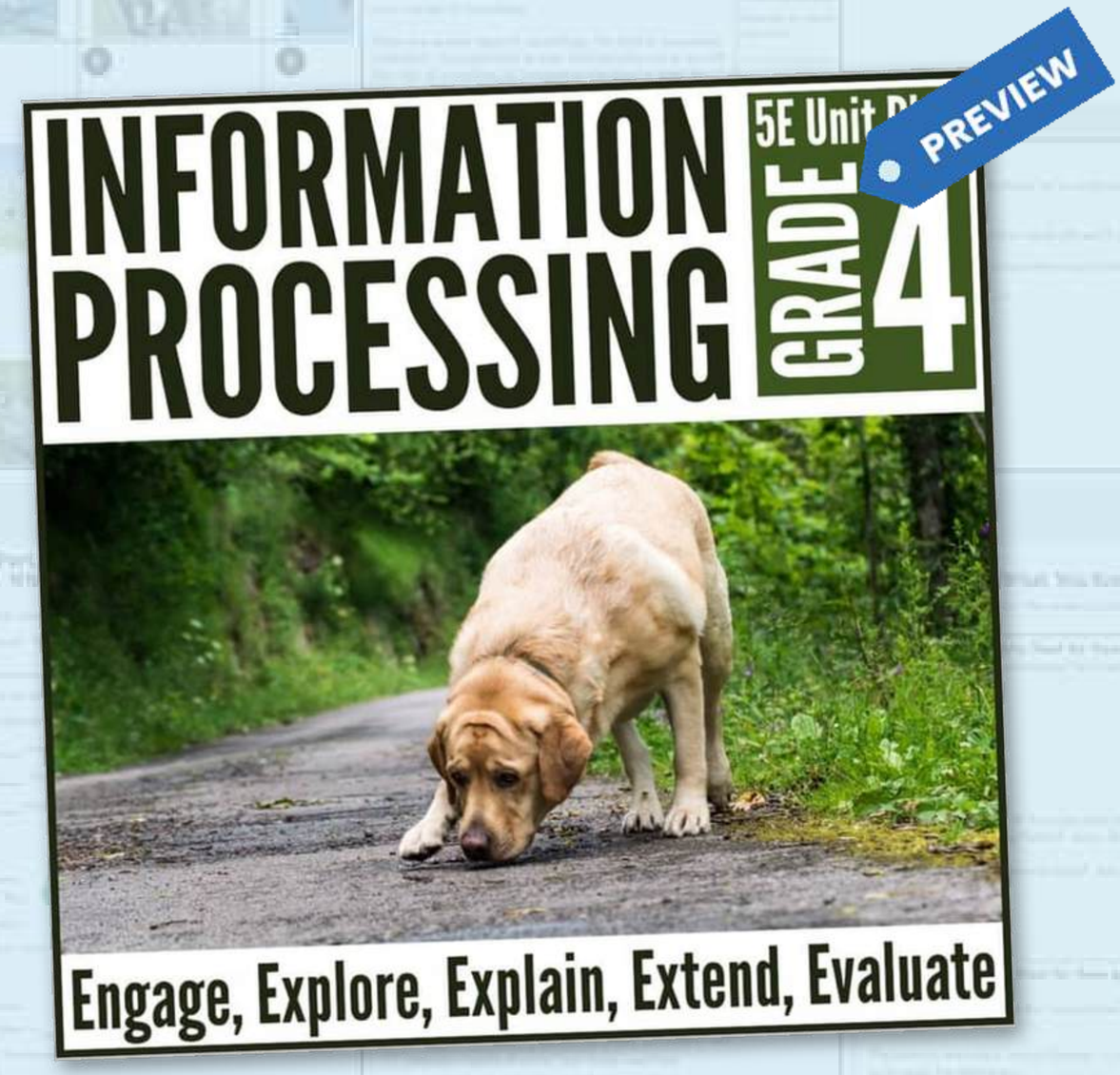


A Complete 5E Science Unit with Lesson Plans

4TH GRADE

INFORMATION PROCESSING

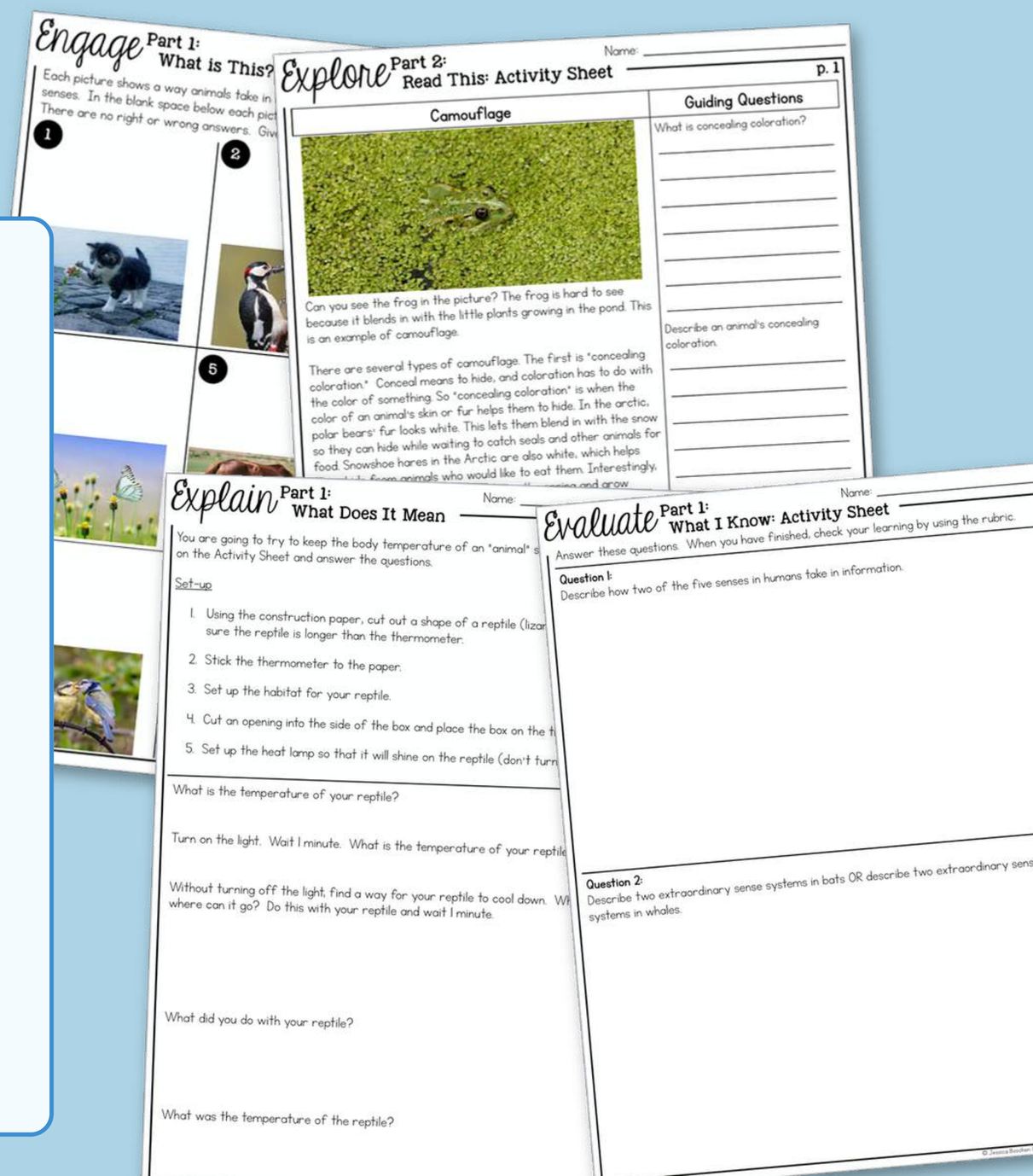
Engage, Explore, Explain, Extend, Evaluate
NGSS 4-LS1-2

KEEP SCROLLING TO SEE WHAT'S INSIDE!

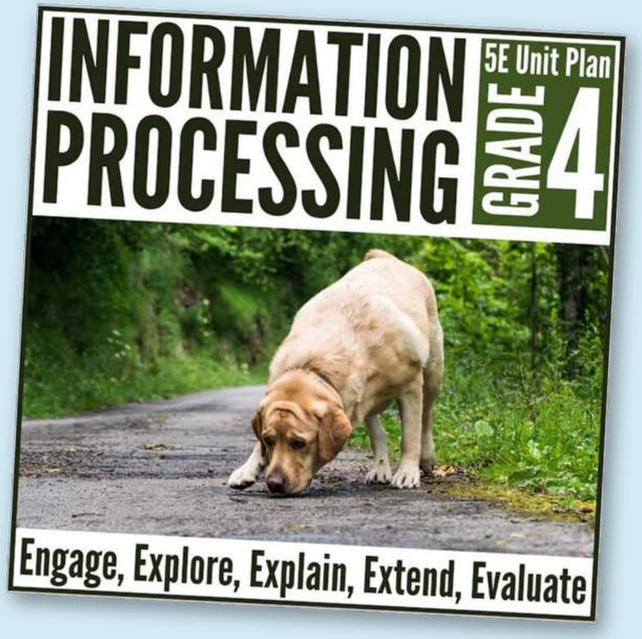
WHAT'S INCLUDED

5E INFORMATION PROCESSING UNIT

- 230+ Page 5E Unit Plan
- Lesson Plans for All 5 Phases
- Teacher Notes and Misconceptions
- Materials Checklist and 4 Timelines
- Hands-On Senses and Reaction-Time Investigations
- Reading Passages on Animal Senses
- 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 test reaction time, investigate animal senses, and model how information reaches the brain.
- Teacher background, lesson plans, and student pages in every phase.
- Aligned to NGSS 4-LS1-2.

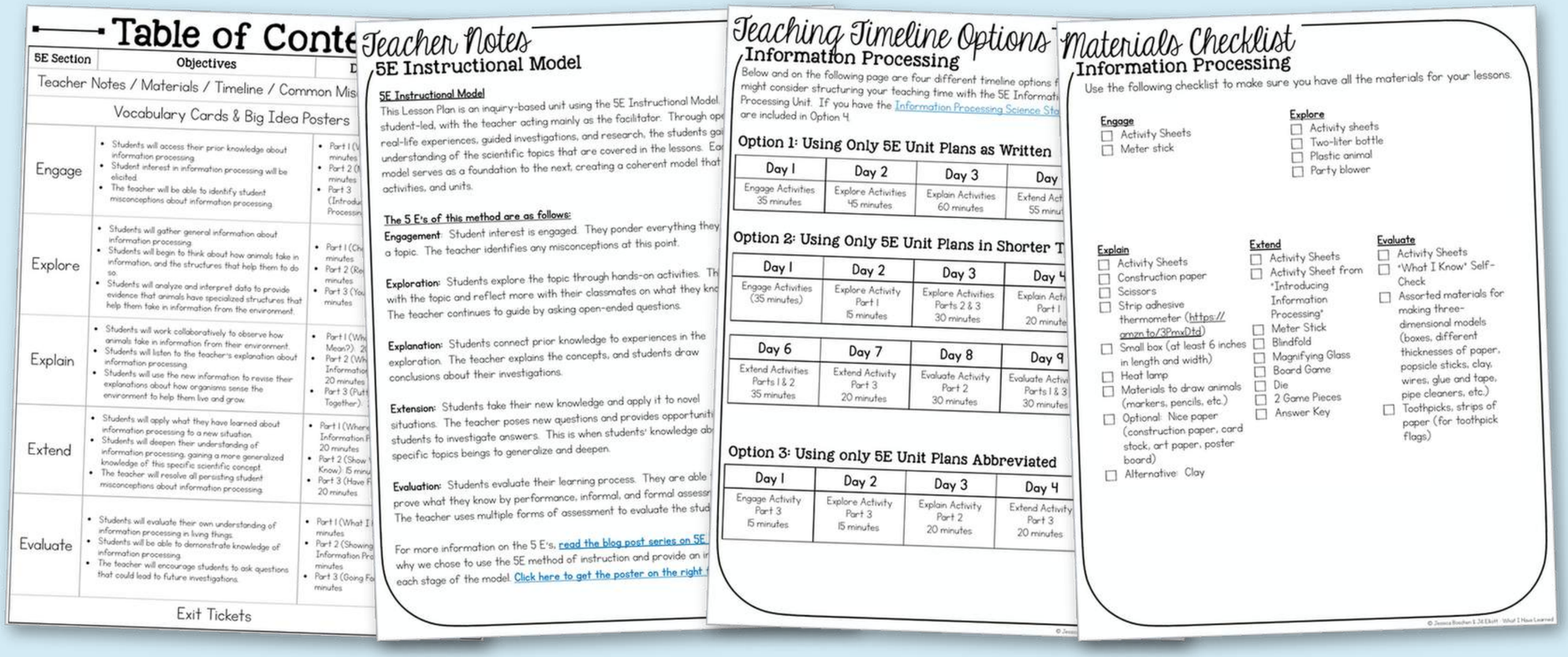
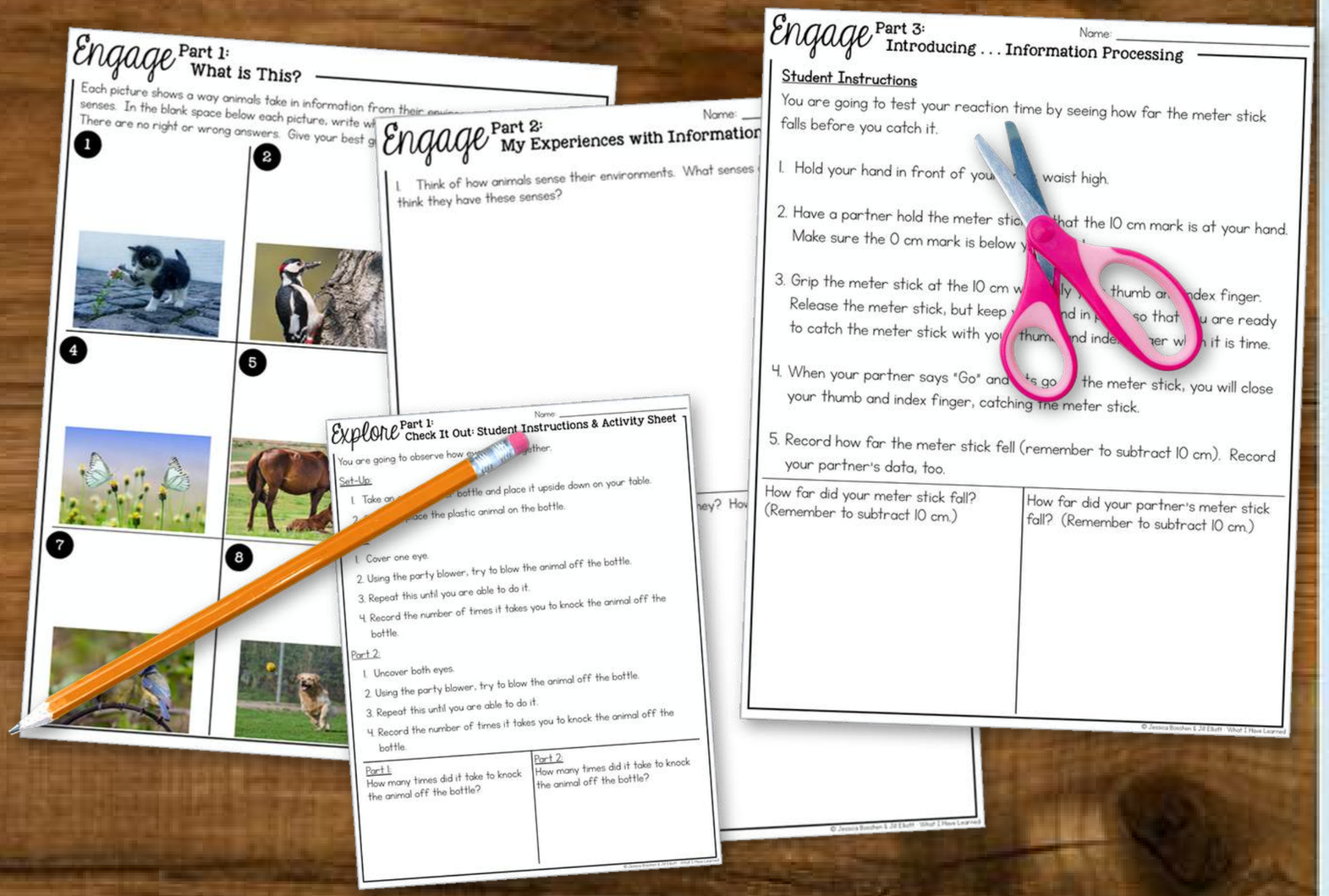


Table of Contents **Teacher Notes** **Timeline Options** **Materials Checklist**

ENGAGE



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

E E E E E

Spark curiosity about information processing

1 What Is This?

Students study how animals take in information from their environment.

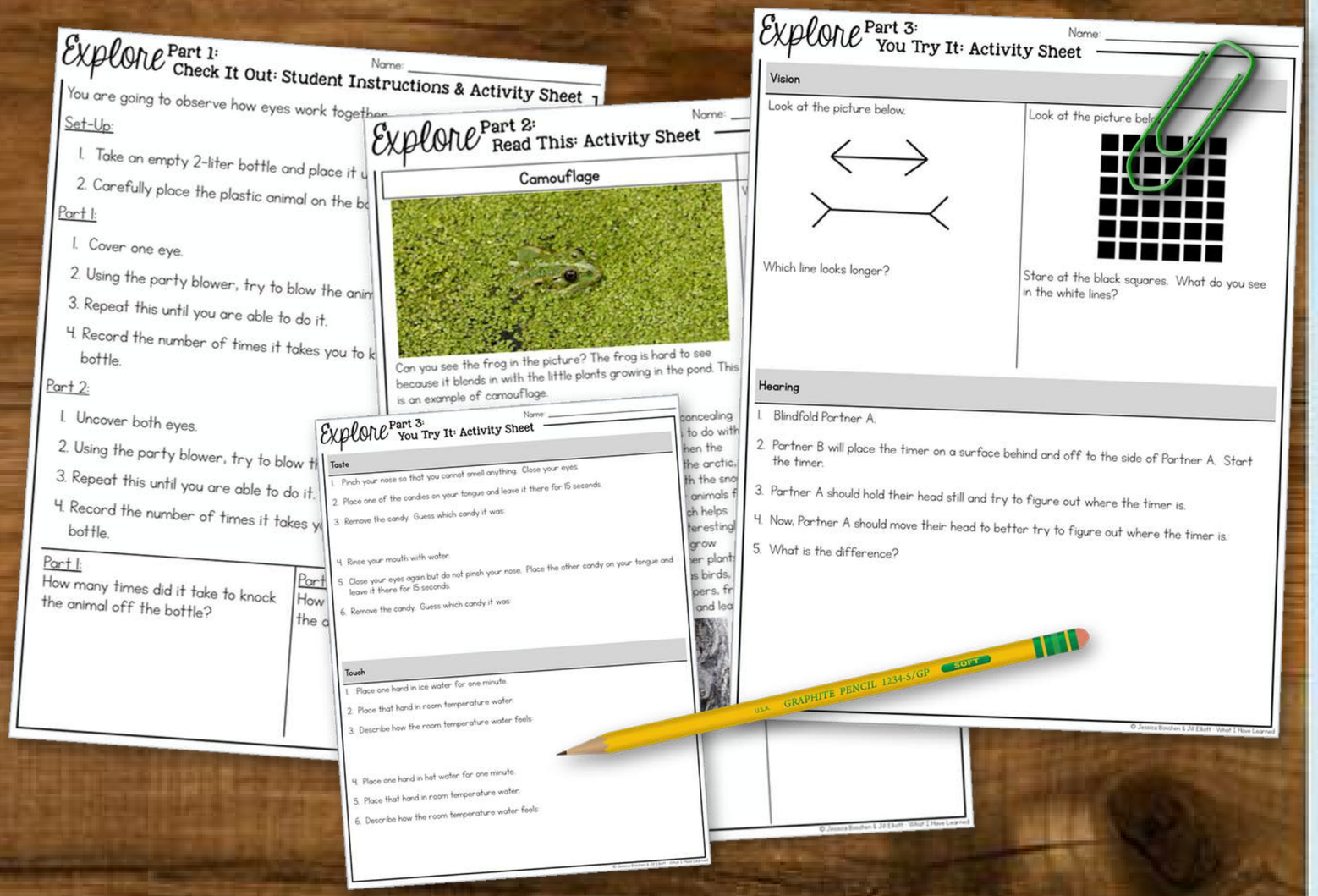
2 My Experiences

Students connect their own senses and reaction times to information processing.

3 Introducing Information Processing

Students test reaction time and begin thinking about how the brain receives information.

EXPLORE



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

E E E E E

Investigate animal senses and signals

1 Check It Out

Students observe how eyes work together and record what they notice.

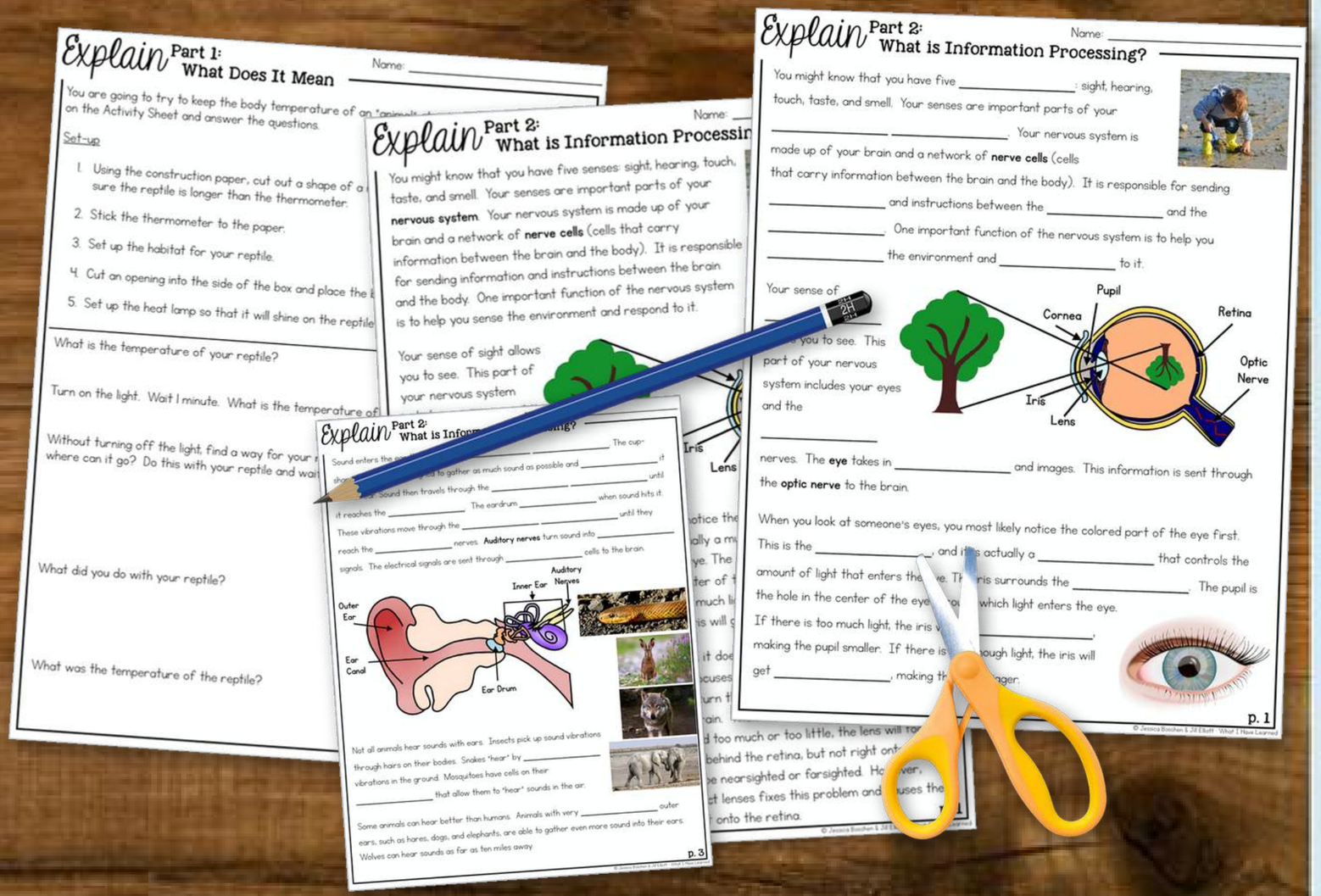
2 Read This

Students read about camouflage and how animals use sensory information.

3 You Try It

Students investigate vision and touch through short sense experiments.

EXPLAIN



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

E E E E E

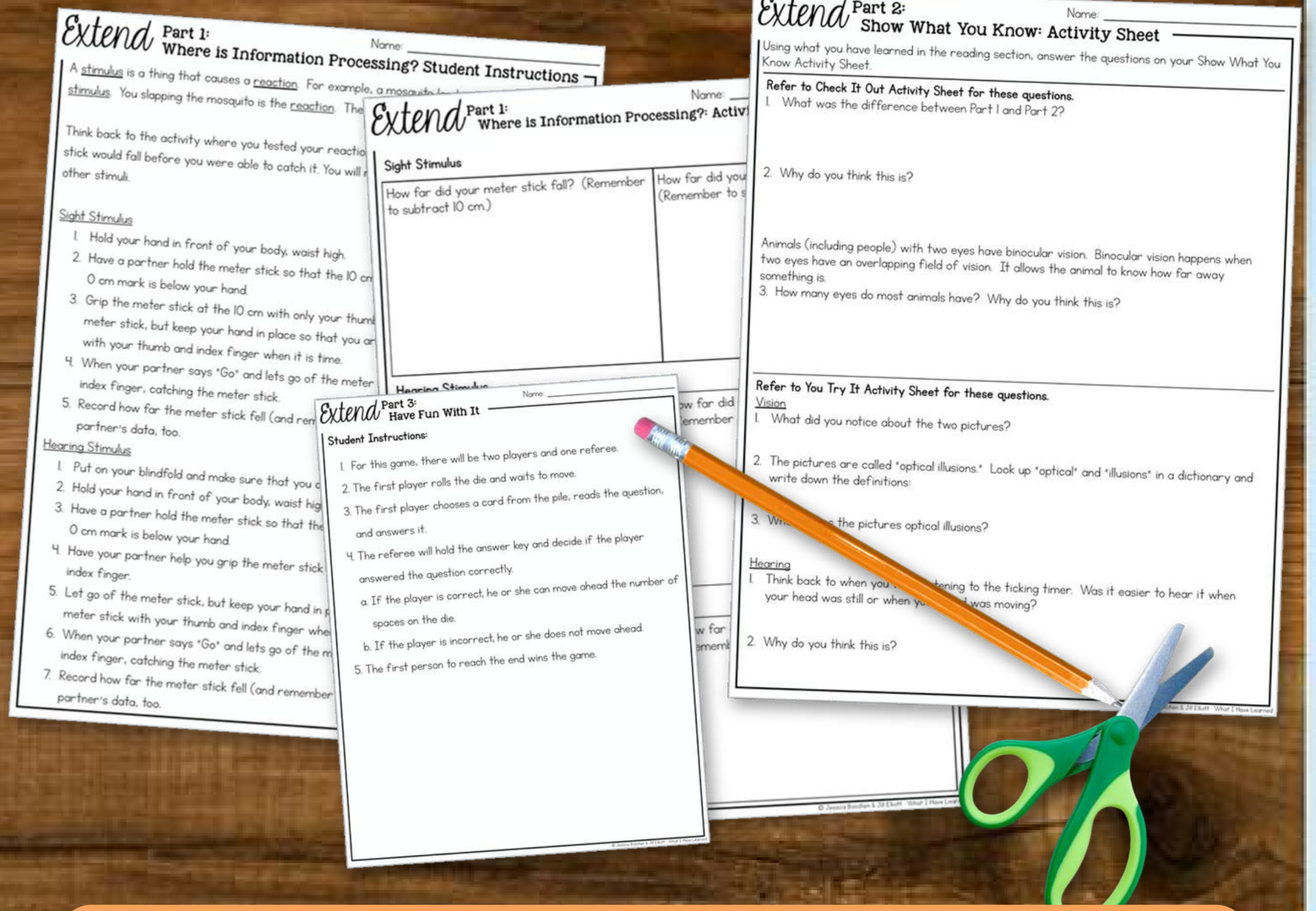
Build explanations from evidence

1 What Does It Mean?
Students model how an animal keeps its body temperature steady.

2 What Is Information Processing?
Students read about human and animal sensory systems.

3 Putting It All Together
Students use diagrams and evidence to explain how information travels to the brain.

EXTEND



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

E E E E E

Apply information processing to new situations

1

Where Is Information Processing?

Students investigate stimuli and compare how senses respond.

2

Show What You Know

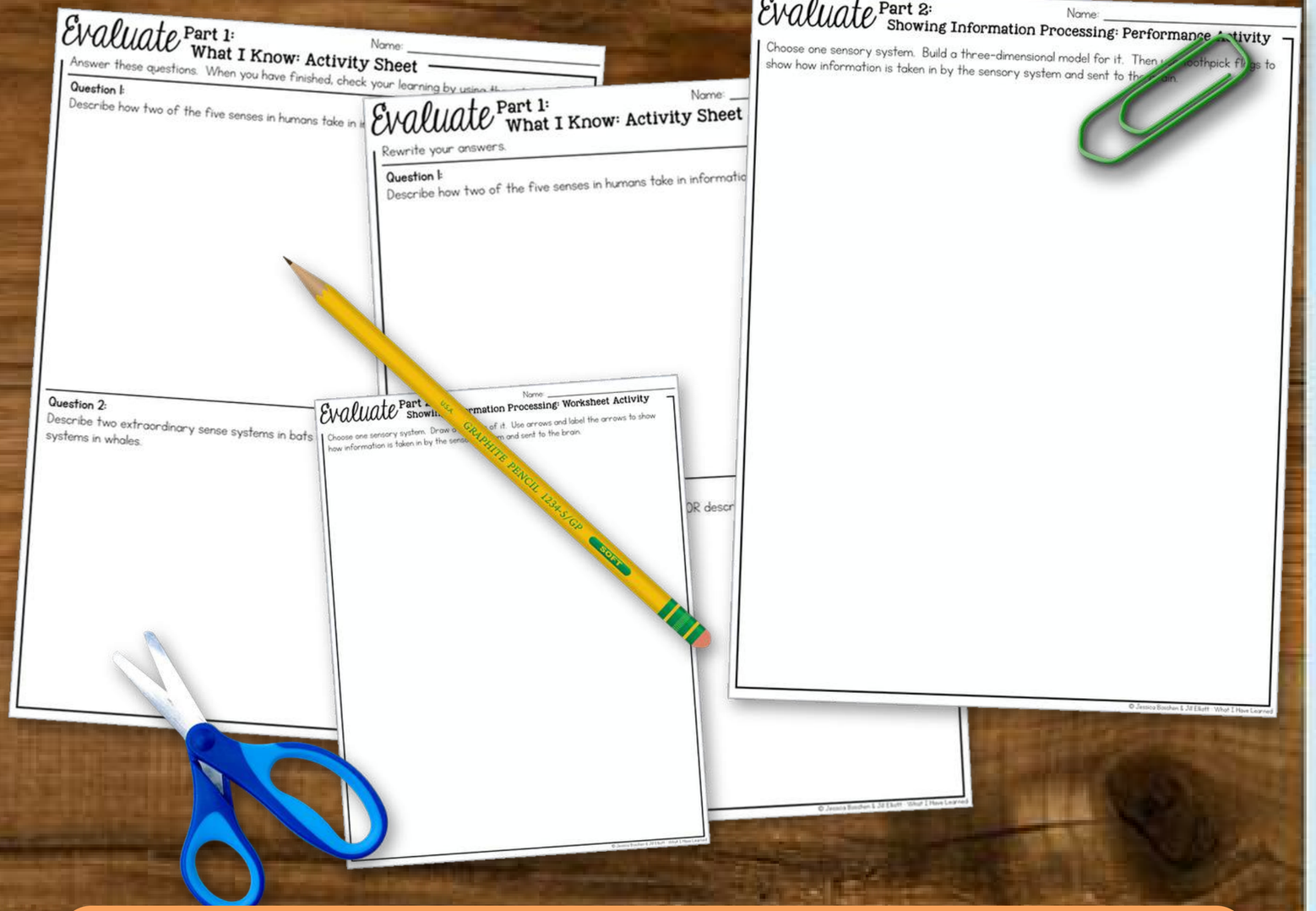
Students use evidence from the unit to explain information processing.

3

Have Fun With It

Students review vocabulary and concepts with a sensory-systems game.

EVALUATE



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

E E E E E

Show understanding with sensory evidence

1 What I Know

Students answer questions about senses and information processing.

2 Showing Information Processing

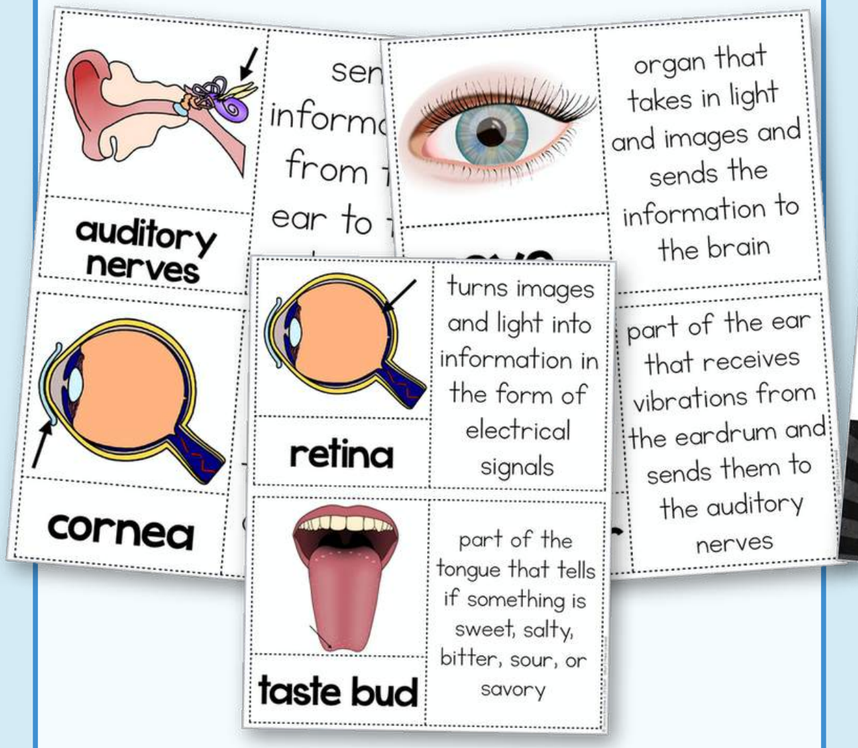
Students build or draw a model of a sensory system.

3 Going Forward

Students write a question and plan an investigation about animal senses.

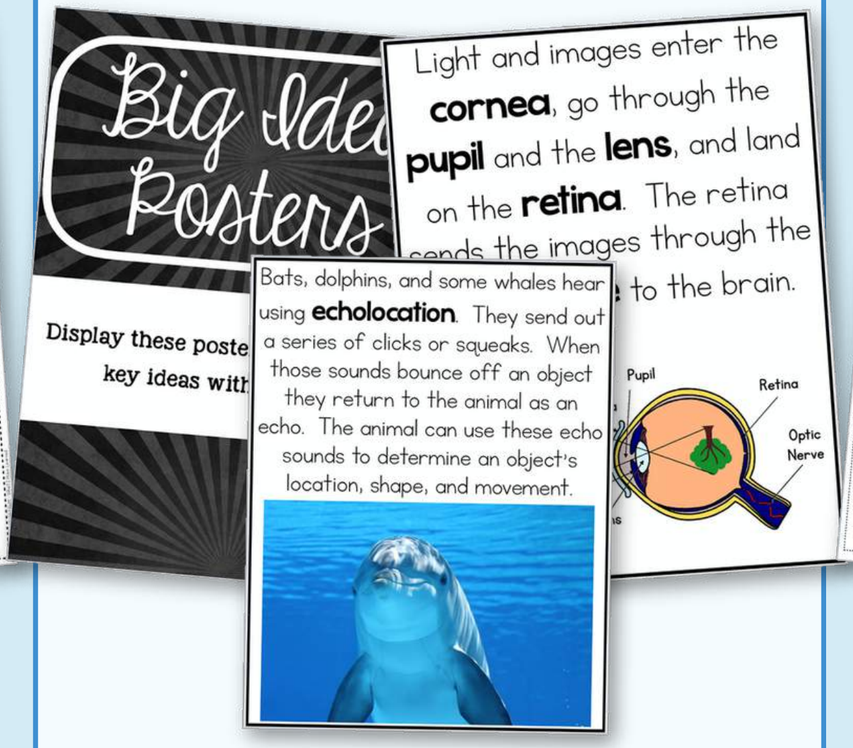
VOCABULARY, POSTERS & EXIT TICKETS

VOCABULARY CARDS



Picture cards and word cards for senses, sensory structures, nerves, and information processing.

BIG IDEA POSTERS



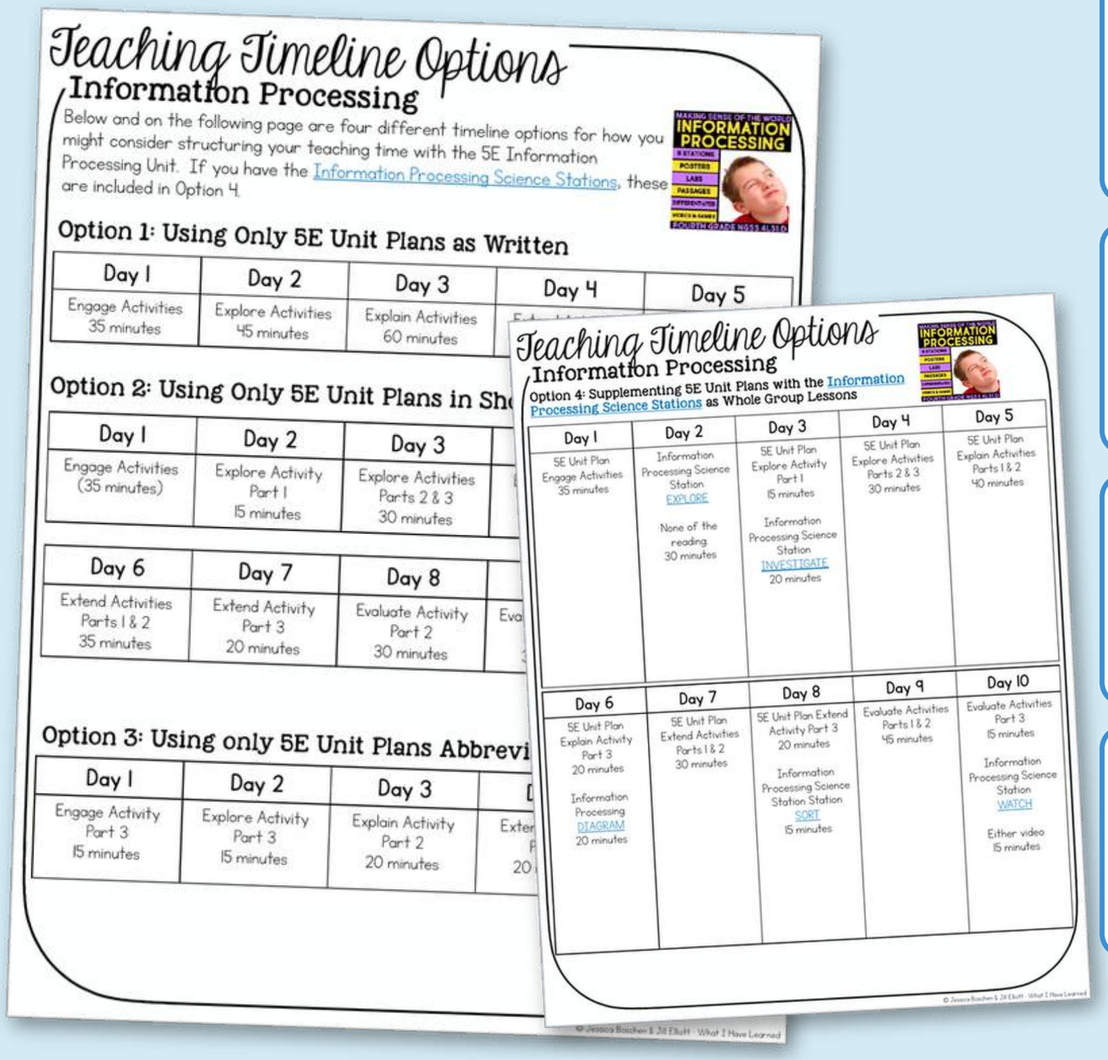
Big idea posters on sensory systems, stimuli, nerves, and how animals process information.

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 Information Processing 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 sensory 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	60 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	40 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**
15 min	15 min	20 min	20 min	15 min

Option 4 — 10 days
With Science Stations

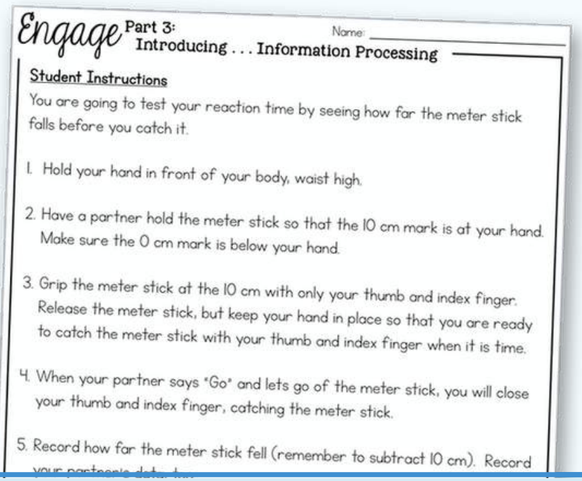
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Engage	**Explore Station**	**Explore 1**	**Explore 2-3**	**Explain 1-2**	**Explain 3**	**Diagram**	**Extend 1-2**	**Extend 3**	**Evaluate 1-2**
35 min	30 min	15 min	30 min	40 min	20 min	20 min	30 min	20 min +15 station	45 min +15 station

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 test reaction time, investigate animal senses, and model how information reaches the brain.


Engage Part 3: Introducing . . . Information Processing

Name: _____

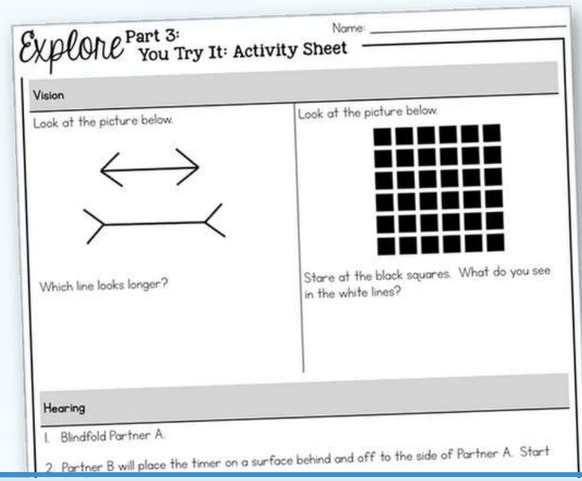
Student Instructions

You are going to test your reaction time by seeing how far the meter stick falls before you catch it.

1. Hold your hand in front of your body, waist high.
2. Have a partner hold the meter stick so that the 10 cm mark is at your hand. Make sure the 0 cm mark is below your hand.
3. Grip the meter stick at the 10 cm with only your thumb and index finger. Release the meter stick, but keep your hand in place so that you are ready to catch the meter stick with your thumb and index finger when it is time.
4. When your partner says "Go" and lets go of the meter stick, you will close your thumb and index finger, catching the meter stick.
5. Record how far the meter stick fell (remember to subtract 10 cm). Record

Planned and Ready to Teach

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


Explore Part 3: You Try It: Activity Sheet

Name: _____

Vision

Look at the picture below.

Which line looks longer?

Look at the picture below.

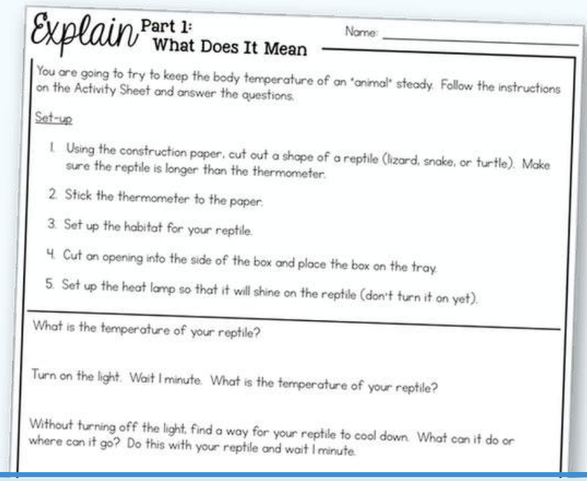
Stare at the black squares. What do you see in the white lines?

Hearing

1. Blindfold Partner A.
2. Partner B will place the timer on a surface behind and off to the side of Partner A. Start

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

Name: _____

You are going to try to keep the body temperature of an "animal" steady. Follow the instructions on the Activity Sheet and answer the questions.

Set-up

1. Using the construction paper, cut out a shape of a reptile (lizard, snake, or turtle). Make sure the reptile is longer than the thermometer.
2. Stick the thermometer to the paper.
3. Set up the habitat for your reptile.
4. Cut an opening into the side of the box and place the box on the tray.
5. Set up the heat lamp so that it will shine on the reptile (don't turn it on yet).

What is the temperature of your reptile?

Turn on the light. Wait 1 minute. What is the temperature of your reptile?

Without turning off the light, find a way for your reptile to cool down. What can it do or where can it go? Do this with your reptile and wait 1 minute.

TEACHERS LOVE IT!

★★★★★

Thank you so much for this, it was so helpful in our unit.

Teach Like A Wildflower



★★★★★

I used this with my 4th graders. It helped them to be engaged and pull from previous knowledge of my 5 senses.

Kristy M.

★★★★★

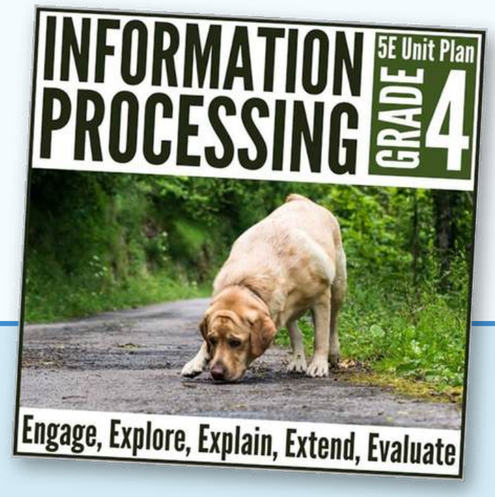
Another well designed and engaging science unit! My science lessons have never been better!

Jayne M.



READY FOR YOUR CLASSROOM

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

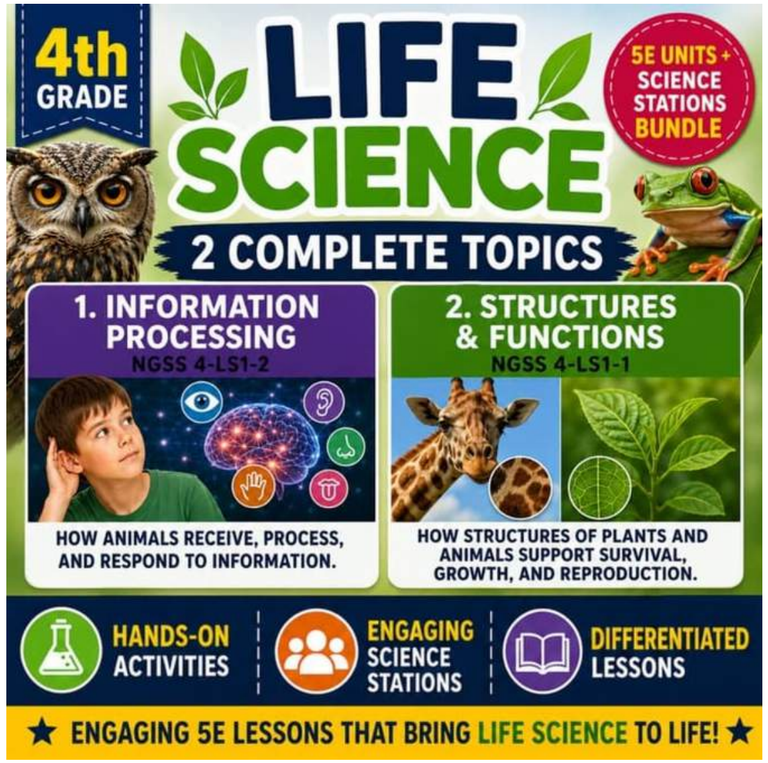


WANT MORE 4TH GRADE 5E UNITS?

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

TOPIC BUNDLE

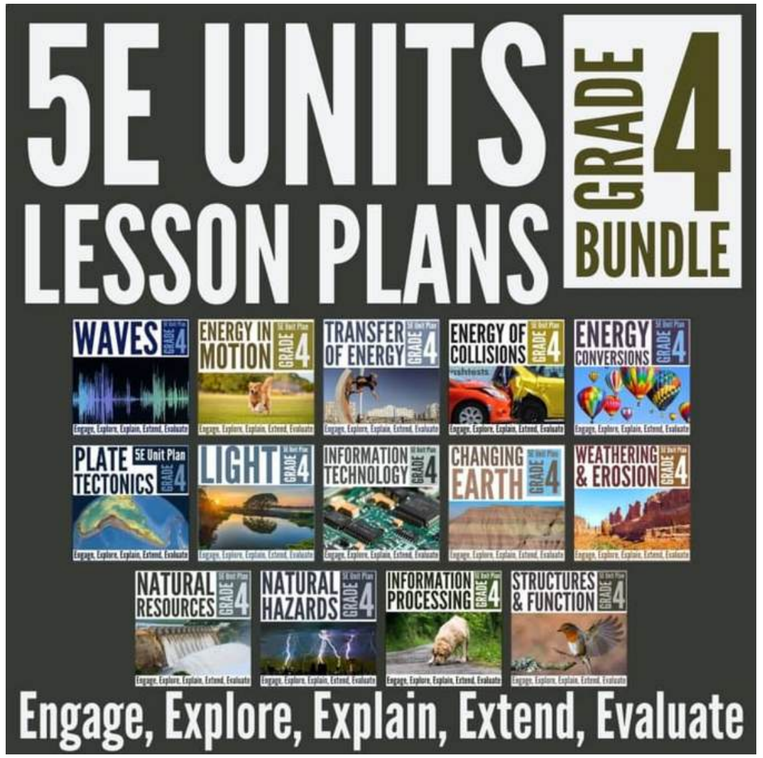
GOOD VALUE



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