


A Complete 5E Science Unit with Lesson Plans

3RD GRADE

# PLANT & ANIMAL

# ADAPTATIONS

## Engage, Explore, Explain, Extend, Evaluate

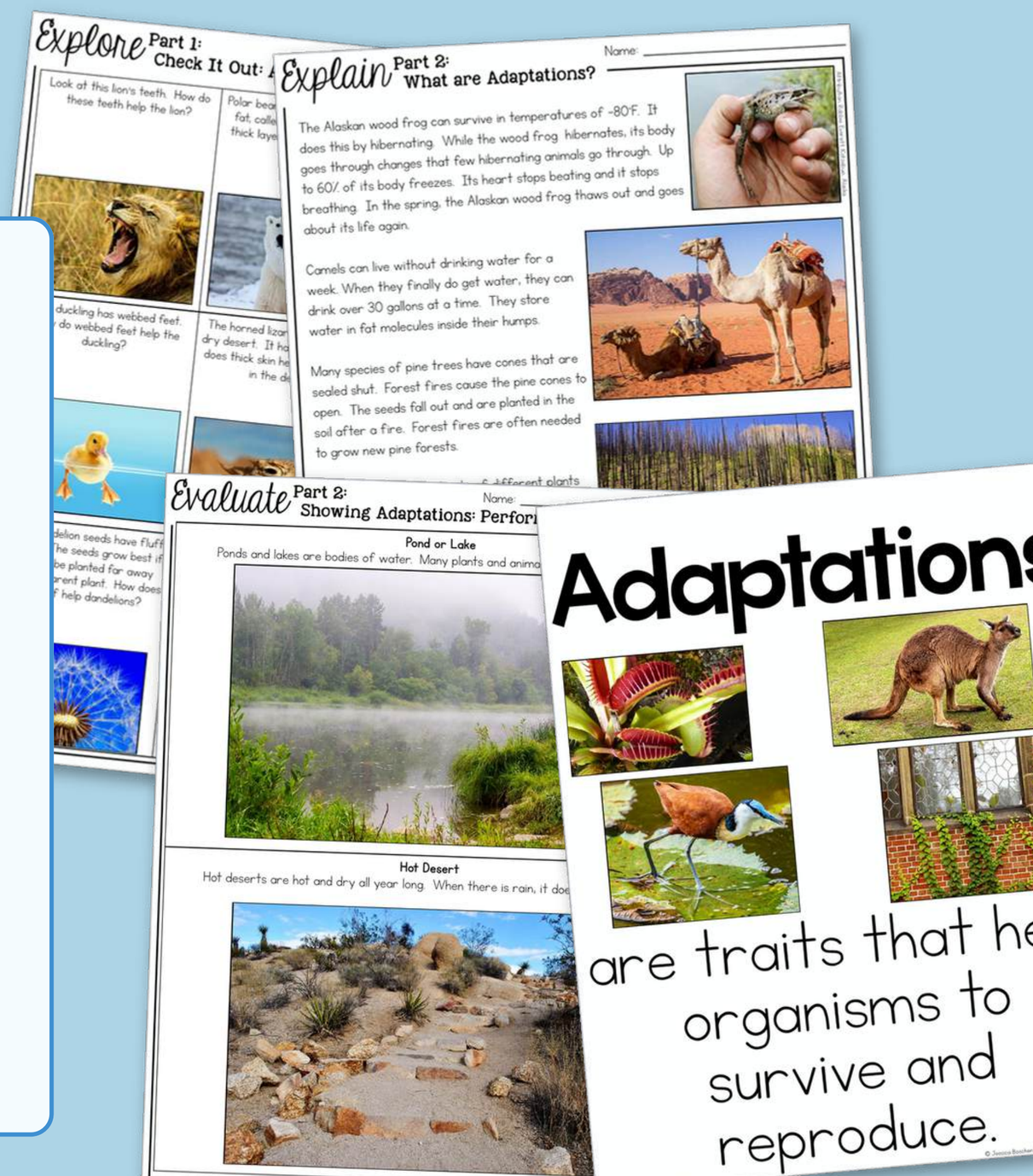
## NGSS 3-LS4-3

KEEP SCROLLING TO SEE WHAT'S INSIDE!

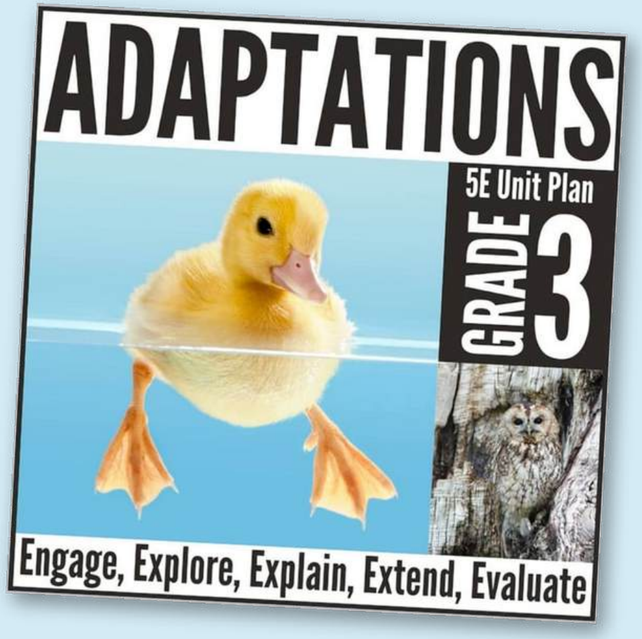
# WHAT'S INCLUDED

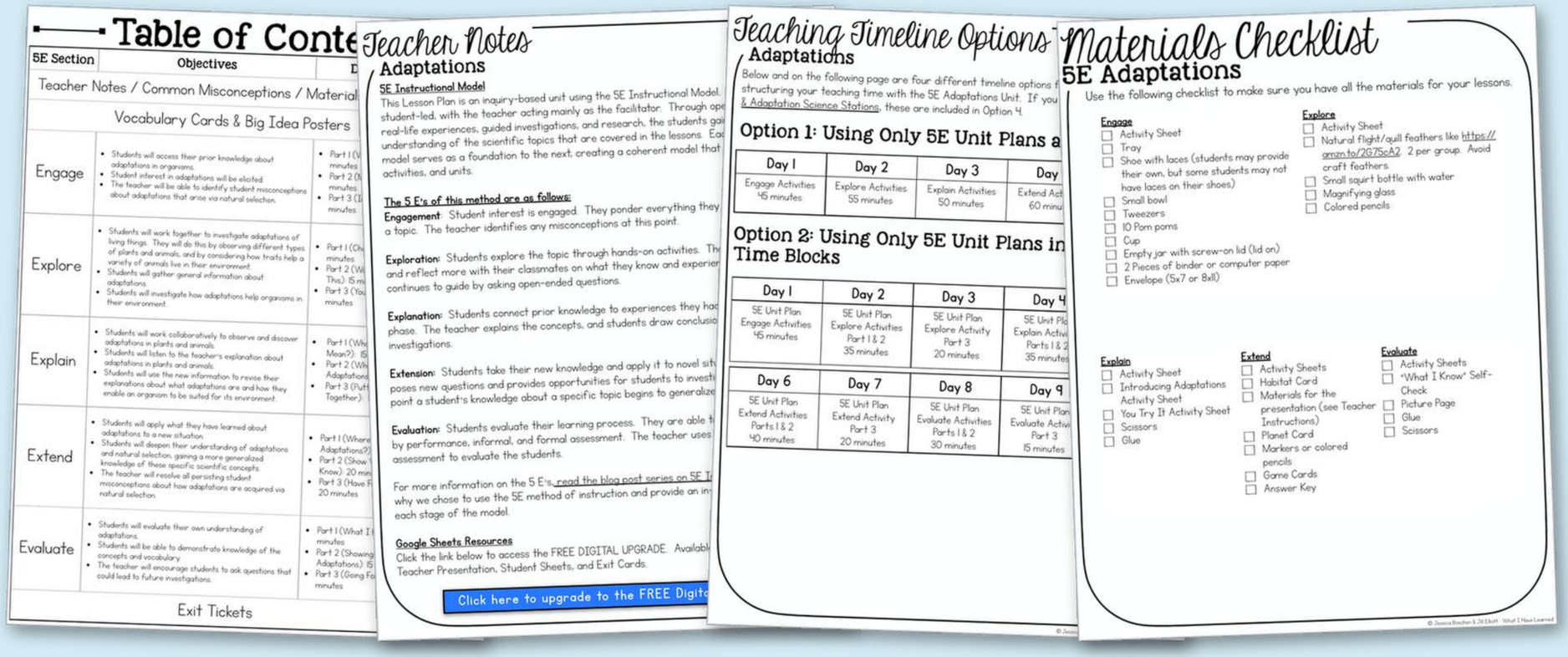
## 5E ADAPTATIONS UNIT

- 240+ 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 Adaptations
- 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

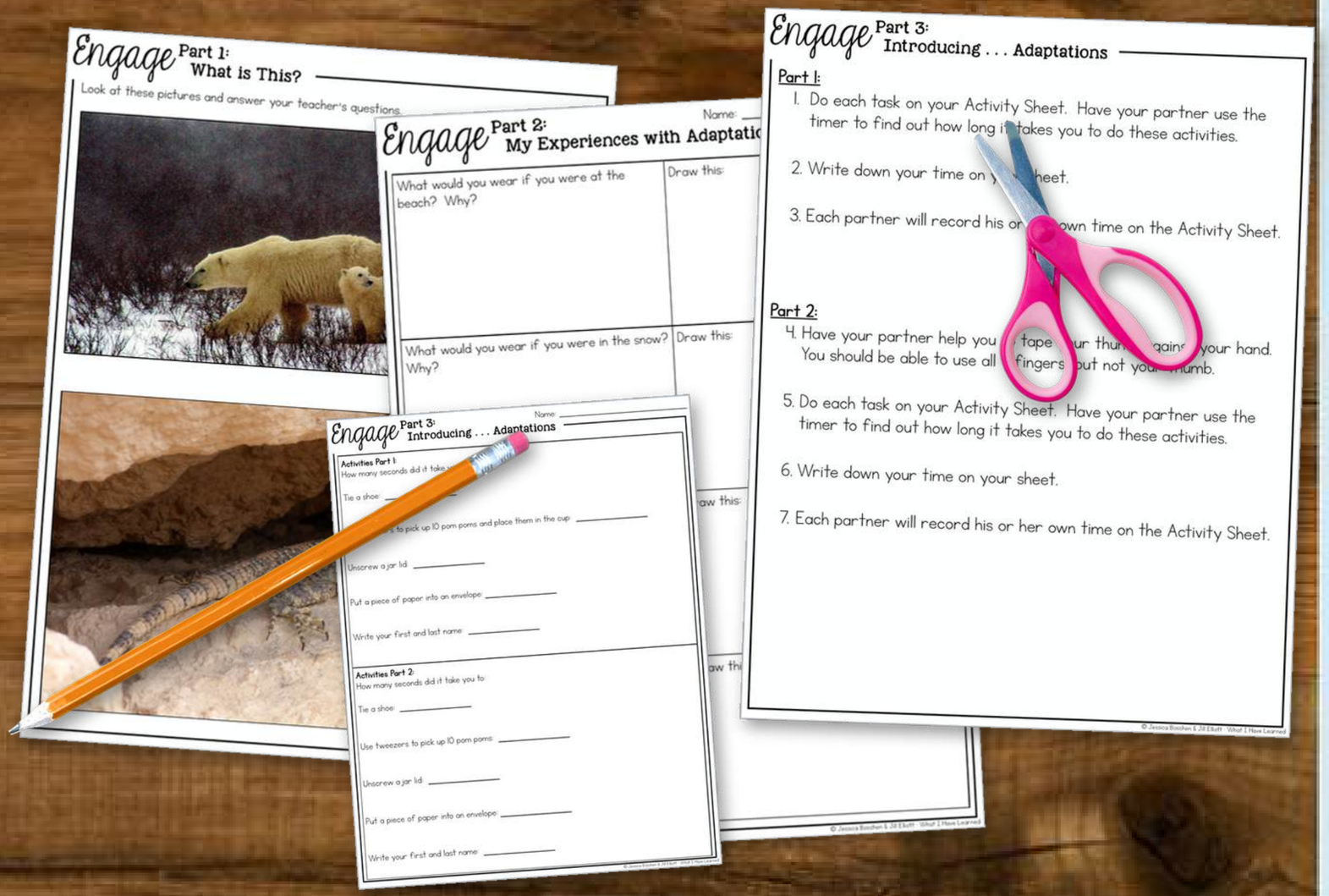



- Students tie shoes with taped thumbs, test oiled feathers, and invent a planet.
- Teacher background, lesson plans, and student pages in every phase.
- Aligned to NGSS 3-LS4-3.

**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 taped thumbs

### 1 What Is This?

Students look at animals in snow, desert, and rock habitats and tell how each is suited to live there.

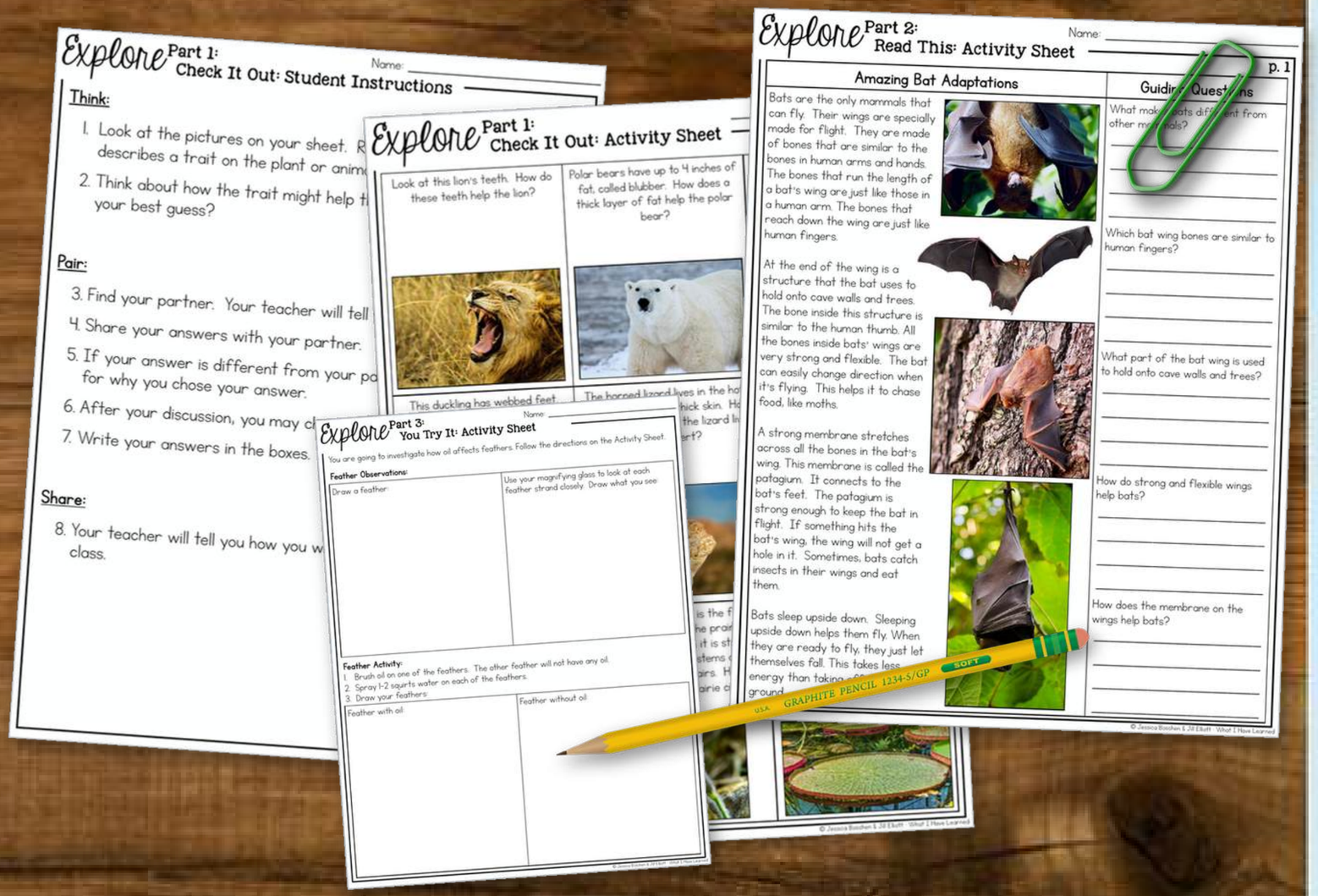
### 2 My Experiences

Students decide what they would wear in the snow, desert, and rainforest and why.

### 3 Introducing Adaptations

Students tie a shoe, use tweezers, and open a jar with and without their thumbs.

# EXPLORE




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

E E E E E

## Investigate how traits help organisms survive

### 1 Check It Out

Students look at lion teeth, polar bear blubber, and hummingbird beaks and tell how each trait helps.

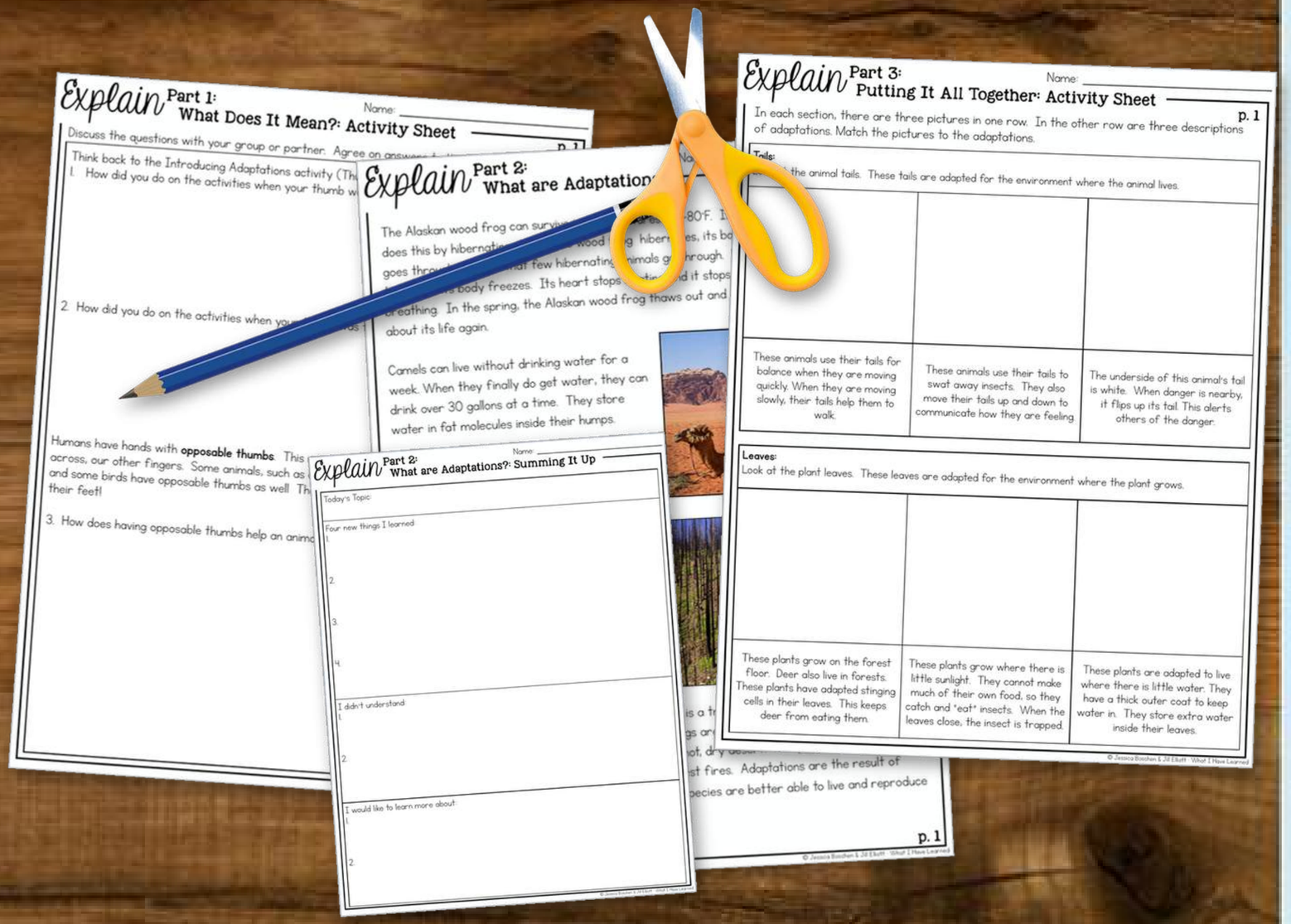
### 2 Watch and Read This

Students read about amazing bat adaptations.

### 3 You Try It

Students test how oil affects feathers with a magnifying glass.

# 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 connect the thumb activity to how adaptations help animals.

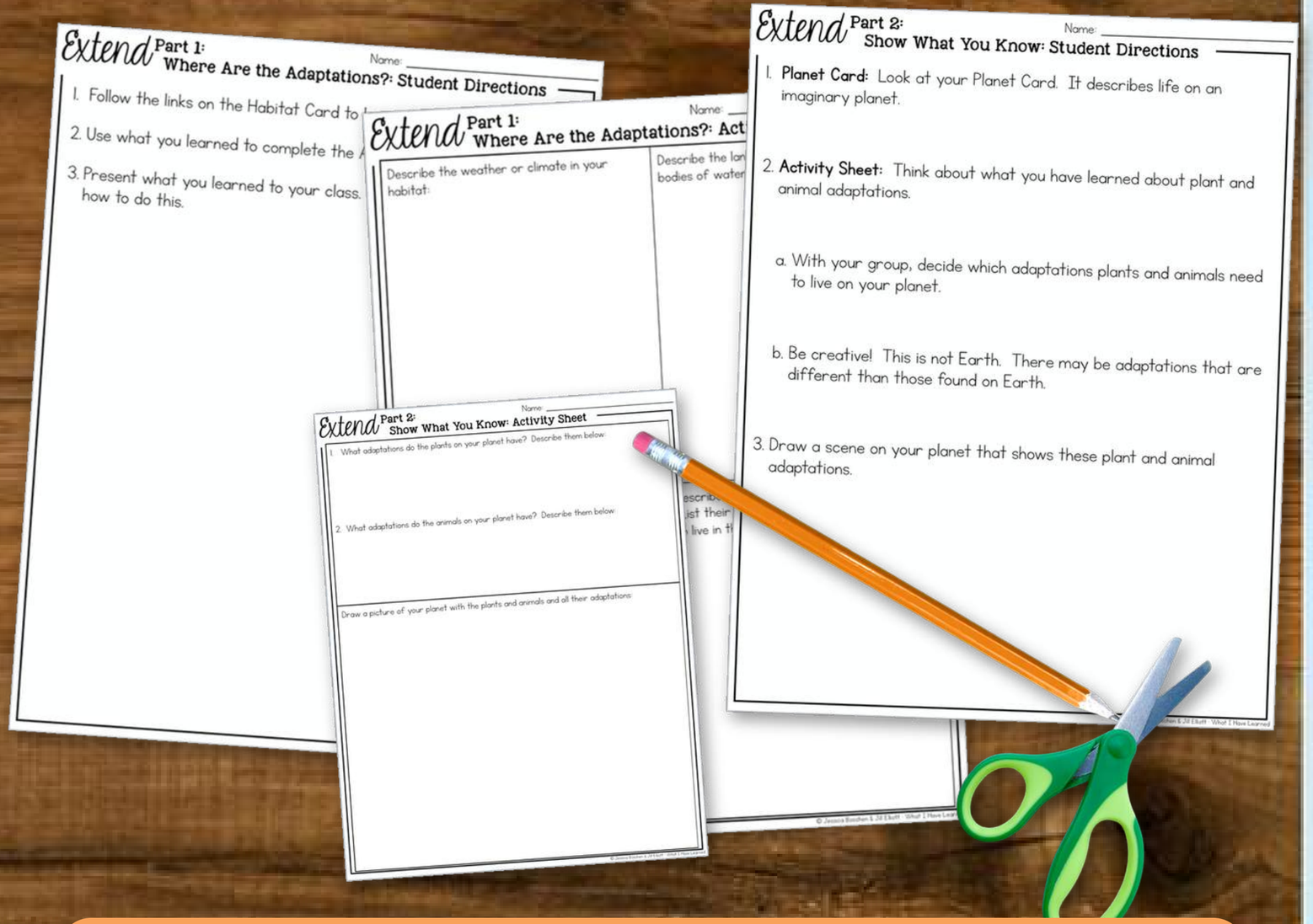
### 2 What Are Adaptations?

Students read about wood frogs, camels, pine trees, and humpback whales and sum up what they learned.

### 3 Putting It All Together

Students match pictures of tails and leaves to the habitats they are adapted for.

# EXTEND




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

E E E E E

## Apply adaptations to new habitats

### 1 Where Are the Adaptations?

Students research a habitat and present the plants, animals, and adaptations they find.

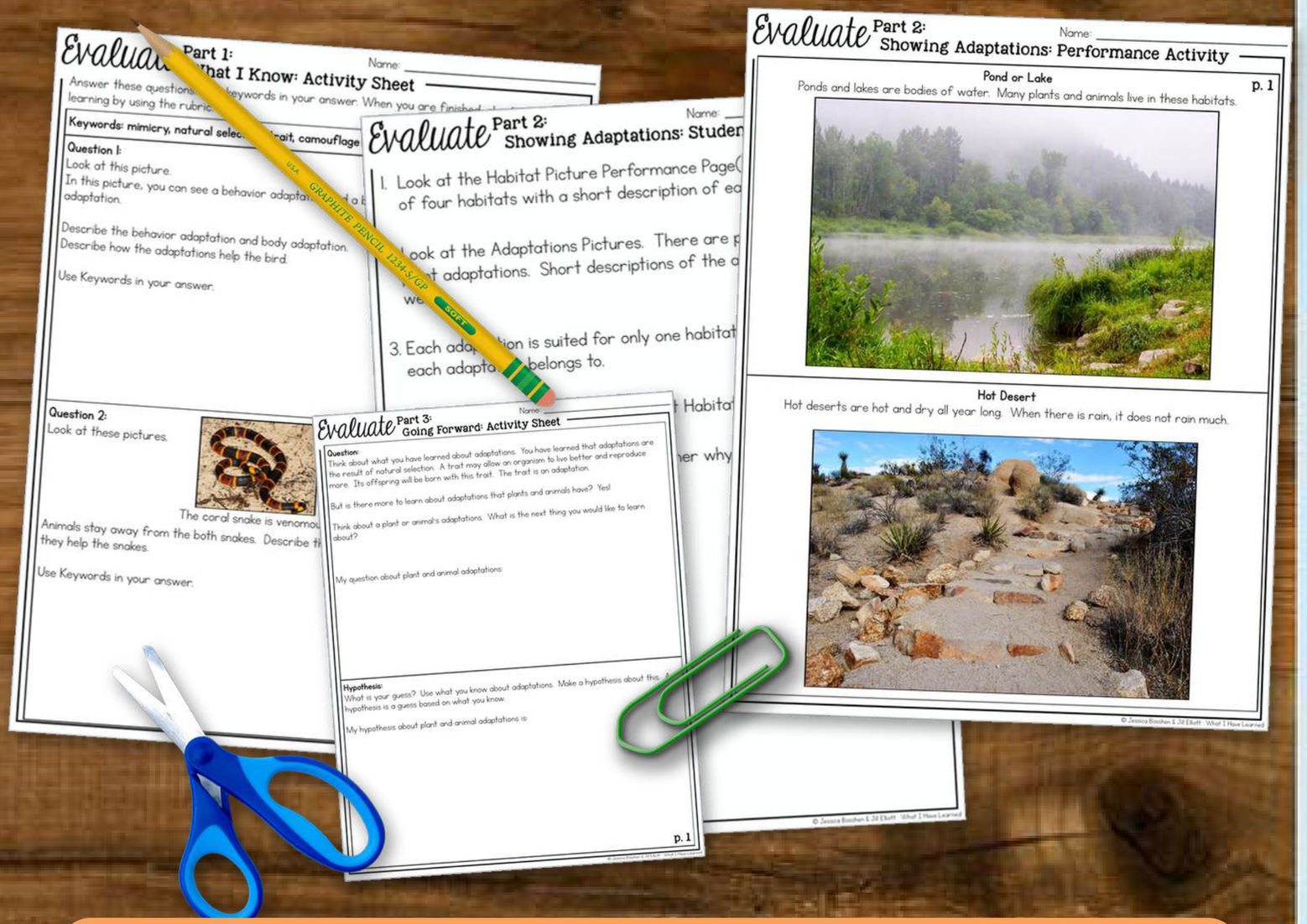
### 2 Show What You Know

Students invent adaptations for plants and animals on an imaginary planet.

### 3 Have Fun With It

Students play a card matching game with a referee holding the answer key.

# EVALUATE




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

E E E E E

## Check understanding with evidence

### 1 What I Know

Students describe a behavior adaptation and a body adaptation and score themselves with a rubric.

### 2 Showing Adaptations

Students place adaptation pictures on the habitat page where each one belongs.

### 3 Going Forward

Students write a new question and hypothesis about adaptations.

# VOCABULARY, POSTERS & EXIT TICKETS

## VOCABULARY CARDS



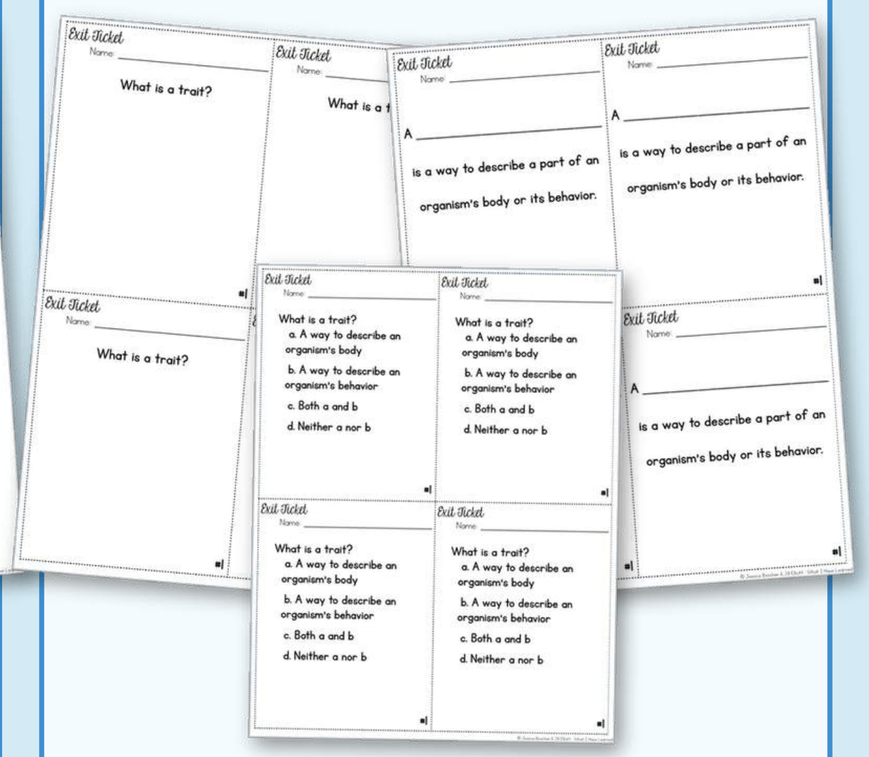

Picture cards and word cards for adaptation, natural selection, camouflage, mimicry, and trait.

## BIG IDEA POSTERS



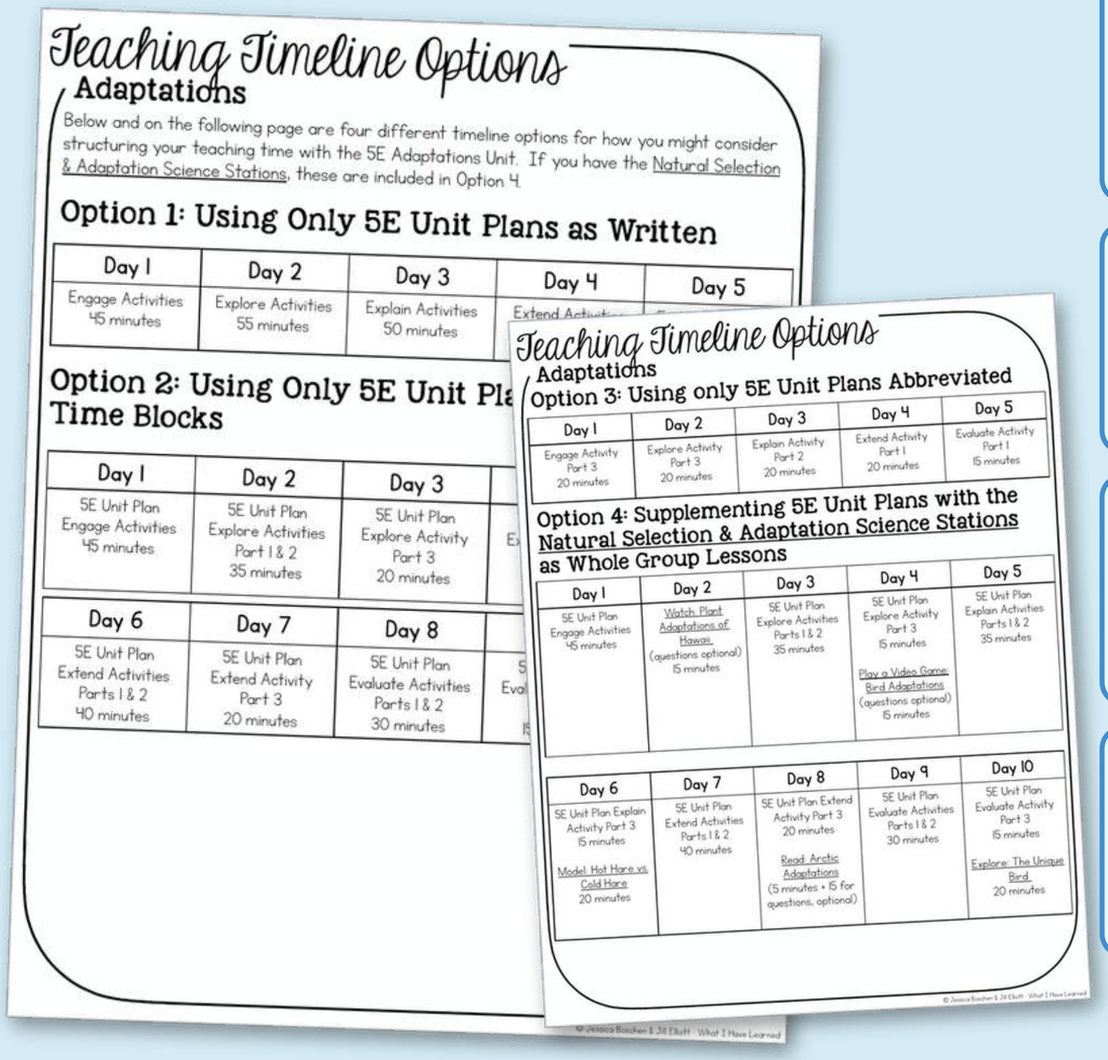

Six posters on adaptations, body adaptations, and behavior adaptations.

## EXIT TICKETS




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

# WAYS TO USE IN YOUR CLASSROOM



Teaching Timeline Options

Adaptations

Below and on the following page are four different timeline options for how you might consider structuring your teaching time with the 5E Adaptations Unit. If you have the Natural Selection & Adaptation 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 55 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 45 minutes | 5E Unit Plan Explore Activities Part 1 & 2 35 minutes | 5E Unit Plan Explore Activity Part 3 20 minutes | E... |

| Day 6 | Day 7 | Day 8 | |
|---|---|---|---|
| 5E Unit Plan Extend Activities Parts 1 & 2 40 minutes | 5E Unit Plan Extend Activity Part 3 20 minutes | 5E Unit Plan Evaluate Activities Parts 1 & 2 30 minutes | Eva... 15 |



Teaching Timeline Options

Adaptations

Option 3: Using only 5E Unit Plans Abbreviated

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

Option 4: Supplementing 5E Unit Plans with the Natural Selection & Adaptation Science Stations as Whole Group Lessons

| Day 1 | Day 2 | Day 3 | Day 4 | Day 5 |
|---|---|---|---|---|
| 5E Unit Plan Engage Activities 45 minutes | Watch: Plant Adaptations of Hawaii (questions optional) 15 minutes | 5E Unit Plan Explore Activities Parts 1 & 2 35 minutes | 5E Unit Plan Explore Activity Part 3 15 minutes<br>Play a Video Game: Bird Adaptations (questions optional) 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 Explain Activity Part 3 15 minutes<br>Model: Hot Hare vs. Cold Hare 20 minutes | 5E Unit Plan Extend Activities Parts 1 & 2 40 minutes | 5E Unit Plan Extend Activity Part 3 20 minutes<br>Read: Arctic Adaptations (5 minutes + 15 for questions, optional) | 5E Unit Plan Evaluate Activities Parts 1 & 2 30 minutes | 5E Unit Plan Evaluate Activity Part 3 15 minutes<br>Explore: The Unique Bird 20 minutes |

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**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 9 days in shorter time blocks when science minutes are limited.

**3**

## Alongside Science Stations

Add the Natural Selection and Adaptation 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 | 55 min | 50 min | 60 min | 45 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 1-2** | **Explore 3** | **Explain 1-2** | **Explain 3** | **Extend 1-2** | **Extend 3** | **Evaluate 1-2** | **Evaluate 3** |
| 45 min | 35 min | 20 min | 35 min | 15 min | 40 min | 20 min | 30 min | 15 min |

## Option 3 — 5 days
Abbreviated

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

## Option 4 — 10 days
With Science Stations

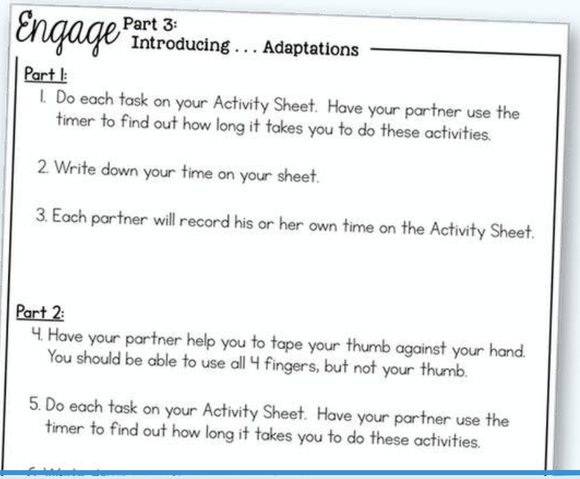
| Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 | Day 7 | Day 8 | Day 9 | Day 10 |
|---|---|---|---|---|---|---|---|---|---|
| **Engage** | **Watch** | **Explore 1-2** | **Explore 3** | **Explain 1-2** | **Explain 3** | **Extend 1-2** | **Extend 3** | **Evaluate 1-2** | **Evaluate 3** |
| 45 min | 15 min | 35 min | 15 min +15 station | 35 min | 15 min +20 station | 40 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 tape their thumbs, test oiled feathers, and invent a planet, so adaptations make sense.



Engage Part 3: Introducing . . . Adaptations

Part 1:

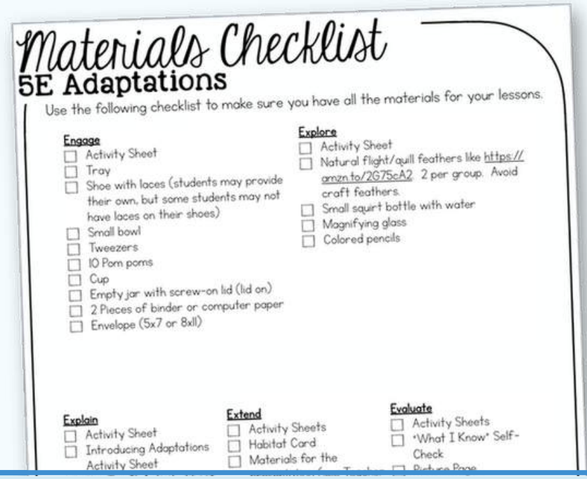
1. Do each task on your Activity Sheet. Have your partner use the timer to find out how long it takes you to do these activities.
2. Write down your time on your sheet.
3. Each partner will record his or her own time on the Activity Sheet.

Part 2:

4. Have your partner help you to tape your thumb against your hand. You should be able to use all 4 fingers, but not your thumb.
5. Do each task on your Activity Sheet. Have your partner use the timer to find out how long it takes you to do these activities.

## Planned and Ready to Teach

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



Materials Checklist

5E Adaptations

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

**Engage**
- ☐ Activity Sheet
- ☐ Tray
- ☐ Shoe with laces (students may provide their own, but some students may not have laces on their shoes)
- ☐ Small bowl
- ☐ Tweezers
- ☐ 10 Pom poms
- ☐ Cup
- ☐ Empty jar with screw-on lid (lid on)
- ☐ 2 Pieces of binder or computer paper
- ☐ Envelope (5x7 or 8x11)

**Explore**
- ☐ Activity Sheet
- ☐ Natural flight/quill feathers like https://amzn.to/2G75cA2 2 per group. Avoid craft feathers.
- ☐ Small squirt bottle with water
- ☐ Magnifying glass
- ☐ Colored pencils

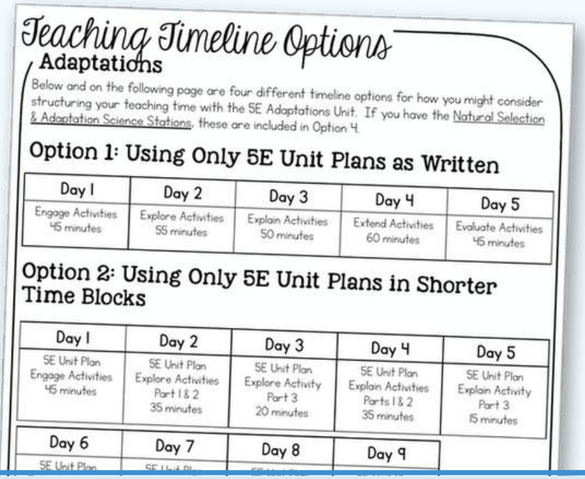
**Explain**
- ☐ Activity Sheet
- ☐ Introducing Adaptations Activity Sheet

**Extend**
- ☐ Activity Sheets
- ☐ Habitat Card
- ☐ Materials for the

**Evaluate**
- ☐ Activity Sheets
- ☐ "What I Know" Self-Check

## Fits Your Schedule

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



Teaching Timeline Options

Adaptations

Below and on the following page are four different timeline options for how you might consider structuring your teaching time with the 5E Adaptations Unit. If you have the Natural Selection & Adaptation 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 55 minutes | Explain Activities 50 minutes | Extend Activities 60 minutes | Evaluate Activities 45 minutes |

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 45 minutes | 5E Unit Plan Explore Activities Part 1 & 2 35 minutes | 5E Unit Plan Explore Activity Part 3 20 minutes | 5E Unit Plan Explain Activities Parts 1 & 2 35 minutes | 5E Unit Plan Explain Activity Part 3 15 minutes |

| Day 6 | Day 7 | Day 8 | Day 9 |
|---|---|---|---|
| 5E Unit Plan | | | |

# TEACHERS LOVE IT!

★★★★★

*This is a great resource. It has everything that you need to teach students about adaptations.*

**Elizabeth L.**

★★★★★

*The students loved this resource! Wonderful hands on lesson for my students.*

**Deann M.**

★★★★★

*This product is so well laid out and easy to use.*

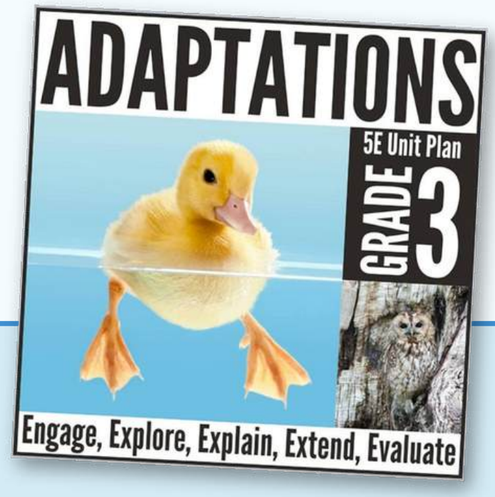
**Danielle Lutkenhaus**





## READY FOR YOUR CLASSROOM

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

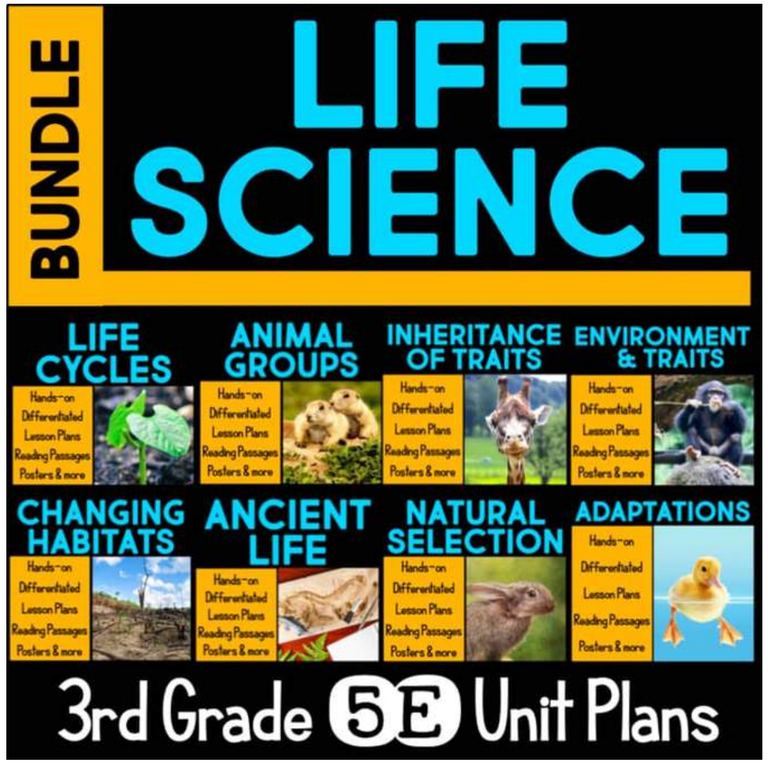


# WANT MORE 3RD GRADE 5E UNITS?

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

## TOPIC BUNDLE

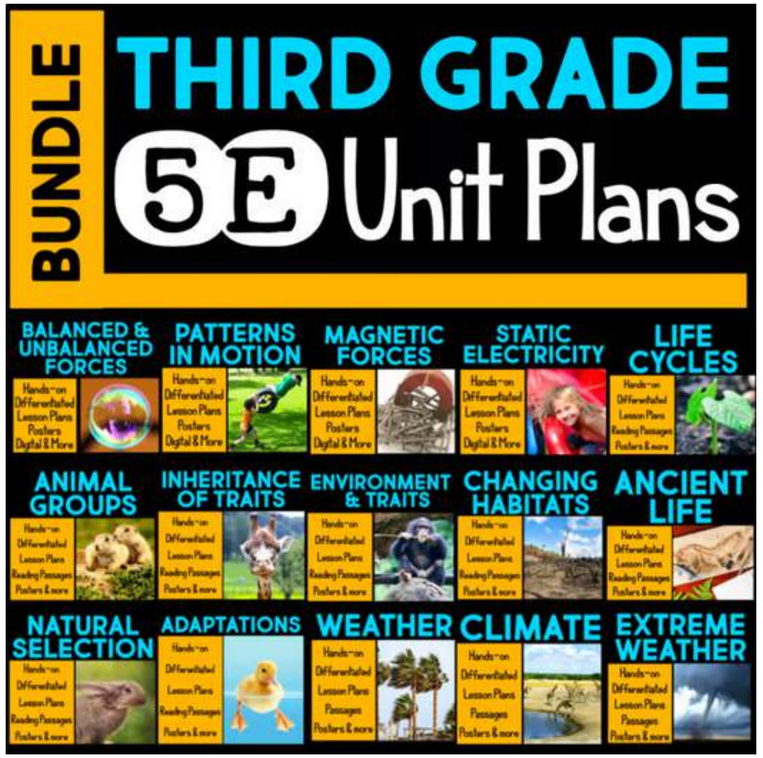
GOOD VALUE




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