

**3RD
GRADE**

**A Complete 5E Science
Unit with Lesson Plans**

PREVIEW

ENVIRONMENT & TRAITS

5E Unit Plan
GRADE 3



Engage, Explore, Explain, Extend, Evaluate

ENVIRONMENT

& TRAITS

**Engage, Explore, Explain,
Extend, Evaluate
NGSS 3-LS3-2**



KEEP SCROLLING TO SEE WHAT'S INSIDE!

WHAT'S INCLUDED

5E ENVIRONMENT & TRAITS UNIT

- ✓ **190+ 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 Acquired and Learned Traits**
- ✓ **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 watch chimps learn, grow plants in different conditions, and sort traits.
- Teacher background, lesson plans, and student pages in every phase.
- Aligned to NGSS 3-LS3-2.

Table of Contents

5E Section	Objectives	D
Teacher Notes / Common Misconceptions / Materials		
Vocabulary Cards & Big Idea Posters		
Engage	<ul style="list-style-type: none">Students will access their prior knowledge about how the environment affects the traits of living things.Student interest in environment effects on traits will be elicited.The teacher will be able to identify student misconceptions about trait change from environmental factors.	<ul style="list-style-type: none">Part 1 (V minutes)Part 2 (N minutes)Part 3 (I minutes)
Explore	<ul style="list-style-type: none">Students will work together to investigate traits of living things. They will do this by observing different types of plants and animals, comparing and contrasting traits.Students will gather general information about traits that are acquired from their surroundings.Students will begin to think about traits that organisms inherit versus those that are acquired over time.Students will analyze and interpret data to provide evidence that organisms have traits that are acquired from their environment.	<ul style="list-style-type: none">Part 1 (Ch minutes)Part 2 (W minutes)Part 3 (You minutes)
Explain	<ul style="list-style-type: none">Students will work collaboratively to observe and discover more traits acquired from the environment.Students will listen to the teacher's explanation about acquisition of traits.Students will use the new information to revise their explanations about traits acquired from the environment.	<ul style="list-style-type: none">Part 1 (What Mean?) 20Part 2 (How Change?) 20Part 3 (Putts Together) 20
Extend	<ul style="list-style-type: none">Students will apply what they have learned about traits to a new situation.Students will deepen their understanding of traits, gaining a more generalized knowledge of these specific scientific concepts.The teacher will resolve all persisting student misconceptions about how traits are acquired versus inherited.	<ul style="list-style-type: none">Part 1 (Where Traits?) 20Part 2 (Show Know) 20 minPart 3 (Have F 20 minutes)
Evaluate	<ul style="list-style-type: none">Students will evaluate their own understanding of how traits can be changed by the environment.Students will be able to demonstrate knowledge of the concepts and vocabulary.The teacher will encourage students to ask questions that could lead to future investigations.	<ul style="list-style-type: none">Part 1 (What I minutes)Part 2 (Showing 15 minutes)Part 3 (Gong For minutes)
Exit Tickets		

Teacher Notes

Environment & Traits

5E Instructional Model

This Lesson Plan is an inquiry-based unit using the 5E Instructional Model. Through open student-led, with the teacher acting mainly as the facilitator. Through open real-life experiences, guided investigations, and research, the students gain understanding of the scientific topics that are covered in the lessons. Each model serves as a foundation to the next, creating a coherent model that activities, and units.

The 5 E's of this method are as follows:

Engagement: Student interest is engaged. They ponder everything they a topic. The teacher identifies any misconceptions at this point.

Exploration: Students explore the topic through hands-on activities. They and reflect more with their classmates on what they know and experier continues to guide by asking open-ended questions.

Explanation: Students connect prior knowledge to experiences they had phase. The teacher explains the concepts, and students draw conclusion investigations.

Extension: Students take their new knowledge and apply it to novel situations new questions and provides opportunities for students to investigate point a student's knowledge about a specific topic begins to generalize.

Evaluation: Students evaluate their learning process. They are able to by performance, informal, and formal assessment. The teacher uses assessment to evaluate the students.

For more information on the 5 E's, read the blog post series on 5E T why we chose to use the 5E method of instruction and provide an in each stage of the model.

Google Sheets Resources

Click the link below to access the FREE DIGITAL UPGRADE. Available Teacher Presentation, Student Sheets, and Exit Cards.

[Click here to upgrade to the FREE Digital](#)

Teaching Timeline Options

Environment & Traits

Below and on the following page are four different timeline options for structuring your teaching time with the 5E Environment and Traits Unit. Inheritance and Variation of Traits Science Stations, these are included.

Option 1: Using Only 5E Unit Plans a

Day 1	Day 2	Day 3	Day 4
Engage Activities 45 minutes	Explore Activities 55 minutes	Explain Activities 60 minutes	Extend Activities 60 minutes

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

Day 1	Day 2	Day 3	Day 4
5E Unit Plan Engage Activities 45 minutes	5E Unit Plan Explore Activities Parts 1 & 2 35 minutes	5E Unit Plan Explain Activity Part 3 20 minutes	5E Unit Plan Extend Activities Parts 1 & 2 40 minutes
Day 6	Day 7	Day 8	Day 9
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	5E Unit Plan Evaluate Activity Part 3 15 minutes

Materials Checklist

5E Environment & Traits

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

Engage	Explore
☐ Activity Sheets	☐ Activity sheets
☐ Instruction Cards	☐ Picture Sheet
☐ Per group: 4 plant starts of the same species--small ones, such as from a plant 6-pack or flat	☐ Scissors
☐ Per group: 4 Four-inch plant pots (such as http://amazon.to/2HtK7Gv). Make sure there are holes in the bottoms of the pots for drainage.	☐ Glue
☐ Soil	☐ Per group: 1/4 cup (2 oz) dough per group (such as the small container of play-doh; more if you do the optional extension activity)
☐ Per group: Something to scoop soil (spade, shovel, scoop, large spoon, cup)	☐ Tray
☐ Labels for the pots (sticker labels, masking tape, etc.)	
☐ Water	
☐ Salt	
☐ 2 Fertilizer spikes (like http://amazon.to/2GcaGGD)	
☐ Box (big enough to hold the plant)	
☐ Tray and paper towels	
Explain	Extend
☐ Activity Sheets	☐ Activity Sheets
☐ Per student: juice pouch, straw removed (like http://amazon.to/2GcaGGD)	☐ Information Card
☐ Per student: cup	☐ Picture Cards
☐ Variety of tools (scissors, paper straws, large paper clips, etc.)	☐ Scissors
☐ Divider or display board (to hide a student)	☐ Glue
☐ Per group: 1/4 cup (2 oz) dough (such as the small container of play-doh; more if you do the optional extension activity)	☐ Optional: Highlighter
☐ Tray	☐ Per group: 4 different fruits and 4 different vegetables (see Teacher Notes about this)
	☐ Plastic knife
	☐ Tray
	☐ Optional: Bowls
	☐ Game Cards
	Evaluate
	☐ Activity Sheets
	☐ "What I Know" Self-Check
	☐ Glue
	☐ Scissors

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Teacher Notes

Timeline Options

Materials Checklist

ENGAGE



Spark curiosity with chimps and plants

1 What Is This?

Students look at a chimpanzee fishing with a stick and a dog at play and decide how they learned it.

2 My Experiences

Students think about what pets and plants need and what could change them.

3 Introducing Traits

Students set up plants in different conditions, like water, drought, light, and dark, and make a hypothesis.

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

EXPLORE



Investigate inherited and environmental traits

1

Check It Out

Students sort pictures into inherited traits and traits caused by the environment.

2

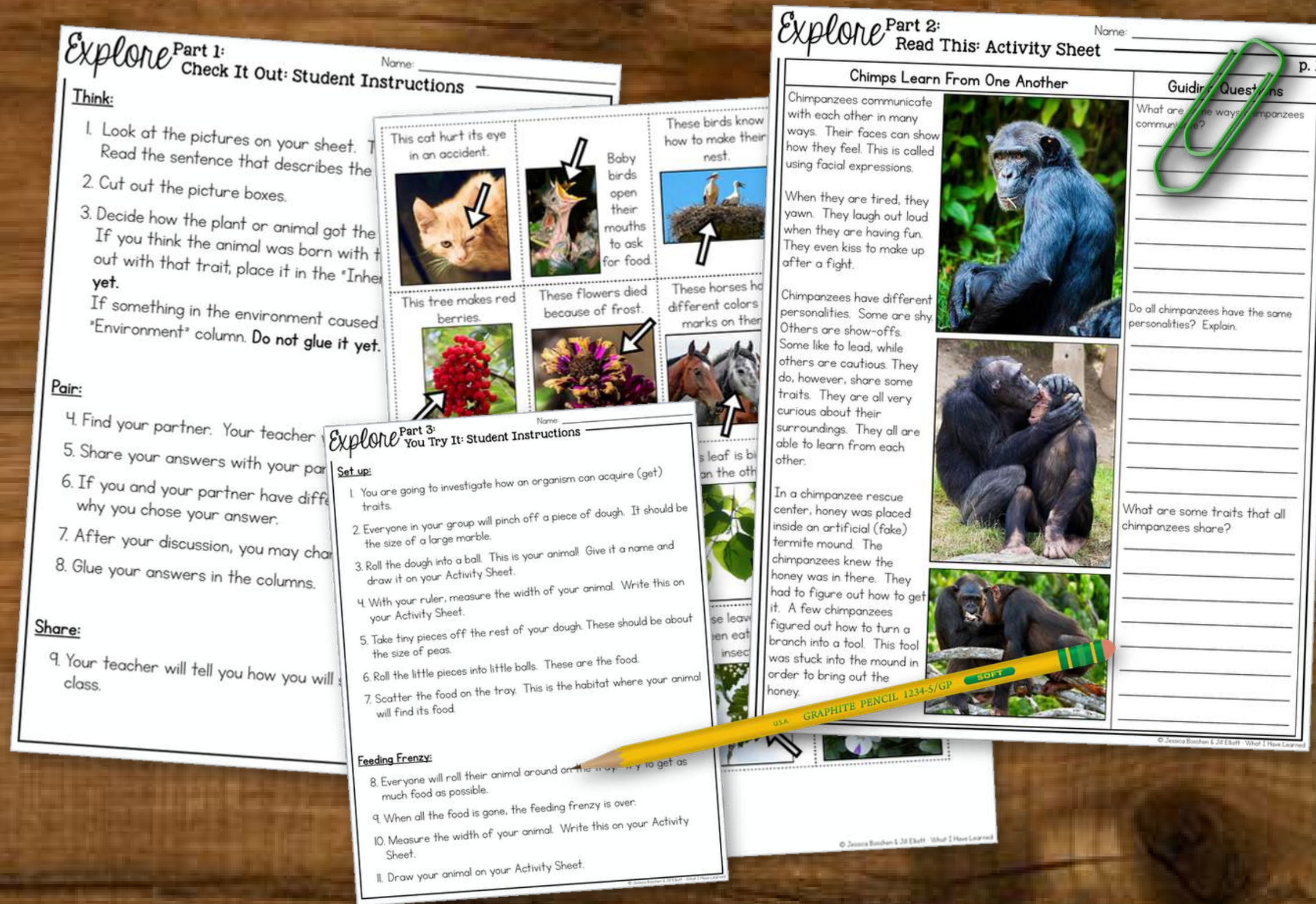
Watch and Read This

Students read how chimpanzees learn from one another.

3

You Try It

Students use dough animals in a feeding frenzy to see how an organism acquires traits.



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

EXPLAIN



Build explanations from evidence

1

What Does It Mean?

Students work out how to open a juice pouch and teach the group their method.

2

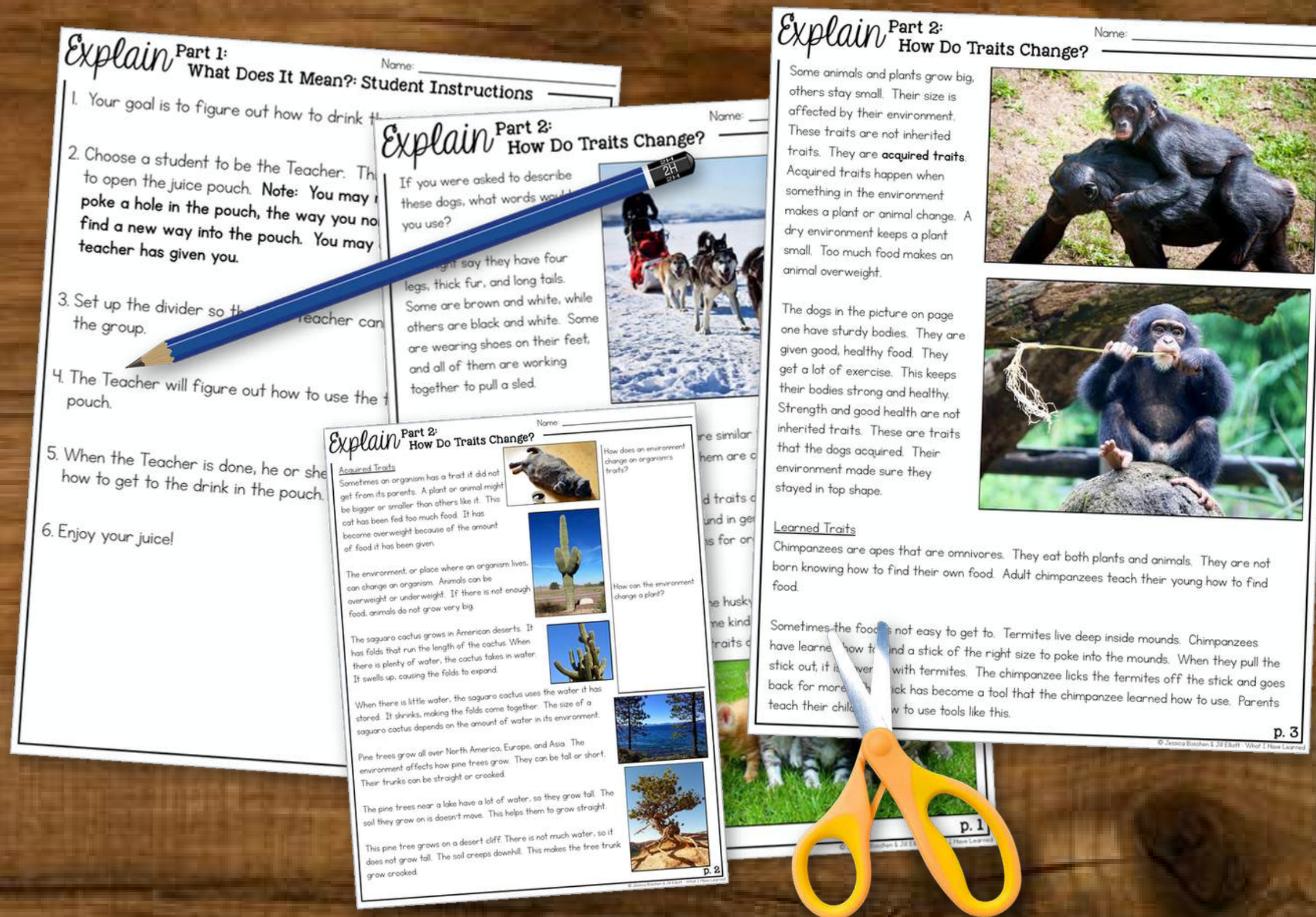
How Do Traits Change?

Students read about inherited, acquired, and learned traits and sum up what they learned.

3

Putting It All Together

Students compare their plants, measure growth, and draw what they found.



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

EXTEND

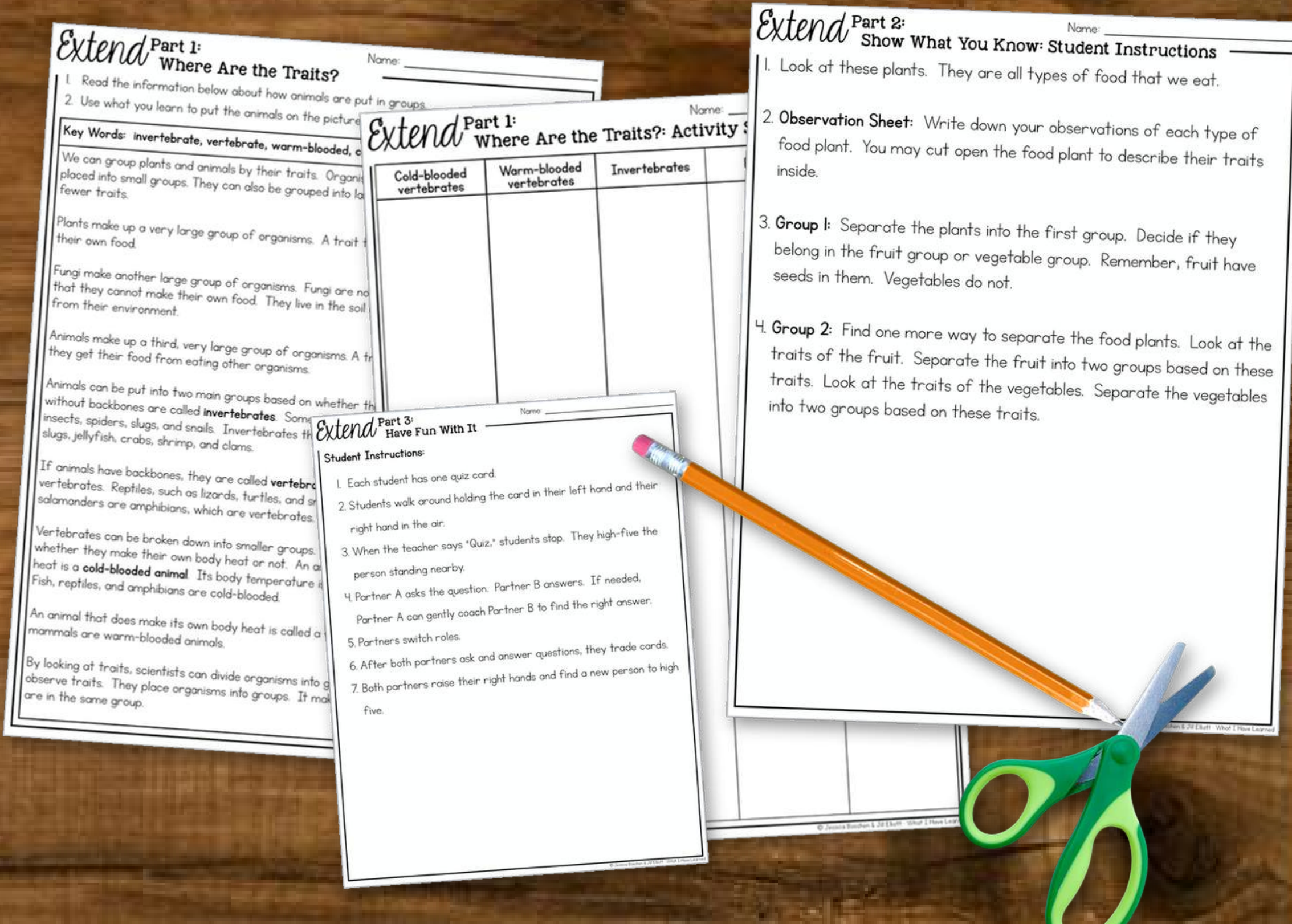


Apply traits to new organisms

1 Where Are the Traits?
Students sort organisms into cold-blooded, warm-blooded, invertebrates, plants, and fungi.

2 Show What You Know
Students observe fruits and vegetables and group them by their traits.

3 Have Fun With It
Students play a quiz card game with a partner, high-fives included.



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

EVALUATE



Check understanding with evidence

1 What I Know

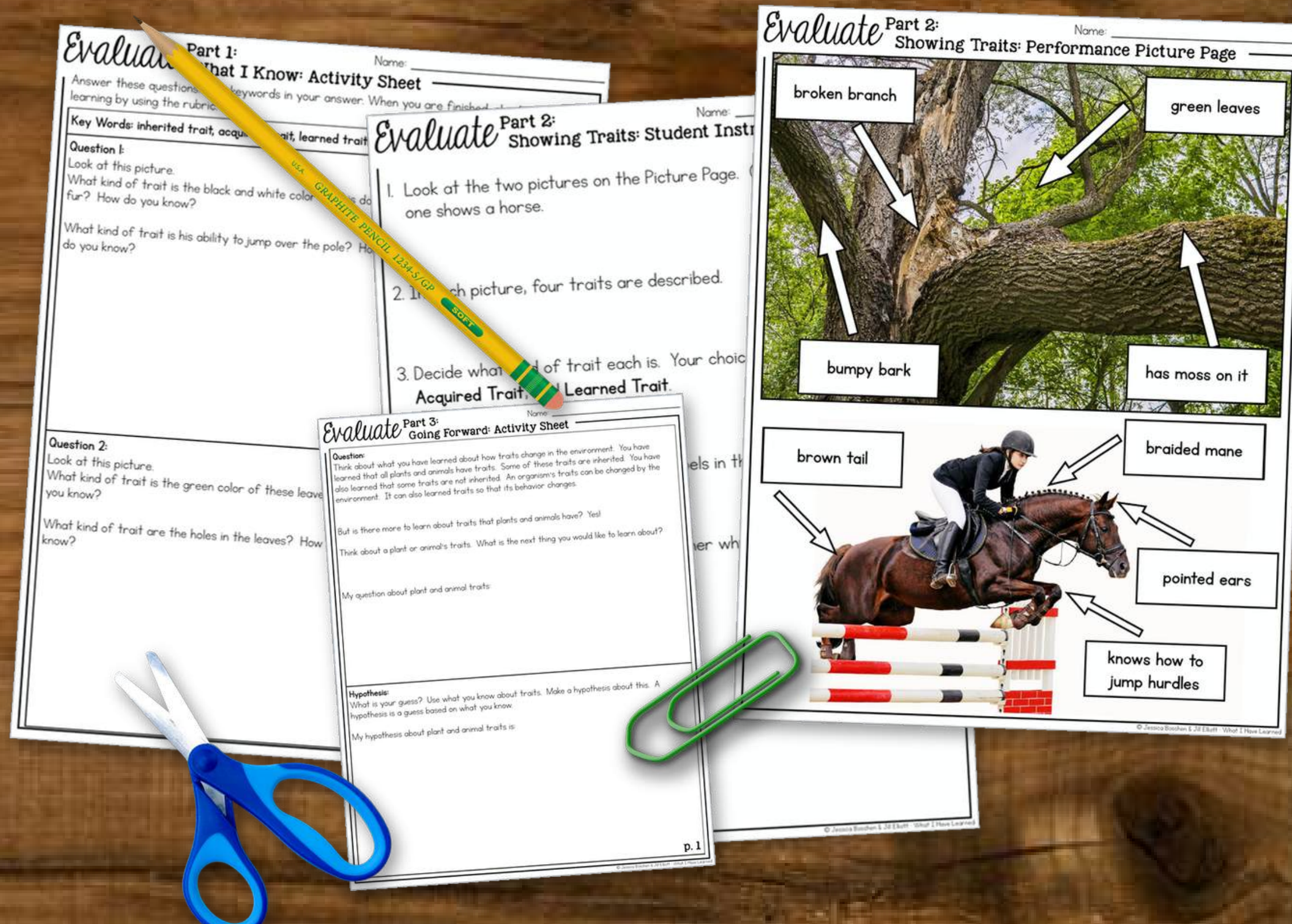
Students tell if a trait is inherited, acquired, or learned and score themselves with a rubric.

2 Showing Traits

Students label the traits of a tree and a horse as inherited, acquired, or learned.

3 Going Forward

Students write a new question and hypothesis about traits.



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

VOCABULARY, POSTERS & EXIT TICKETS

VOCABULARY CARDS



animals that do not produce their own heat

cold-blooded



animals that produce their own heat

warm-blooded



trait

a feature, a way to describe something

trait that is passed down from parent to offspring

Picture cards and word cards for trait, cold-blooded, warm-blooded, acquired trait, and more.

BIG IDEA POSTERS

Plants and animals have **traits**.

Traits are ways to describe plants and animals.

Some traits are **inherited**.



are passed from parents to offspring.

Some traits are **not inherited**.



These traits are not passed down from parents to offspring.

Four posters on traits, inherited traits, and traits that are not inherited.

EXIT TICKETS

Exit Ticket

Name: _____

What is a trait?

Exit Ticket

Name: _____

What is a trait?

Exit Ticket

Name: _____

A _____ is a feature that describes an organism.

Exit Ticket

Name: _____

A _____ is a feature that describes an organism.

Exit Ticket

Name: _____

What are inherited traits?

Exit Ticket

Name: _____

What are inherited traits?

Exit Ticket

Name: _____

What are inherited traits?

Exit Ticket

Name: _____

What are inherited traits?

Exit Ticket

Name: _____

A _____ is a feature that describes an organism.

Exit Ticket

Name: _____

A _____ is a feature that describes an organism.

9 exit tickets, each 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 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 Inheritance and Variation of Traits 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
Environment & Traits

Below and on the following page are four different timeline options for how you might consider structuring your teaching time with the 5E Environment and Traits Unit. If you have the Inheritance and Variation of Traits 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 60 minutes	Extend Activities 45 minutes	Evaluate Activities 45 minutes

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

Day 1	Day 2	Day 3	Day 4	Day 5
5E Unit Plan Engage Activities 45 minutes	5E Unit Plan Explore Activities Parts 1 & 2 35 minutes	5E Unit Plan Explain Activity Part 3 20 minutes	5E Unit Plan Extend Activities Parts 1 & 2 40 minutes	5E Unit Plan Evaluate Activities Part 3 20 minutes

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 Inheritance and Variation of Traits Science Stations as Whole Group Lessons

Day 1	Day 2	Day 3	Day 4	Day 5
5E Unit Plan Engage Activities 45 minutes	Inheritance and Variation of Traits Science Station: <u>Watch or Play</u> (any video or game not used in the Inheritance of Traits SE Unit - questions optional) 15 minutes	5E Unit Plan Explore Activities Parts 1 & 2 35 minutes	5E Unit Plan Explain Activity Part 3 20 minutes Inheritance and Variation of Traits Science Station: <u>Investigate Colors of Leaves</u> (No reading) 20 minutes	5E Unit Plan Evaluate Activities Parts 1 & 2 40 minutes

Day 6	Day 7	Day 8	Day 9	Day 10
5E Unit Plan Explain Activity Part 3 20 minutes	5E Unit Plan Extend Activities Parts 1 & 2 40 minutes	5E Unit Plan Extend Activity Part 3 20 minutes Inheritance and Variation of Traits Science Station: <u>Read: You Otter Eat</u> 20 minutes	5E Unit Plan Evaluate Activities Parts 1 & 2 30 minutes	5E Unit Plan Evaluate Activity Part 3 30 minutes Inheritance and Variation of Traits Science Station: <u>Diagram: Classify Organisms</u> 20 minutes

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TEACHING TIMELINE OPTIONS

Option 1 5 days

As Written

Day 1
Engage

45 min

Day 2
Explore

55 min

Day 3
Explain

60 min

Day 4
Extend

60 min

Day 5
Evaluate

45 min

Option 2 9 days

Shorter Time Blocks

Day 1
Engage

45 min

Day 2
Explore
1-2

35 min

Day 3
Explore
3

20 min

Day 4
Explain
1-2

40 min

Day 5
Explain
3

20 min

Day 6
Extend
1-2

40 min

Day 7
Extend
3

20 min

Day 8
Evaluate
1-2

30 min

Day 9
Evaluate
3

15 min

Option 3 5 days

Abbreviated

Day 1
Engage
3

20 min

Day 2
Explore
3

20 min

Day 3
Explain
2

20 min

Day 4
Extend
1

20 min

Day 5
Evaluate
1

15 min

Option 4 10 days

With Science Stations

Day 1
Engage

45 min

Day 2
Watch

15 min

Day 3
Explore
1-2

35 min

Day 4
Explore
3

20 min

+20 station

Day 5
Explain
1-2

40 min

Day 6
Explain
3

20 min

Day 7
Extend
1-2

40 min

Day 8
Extend
3

20 min

+20 station

Day 9
Evaluate
1-2

30 min

Day 10
Evaluate
3

15 min

+20 station

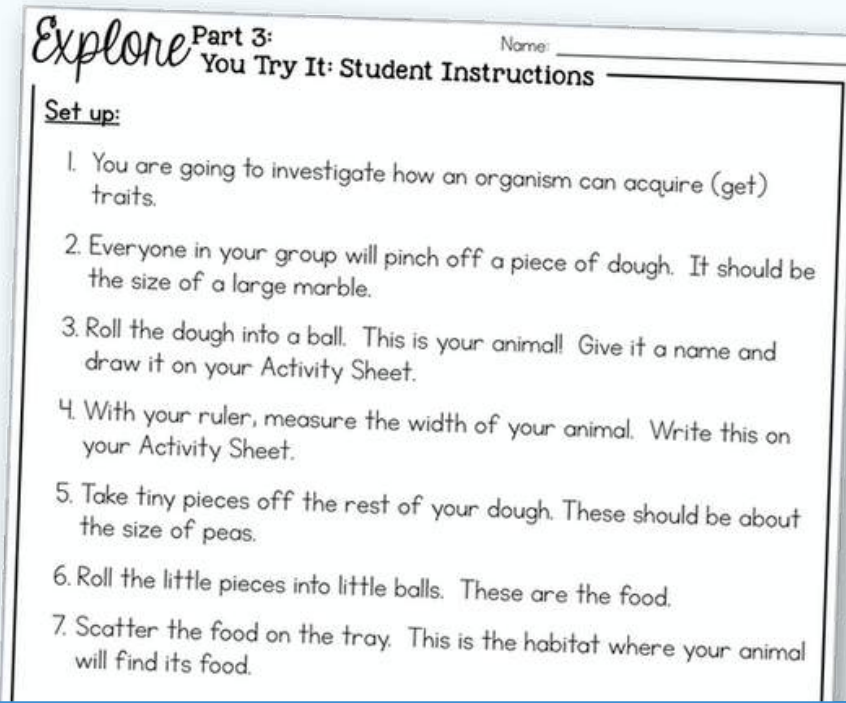
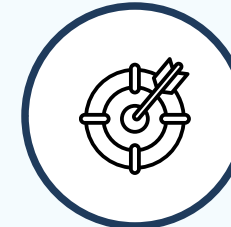
Orange days are Science Station lessons. Magenta notes are extra station activities you can add that day.

YOU WILL LOVE THIS BECAUSE



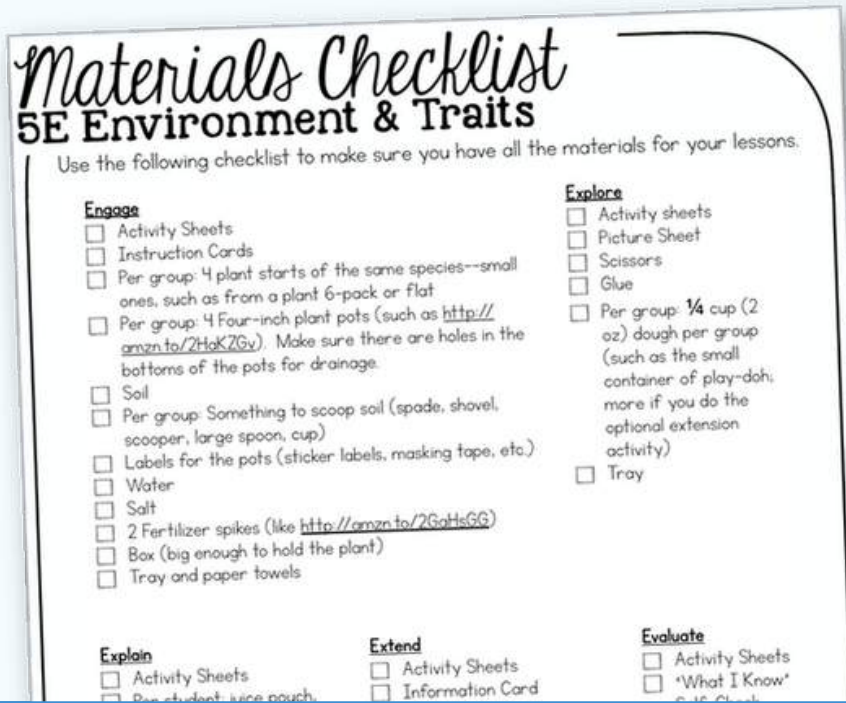
Hands-On From Day One

Students watch chimps learn, grow plants, and sort traits, so acquired and inherited traits make sense.



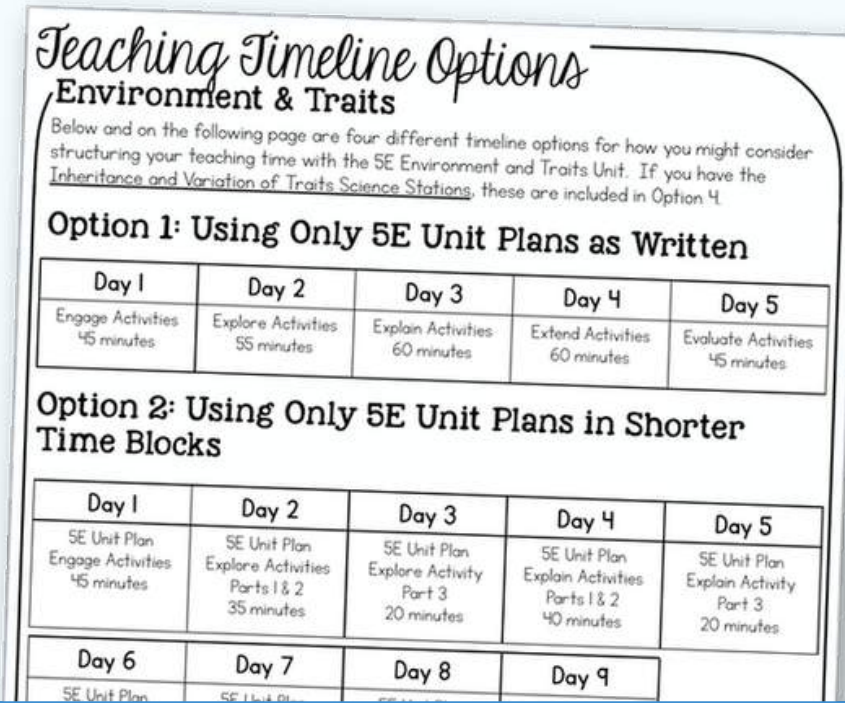
Planned and Ready to Teach

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



Fits Your Schedule

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



TEACHERS LOVE IT!



Our district plans leave MUCH to be desired and this was the perfect lifesaver for what I needed.

Teresa W.



This resource really helped me teach and assess learning in my genetics and heredity unit.

Jennifer S.



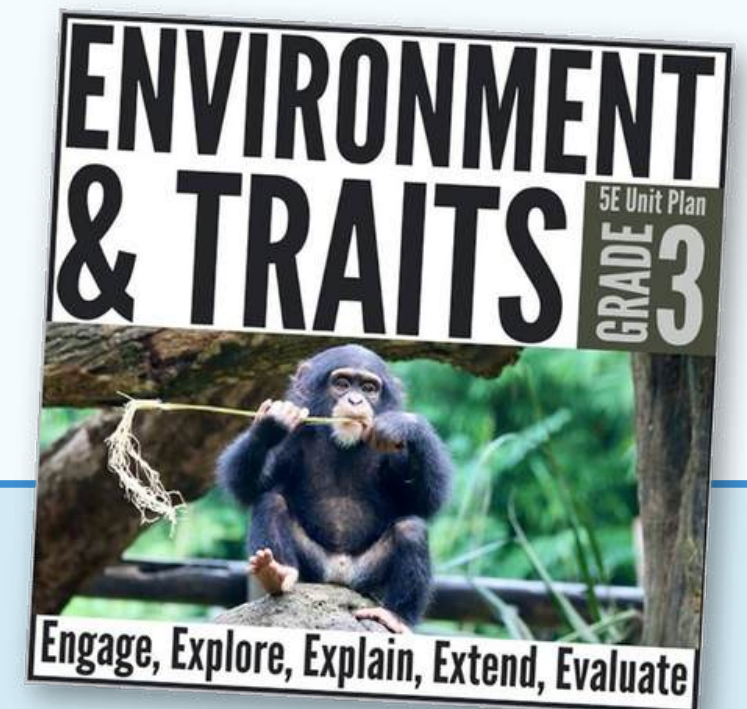
Great resource. The activities are great and my students loved them.

amanda alba



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

BUNDLE

LIFE SCIENCE

LIFE CYCLES Hands-on Differentiated Lesson Plans Reading Passages Posters & more	ANIMAL GROUPS Hands-on Differentiated Lesson Plans Reading Passages Posters & more	INHERITANCE OF TRAITS Hands-on Differentiated Lesson Plans Reading Passages Posters & more	ENVIRONMENT & TRAITS Hands-on Differentiated Lesson Plans Reading Passages Posters & more
CHANGING HABITATS Hands-on Differentiated Lesson Plans Reading Passages Posters & more	ANCIENT LIFE Hands-on Differentiated Lesson Plans Reading Passages Posters & more	NATURAL SELECTION Hands-on Differentiated Lesson Plans Reading Passages Posters & more	ADAPTATIONS Hands-on Differentiated Lesson Plans Reading Passages Posters & more

3rd Grade **5E** Unit Plans

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BUNDLE

THIRD GRADE 5E Unit Plans

BALANCED & UNBALANCED FORCES Hands-on Differentiated Lesson Plans Reading Passages Posters & more	PATTERNS IN MOTION Hands-on Differentiated Lesson Plans Reading Passages Posters & more	MAGNETIC FORCES Hands-on Differentiated Lesson Plans Reading Passages Posters & more	STATIC ELECTRICITY Hands-on Differentiated Lesson Plans Reading Passages Posters & more	LIFE CYCLES Hands-on Differentiated Lesson Plans Reading Passages Posters & more
ANIMAL GROUPS Hands-on Differentiated Lesson Plans Reading Passages Posters & more	INHERITANCE OF TRAITS Hands-on Differentiated Lesson Plans Reading Passages Posters & more	ENVIRONMENT & TRAITS Hands-on Differentiated Lesson Plans Reading Passages Posters & more	CHANGING HABITATS Hands-on Differentiated Lesson Plans Reading Passages Posters & more	ANCIENT LIFE Hands-on Differentiated Lesson Plans Reading Passages Posters & more
NATURAL SELECTION Hands-on Differentiated Lesson Plans Reading Passages Posters & more	ADAPTATIONS Hands-on Differentiated Lesson Plans Reading Passages Posters & more	WEATHER Hands-on Differentiated Lesson Plans Reading Passages Posters & more	CLIMATE Hands-on Differentiated Lesson Plans Reading Passages Posters & more	EXTREME WEATHER Hands-on Differentiated Lesson Plans Reading Passages Posters & more

SEE THE BUNDLE



**BEST
VALUE**



**GOOD
VALUE**

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.



What I have **LEARNED**