

Students organize evidence to explain how structures support functions.

EXTEND



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

E E E E E

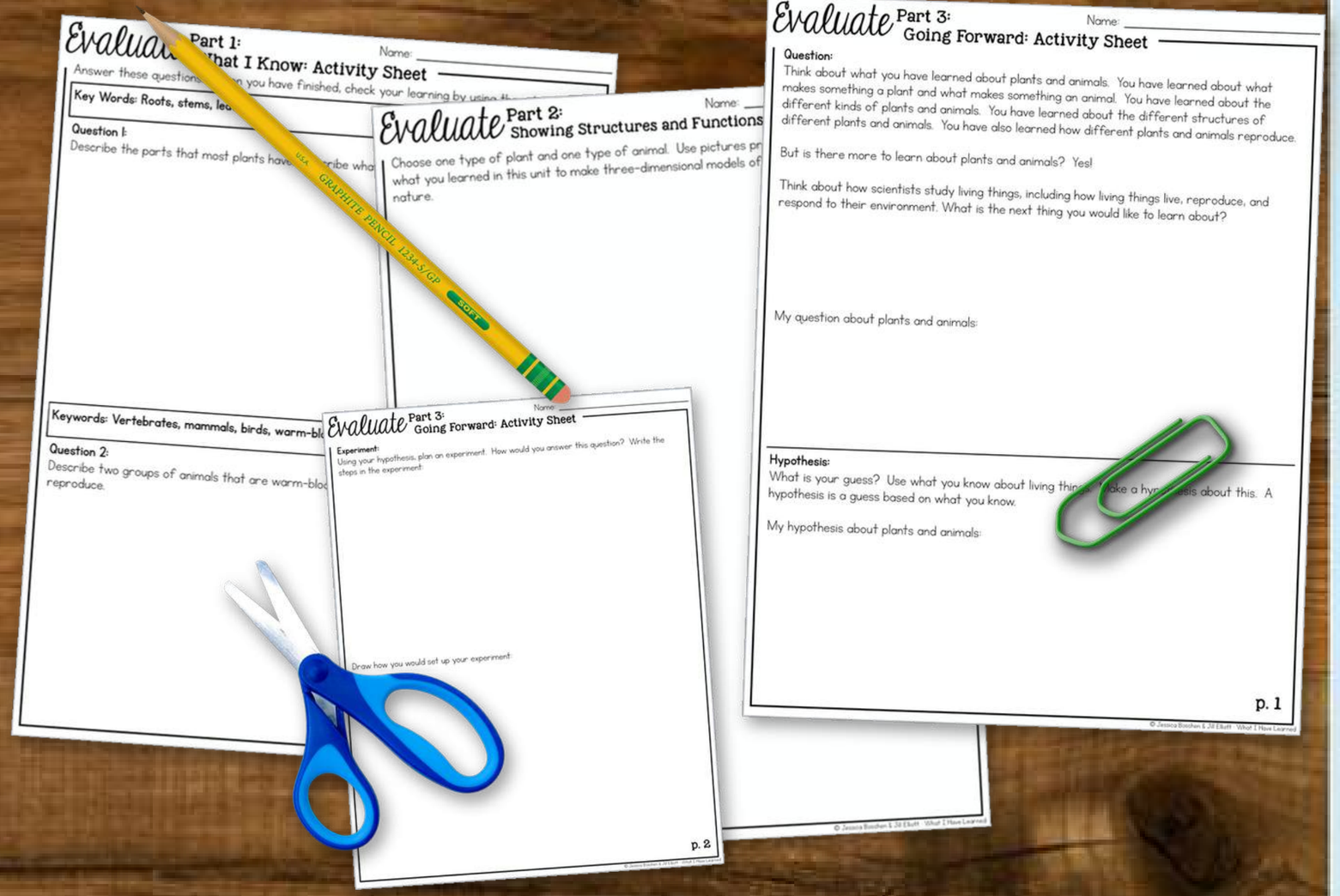
Apply structures and functions to new situations

1. **Where Are Structures and Functions?**
   Students investigate how seed structures help seeds move to new places.

2. **Show What You Know**
   Students use evidence from the unit to explain structures and functions.

3. **Have Fun With It**
   Students review vocabulary and concepts with a structures and functions game.

EVALUATE



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

E E E E E

Show understanding with living things

1 What I Know

Students answer questions about key concepts and vocabulary.

2 Showing Structures and Functions

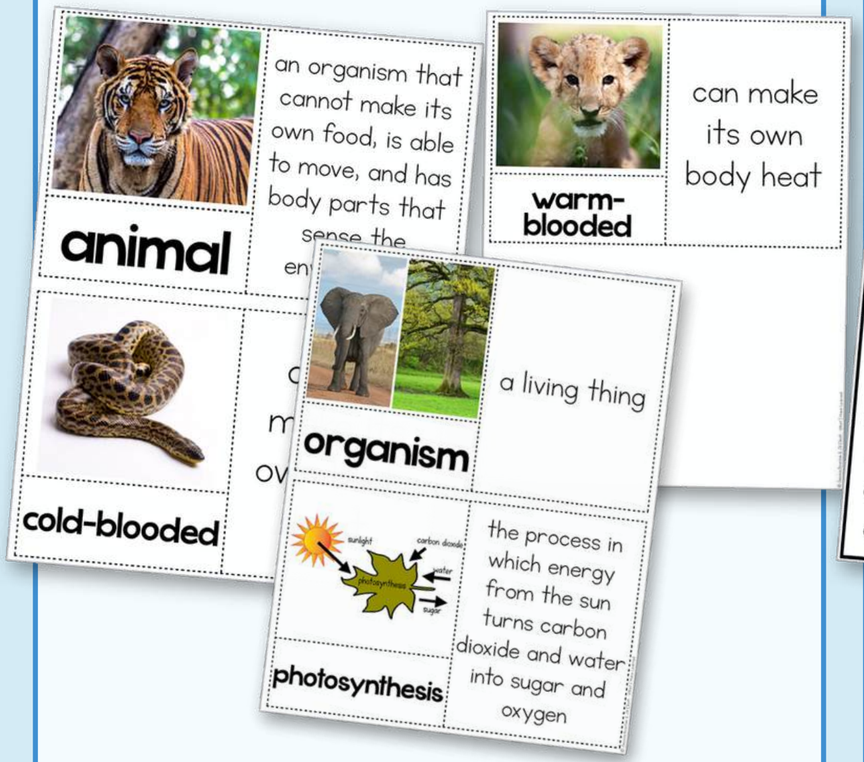
Students use pictures and evidence to show how plant and animal structures work.

3 Going Forward

Students write a question and plan an investigation about living things.

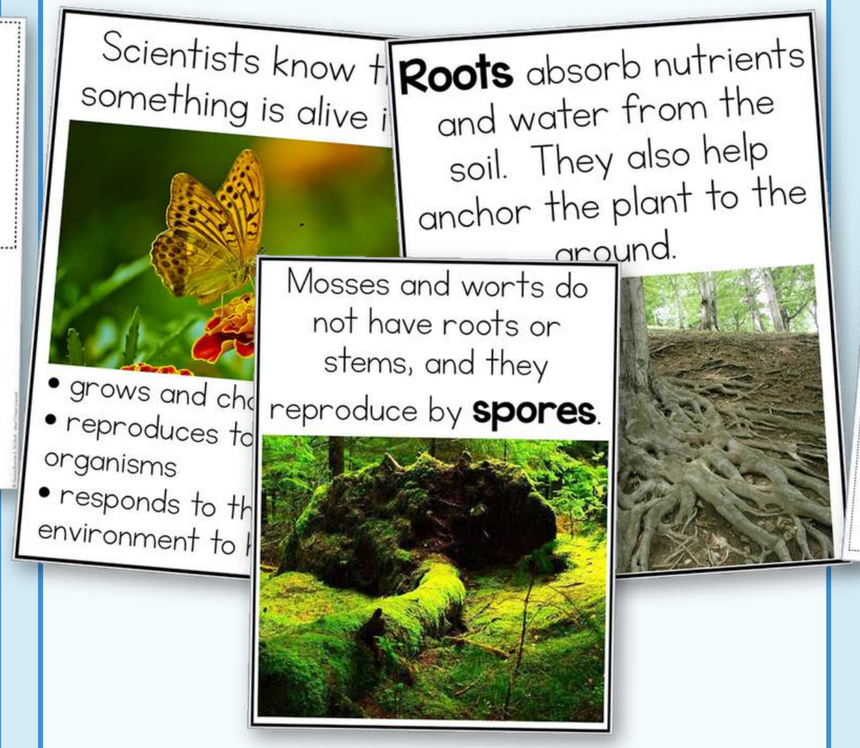
VOCABULARY, POSTERS & EXIT TICKETS

VOCABULARY CARDS



Picture cards and word cards for plants, animals, structures, functions, and related vocabulary.

BIG IDEA POSTERS



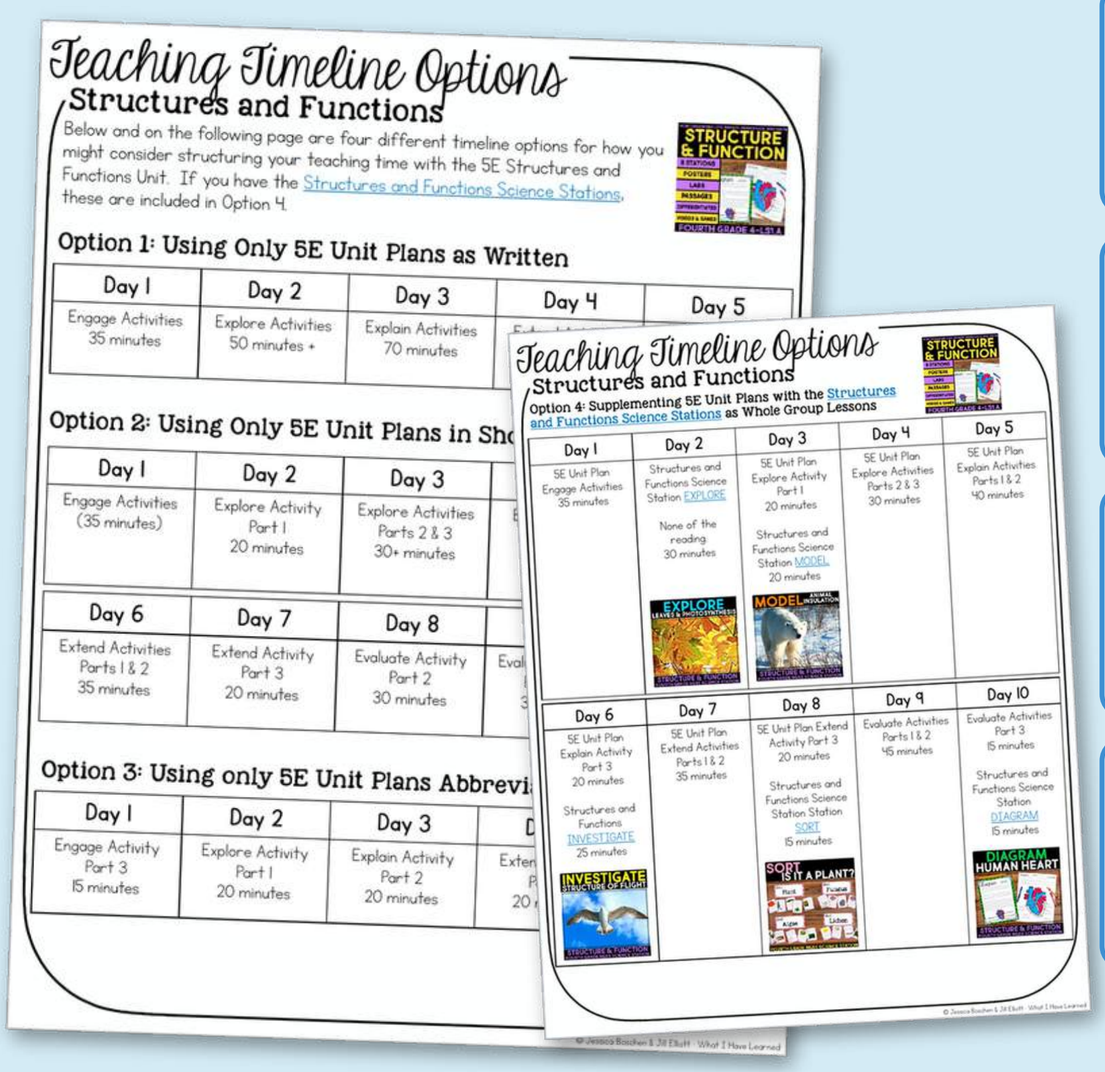
Big idea posters on plant parts, animal groups, structures, and the functions that support survival.

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 70 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 Structures and Functions 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	50 min +2 wk wait	70 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	20 min	30 min +2 wk wait	20 min	50 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 1**	**Explain 2**	**Extend 3**	**Evaluate 1**
15 min	20 min	20 min	20 min	15 min

Option 4 — 10 days
With Science Stations

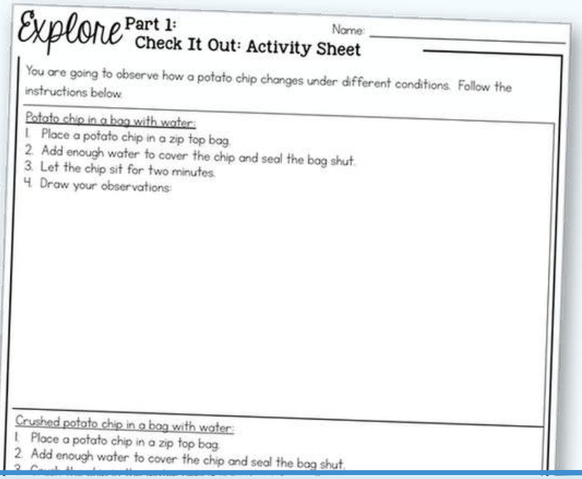
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Engage	**Explore Station**	**Explore 1**	**Explore 2-3**	**Explain 1-2**	**Explain 3**	**Diagram**	**Extend 1-2**	**Extend 3**	**Evaluate 1-2**
35 min	30 min	20 min	30 min	40 min	20 min	15 min	35 min	20 min +15 station	45 min +15 station

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 investigate seeds, plants, animals, and the structures that help living things survive.


Explore Part 1: Check It Out: Activity Sheet

Name: _____

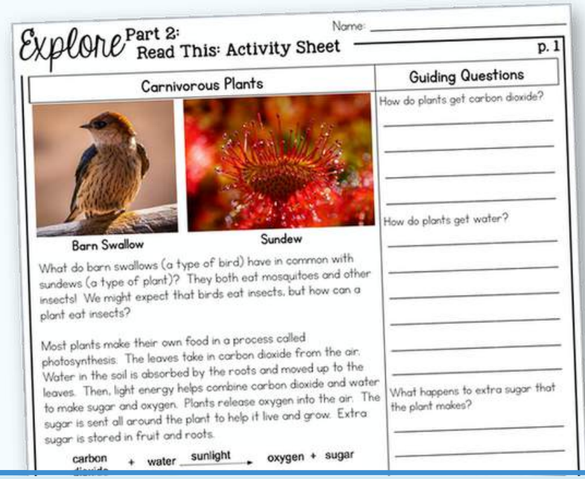
You are going to observe how a potato chip changes under different conditions. Follow the instructions below.

Potato chip in a bag with water:
1. Place a potato chip in a zip top bag.
2. Add enough water to cover the chip and seal the bag shut.
3. Let the chip sit for two minutes.
4. Draw your observations:

Crushed potato chip in a bag with water:
1. Place a potato chip in a zip top bag.
2. Add enough water to cover the chip and seal the bag shut.

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

Carnivorous Plants

Barn Swallow

Sundew

What do barn swallows (a type of bird) have in common with sundews (a type of plant)? They both eat mosquitoes and other insects! We might expect that birds eat insects, but how can a plant eat insects?

Most plants make their own food in a process called photosynthesis. The leaves take in carbon dioxide from the air. Water in the soil is absorbed by the roots and moved up to the leaves. Then, light energy helps combine carbon dioxide and water to make sugar and oxygen. Plants release oxygen into the air. The sugar is sent all around the plant to help it live and grow. Extra sugar is stored in fruit and roots.

carbon dioxide + water —sunlight→ oxygen + sugar

Guiding Questions

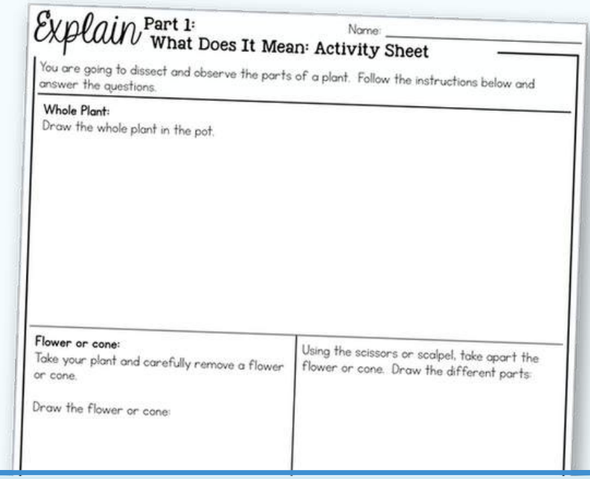
How do plants get carbon dioxide?

How do plants get water?

What happens to extra sugar that the plant makes?

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: Activity Sheet

Name: _____

You are going to dissect and observe the parts of a plant. Follow the instructions below and answer the questions.

Whole Plant:
Draw the whole plant in the pot.

Flower or cone:
Take your plant and carefully remove a flower or cone.

Draw the flower or cone:

Using the scissors or scalpel, take apart the flower or cone. Draw the different parts:

TEACHERS LOVE IT!

★★★★★

Very helpful resource to support my students' science learning

Michele S.

★★★★★

An amazing, engaging, comprehensive resource for science!

Christina D.

★★★★★

We did a whole unit on structure and function in 4th grade. This was a great resource that helped my students in understanding what structures and functions were.

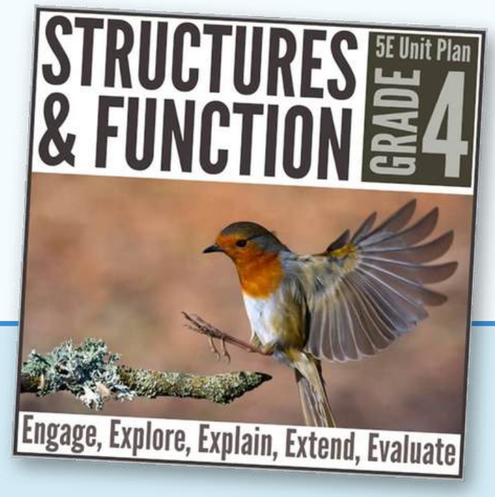
Limmce M.





READY FOR YOUR CLASSROOM

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

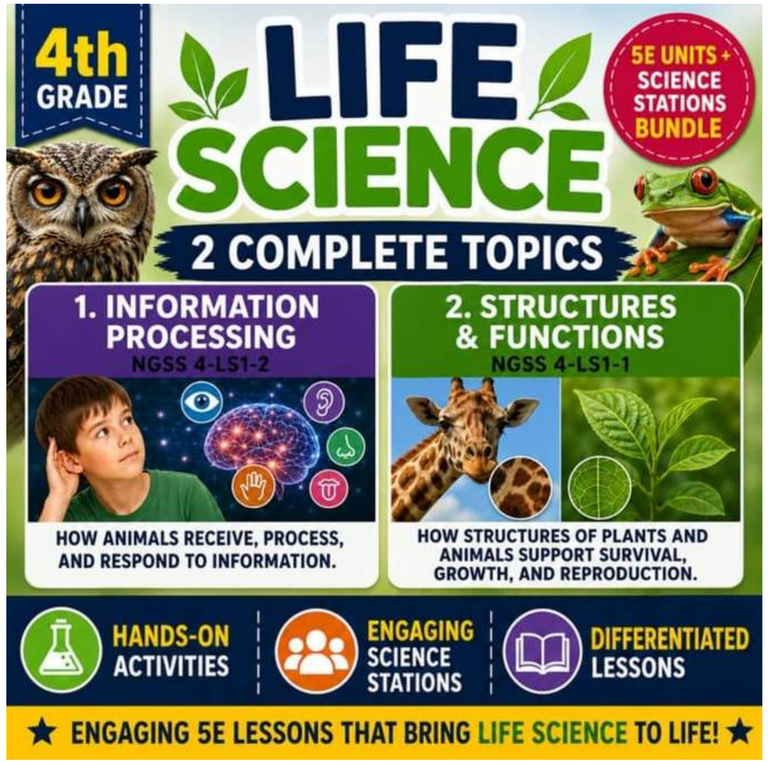


WANT MORE 4TH GRADE 5E UNITS?

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

TOPIC BUNDLE

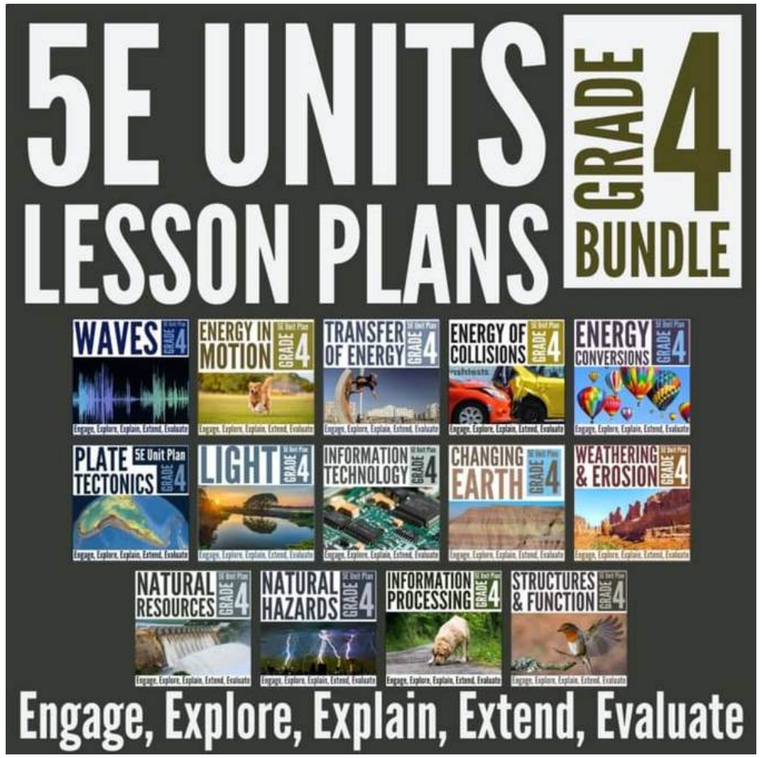
GOOD VALUE



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