

**3RD
GRADE**

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

PREVIEW

NATURAL SELECTION

5E Unit
GRADE 3



Engage, Explore, Explain, Extend, Evaluate

NATURAL

SELECTION

**Engage, Explore, Explain,
Extend, Evaluate
NGSS 3-LS4-2**



KEEP SCROLLING TO SEE WHAT'S INSIDE!

WHAT'S INCLUDED

5E NATURAL SELECTION UNIT

- ✓ 210+ Page 5E Unit Plan
- ✓ Lesson Plans for All 5 Phases
- ✓ Teacher Notes and Misconceptions
- ✓ Materials Checklist and 4 Timelines
- ✓ Camouflage and Mimicry Investigations
- ✓ Reading Passages on Natural Selection
- ✓ Vocabulary Cards and Big Idea Posters
- ✓ Exit Tickets in 3 Formats
- ✓ Performance Assessment
- ✓ Answer Keys for Student Pages
- ✓ Google Slides and Google Forms Versions

Explore Part 1: Check It Out: A

Climbing Feet	Perching Feet

Explain Part 2: What is Natural Selection? Name: _____

There are many species of rabbits. All rabbits have soft fur and small bodies. They have short tails and long front teeth. But each species of rabbit has different traits. A **trait** is a way to describe a part of an organism's body or behavior.

The rabbit with big ears lives in the desert. Extra heat inside this rabbit's body escapes through the ears. Big ears keep the rabbit cool.

The rabbit with white fur lives in places where there is a lot of snow. Its white fur blends in with the white snow. Predators cannot easily see the rabbit. White fur keeps the rabbit safe.

These rabbits have many similar traits. But a few traits are different. We can tell a rabbit's species by looking at its traits. Some rabbits have shorter ears, and others have very long ears. Their fur may be black, brown, white, spotted, or striped. Each species has its own set of traits.



Evaluate Part 2: Showing Natural Selection: P Name: _____

Moths

Most moths of this species are white. They spend most of their lives on the bark of white birch trees.

Pollution is turning the trees dark grey. After natural selection, which moth will there be most of?



Desert Plant

A plant grows in the desert. It stores water in its leaves and stems. Animals eat the plant to get water.

A few of this species of plant grows spines. Animals stay away from these spines.

After natural selection, which plant will there be most of?



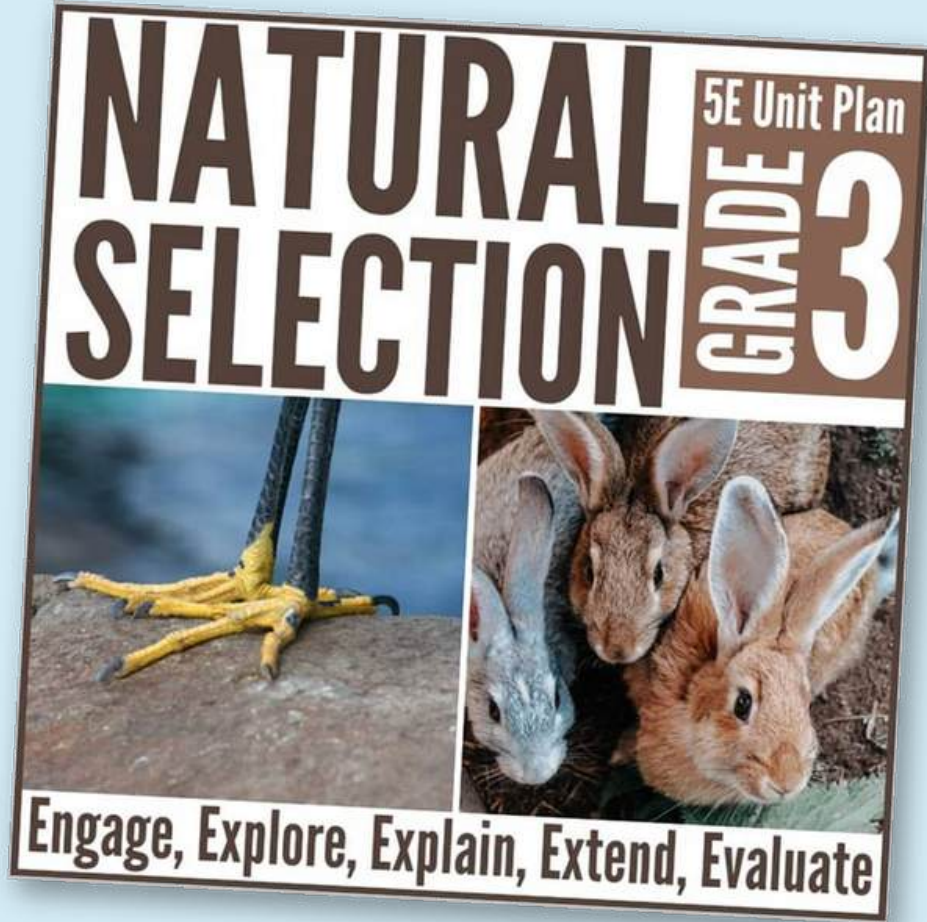
Natural selection



is a process that helps an organism live better and reproduce more

© Jessica Borchert

UNIT AT A GLANCE



- Students pick candy, compare bird feet, and hunt for beads on faux fur.
- Teacher background, lesson plans, and student pages in every phase.
- Aligned to NGSS 3-LS4-2.

Table of Contents

5E Section	Objectives	Duration
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 certain traits are naturally selected.Student interest in natural selection of traits will be elicited.The teacher will be able to identify student misconceptions about natural selection.	<ul style="list-style-type: none">Part 1 (Vocabulary) 10 minutesPart 2 (Big Idea) 10 minutesPart 3 (Exit Ticket) 10 minutes
Explore	<ul style="list-style-type: none">Students will work together to investigate how traits are naturally selected. They will do this by observing different types of traits in animals, comparing and contrasting them to traits in other animals.Students will gather general information about natural selection.Students will begin to think about different traits among species, and how these traits help each species to be best suited for their environment.	<ul style="list-style-type: none">Part 1 (Observe) 10 minutesPart 2 (Compare) 15 minutesPart 3 (You Decide) 10 minutes
Explain	<ul style="list-style-type: none">Students will work collaboratively to observe and discover how natural selection selects specific traits in species.Students will listen to the teacher's explanation about natural selection.Students will use the new information to revise their explanations about natural selection and how traits selected in species enable them to survive in their environment.	<ul style="list-style-type: none">Part 1 (Why?) 20 minutesPart 2 (What?) 20 minutesPart 3 (Put It Together) 10 minutes
Extend	<ul style="list-style-type: none">Students will apply what they have learned about natural selection to a new situation.Students will deepen their understanding of natural selection, gaining a more generalized knowledge of this specific scientific concept.The teacher will resolve all persisting student misconceptions about how natural selection causes changes in species over time.	<ul style="list-style-type: none">Part 1 (Where?) 10 minutesPart 2 (Show It) 20 minutesPart 3 (Have Fun) 20 minutes
Evaluate	<ul style="list-style-type: none">Students will evaluate their own understanding of how natural selection happens.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 Learned) 10 minutesPart 2 (Showing It) 15 minutesPart 3 (Going Forward) 10 minutes
Exit Tickets		

Teacher Notes

Natural Selection

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 experience 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 conclusions investigations.

Extension: Students take their new knowledge and apply it to novel situations poses 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 Teaching why we chose to use the 5E method of instruction and provide an introduction 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 Digital Version](#)

Teaching Timeline Options

Natural Selection

Below and on the following page are four different timeline options for structuring your teaching time with the 5E Natural Selection Unit. If Selection & Adaptation Science Stations, these are included in Option 1.

Option 1: Using Only 5E Unit Plans and Stations

Day 1	Day 2	Day 3	Day 4
Engage Activities 45 minutes	Explore Activities 50 minutes	Explain Activities 60 minutes	Extend Activities 55 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 Part 1 & 2 35 minutes	5E Unit Plan Explore Activities Part 3 15 minutes	5E Unit Plan Explain Activities Parts 1 & 2 40 minutes

Day 6	Day 7	Day 8	Day 9
5E Unit Plan Extend Activities Parts 1 & 2 35 minutes	5E Unit Plan Extend Activities Part 3 20 minutes	5E Unit Plan Evaluate Activities Parts 1 & 2 30 minutes	5E Unit Plan Evaluate Activities Part 3 15 minutes

Materials Checklist

5E Natural Selection

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

- | | | |
|---|---|--|
| Engage <ul style="list-style-type: none">☐ Activity Sheets☐ Tally Sheet (for the teacher only)☐ A variety of candy, stickers, or other small objects, enough for 2-3 per student. There need to be popular types of candy/stickers and unpopular types.☐ Big bowl | Explore <ul style="list-style-type: none">☐ Activity Sheet☐ Example Sheet☐ Picture Sheet☐ Environment Card☐ Scissors☐ Glue☐ Salt dough or clay | Evaluate <ul style="list-style-type: none">☐ Activity Sheets☐ 'What I Know' Self-Check☐ Picture Page☐ Glue☐ Scissors |
| Explain <ul style="list-style-type: none">☐ Activity Sheets☐ Introducing Natural Selection Activity Sheet☐ You Try It Activity Sheet☐ Tally Sheet☐ Bag of mixed pony beads (like http://amzn.to/2aZWu). For a greater challenge, use mixed seed beads (These ones are opaque: http://amzn.to/2Fa04V, or these ones are translucent: http://amzn.to/2Gdz2M)☐ Piece of faux fur (that matches as closely as possible to one of the colored beads--like craft fur for making stuffed animals)☐ Tweezers (http://amzn.to/2FCha3N)☐ Small container (cup or bowl)☐ Timer☐ Tray | Extend <ul style="list-style-type: none">☐ Activity Sheets☐ Environment Card☐ One Box per group (shoe box size)☐ Clay☐ Construction paper☐ Clear tape☐ Popsicle sticks and/or toothpicks (to prop up cut-out drawings of plants and animals)☐ Other craft materials (glue dots, yarn, straws, foil, pom-poms, pipe cleaners, etc.)☐ Other materials from nature (sticks, leaves, grass, moss, etc.)☐ Bingo Game Boards (optional laminated)☐ Question Cards☐ Bingo markers (discs, buttons, bingo daubers, dry/wet erase markers, etc.) | |

Table of Contents

Teacher Notes

Timeline Options

Materials Checklist

ENGAGE



Spark curiosity with a candy choice

1 What Is This?

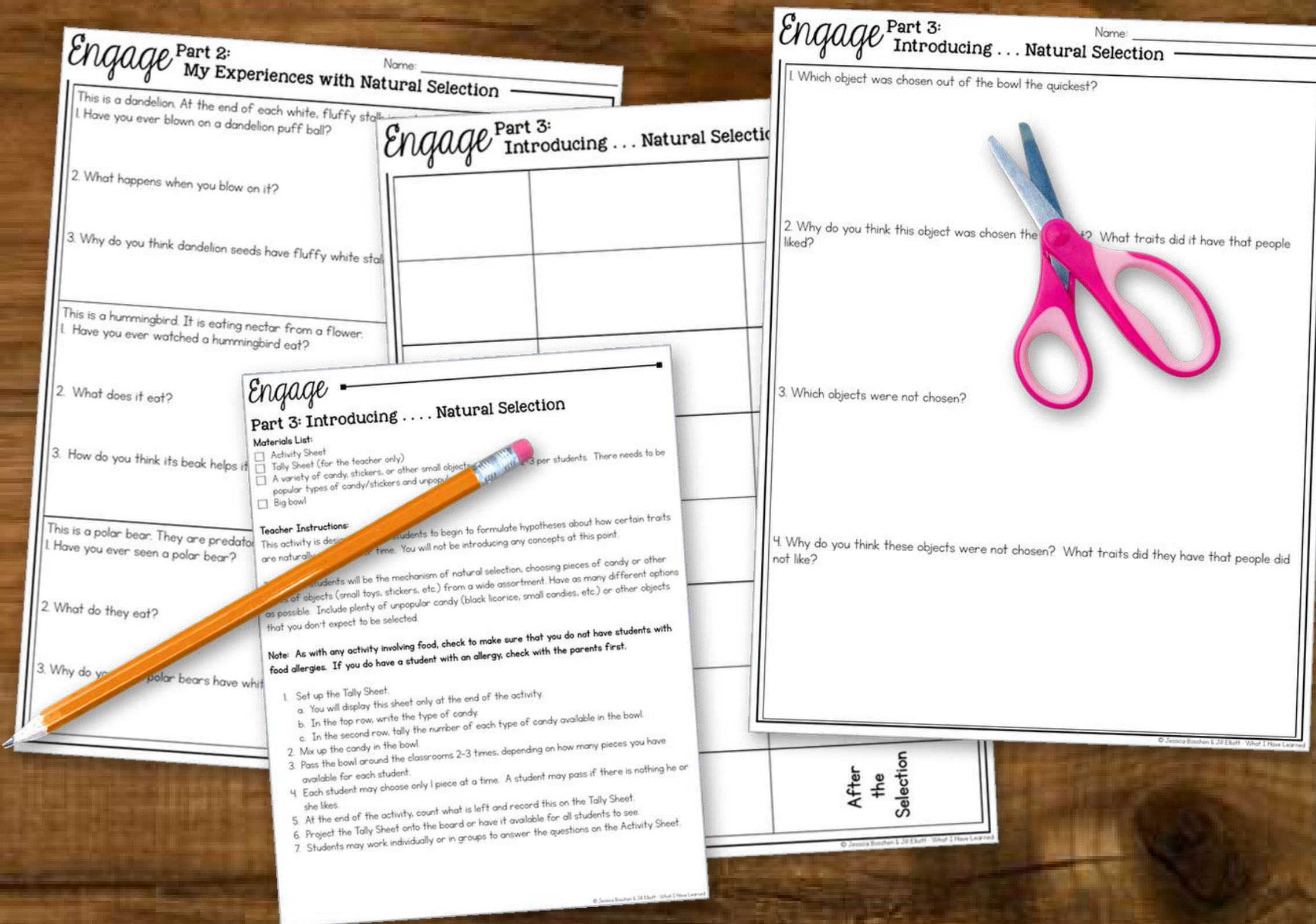
Students look at a frog hiding on a rock and talk about what they notice.

2 My Experiences

Students think about dandelion seeds, hummingbird beaks, and polar bear fur.

3 Introducing Natural Selection

Students pick objects out of a bowl and tally which ones are chosen first.



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

EXPLORE



Investigate traits that help animals survive

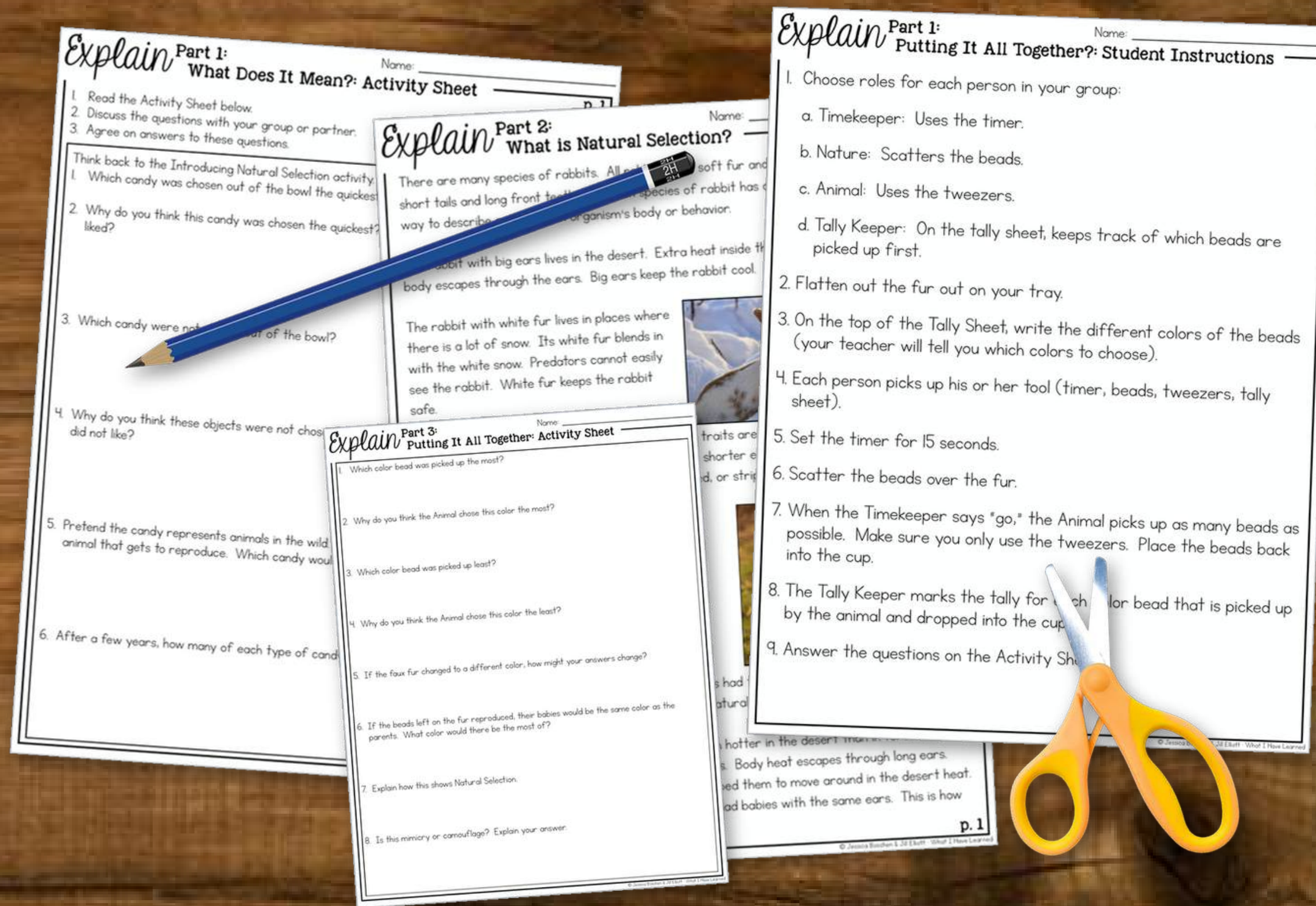
- 1 Check It Out**
Students sort birds by climbing, perching, swimming, and grasping feet.
- 2 Watch and Read This**
Students read why people ride horses but not zebras.
- 3 You Try It**
Students read an environment card and build the right bird foot out of clay.

EXPLAIN



Build explanations from evidence

- 1 What Does It Mean?**
Students connect the candy activity to which traits get chosen and survive.
- 2 What Is Natural Selection?**
Students read about rabbits, pine trees, and other animals and sum up the process.
- 3 Putting It All Together**
Students pick up beads from faux fur with tweezers and tally which colors survive.



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

EXTEND

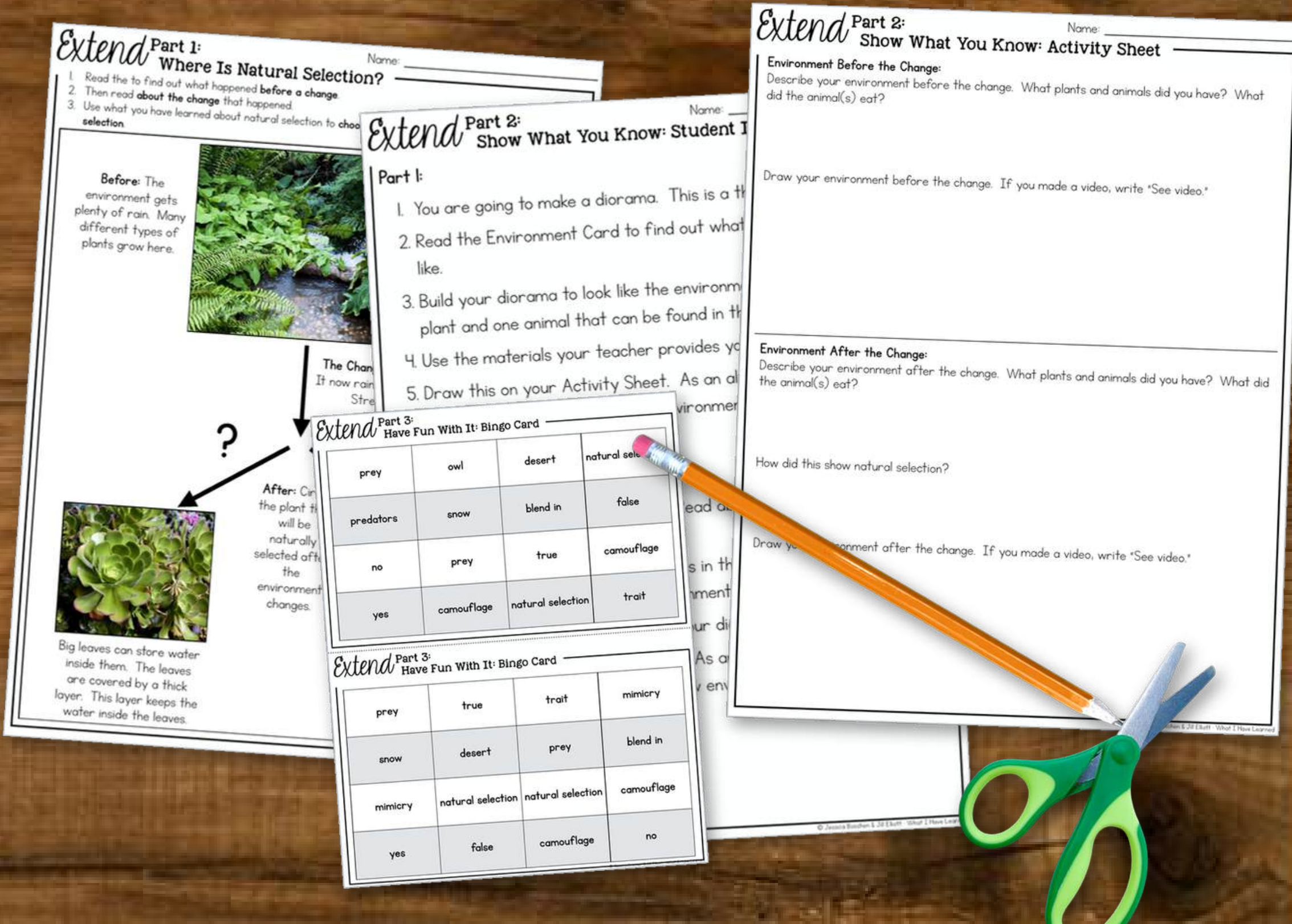


Apply natural selection to new places

1 Where Is Natural Selection?
Students read about an environment before and after a change and choose the organism that results.

2 Show What You Know
Students build a diorama of an environment before and after a change.

3 Have Fun With It
Students play bingo with questions about camouflage and mimicry.



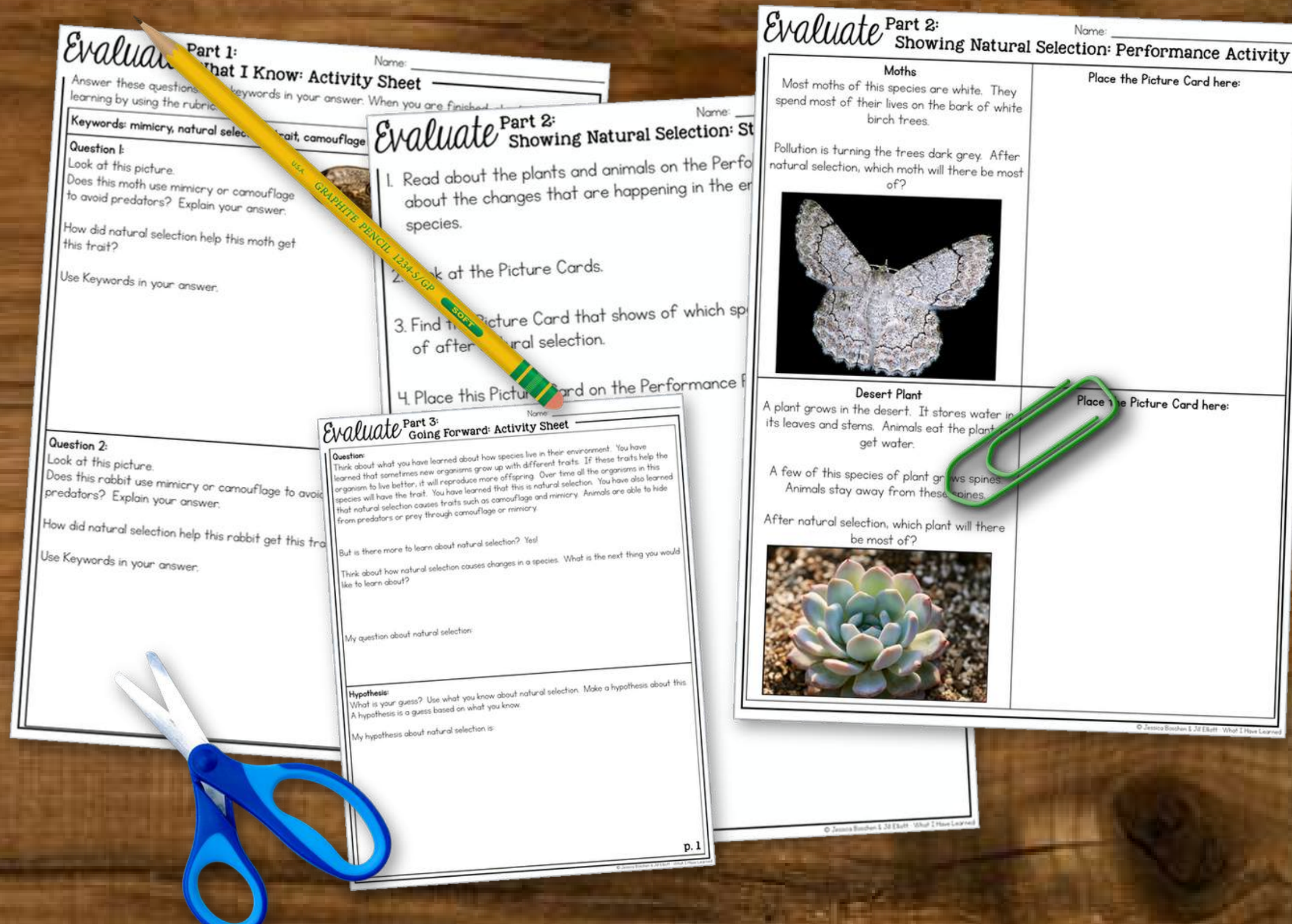
Teacher background, lesson plans, student pages, and answer key

EVALUATE



Check understanding with evidence

- 1 What I Know**
Students tell if a moth or rabbit uses mimicry or camouflage and score themselves with a rubric.
- 2 Showing Natural Selection**
Students match picture cards to the species that will survive an environmental change.
- 3 Going Forward**
Students write a new question and hypothesis about natural selection.



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

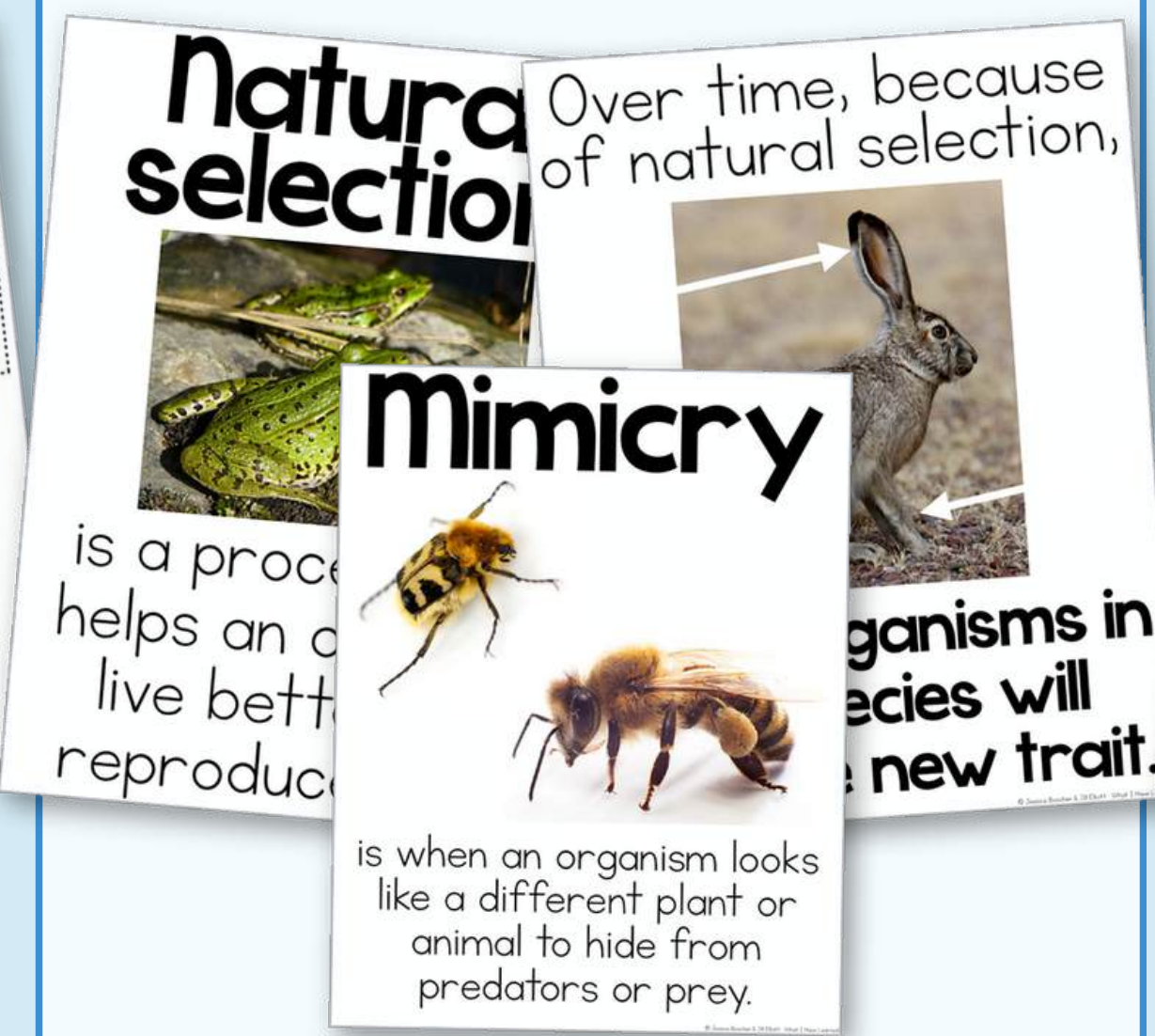
VOCABULARY, POSTERS & EXIT TICKETS

VOCABULARY CARDS



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

BIG IDEA POSTERS



Posters on natural selection, mimicry, and camouflage.

EXIT TICKETS



11 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 Natural Selection and Adaptation Science Stations for a 9-day plan.

4 Formative Checks

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

Teaching Timeline Options
Natural Selection

Below and on the following page are four different timeline options for how you might consider structuring your teaching time with the 5E Natural Selection 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 50 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 Part 1 & 2 35 minutes	5E Unit Plan Explore Activity Part 3 15 minutes	5E Unit Plan Explain Activities Part 1 & 2 40 minutes	5E Unit Plan Evaluate Activity Part 3 15 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 1 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	5E Unit Plan Explore Activities Parts 1 & 2 35 minutes	5E Unit Plan Explore Activity Part 3 15 minutes <i>Investigate Natural Selection (no reading) 20 minutes</i>	5E Unit Plan Explain Activities Parts 1 & 2 40 minutes	5E Unit Plan Evaluate Activity Part 3 20 minutes

Day 6
5E Unit Plan
Extend Activities
Parts 1 & 2
35 minutes

Day 7
5E Unit Plan
Extend Activity
Part 3
20 minutes

Day 8
5E Unit Plan
Evaluate Activities
Parts 1 & 2
30 minutes

Day 9
5E Unit Plan
Evaluate Activity
Part 3
15 minutes

*Sort Types of Memory
20 minutes*

*Watch: Survival of the Fittest
(5 minutes + 15 for questions, optional)*

TEACHING TIMELINE OPTIONS

Option 1 5 days

As Written

Day 1
Engage

45 min

Day 2
Explore

50 min

Day 3
Explain

60 min

Day 4
Extend

55 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

15 min

Day 4
Explain
1-2

40 min

Day 5
Explain
3

20 min

Day 6
Extend
1-2

35 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
1

20 min

Day 3
Explain
2

20 min

Day 4
Extend
1

20 min

Day 5
Evaluate
1

15 min

Option 4 9 days

With Science Stations

Day 1
Engage

45 min

Day 2
Explore
1-2

35 min

Day 3
Explore
3

15 min

+20 station

Day 4
Explain
1-2

40 min

Day 5
Explain
3

20 min

Day 6
Extend
1-2

35 min

+20 station

Day 7
Extend
3

20 min

Day 8
Evaluate
1-2

30 min

+20 station

Day 9
Evaluate
3

15 min

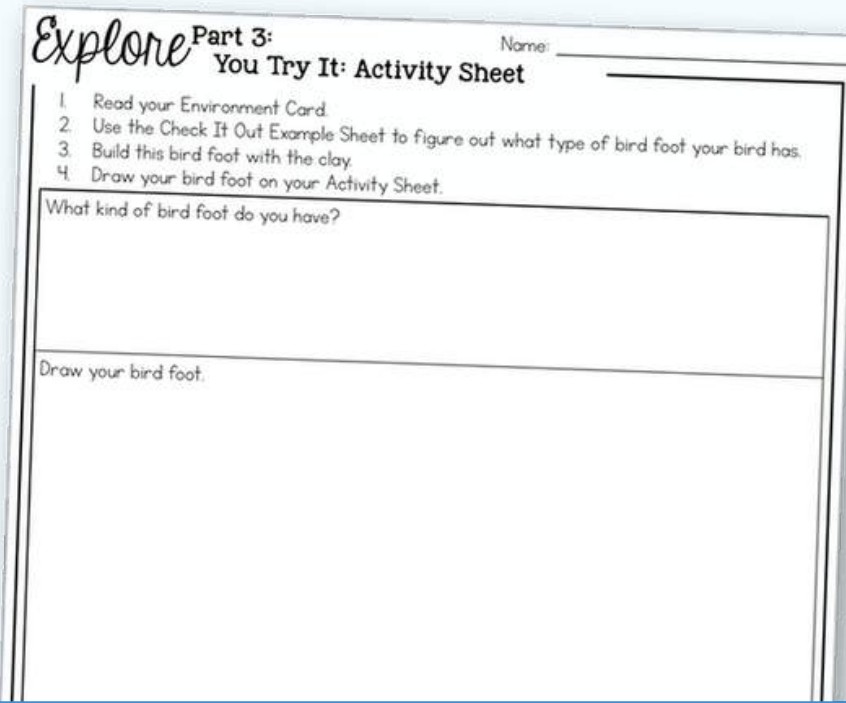
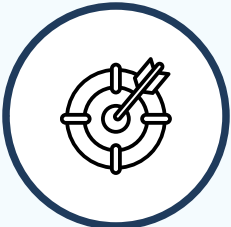
Orange days are Science Station lessons. Magenta notes are extra station activities you can add that day.

YOU WILL LOVE THIS BECAUSE



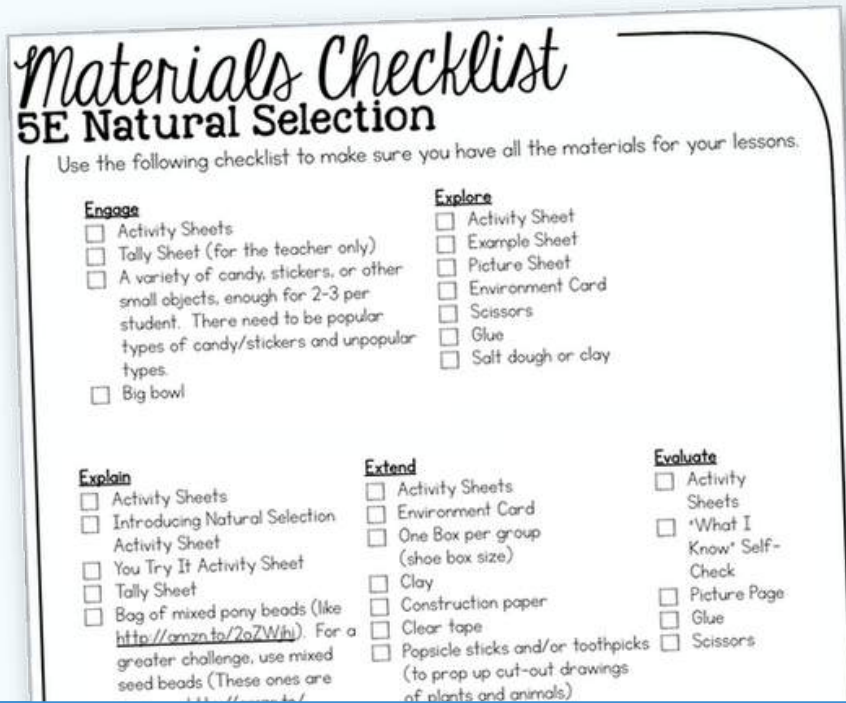
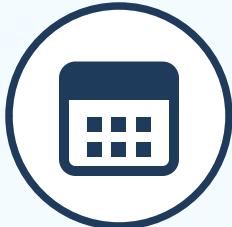
Hands-On From Day One

Students choose candy, build bird feet, and hunt for beads, so natural selection makes sense.



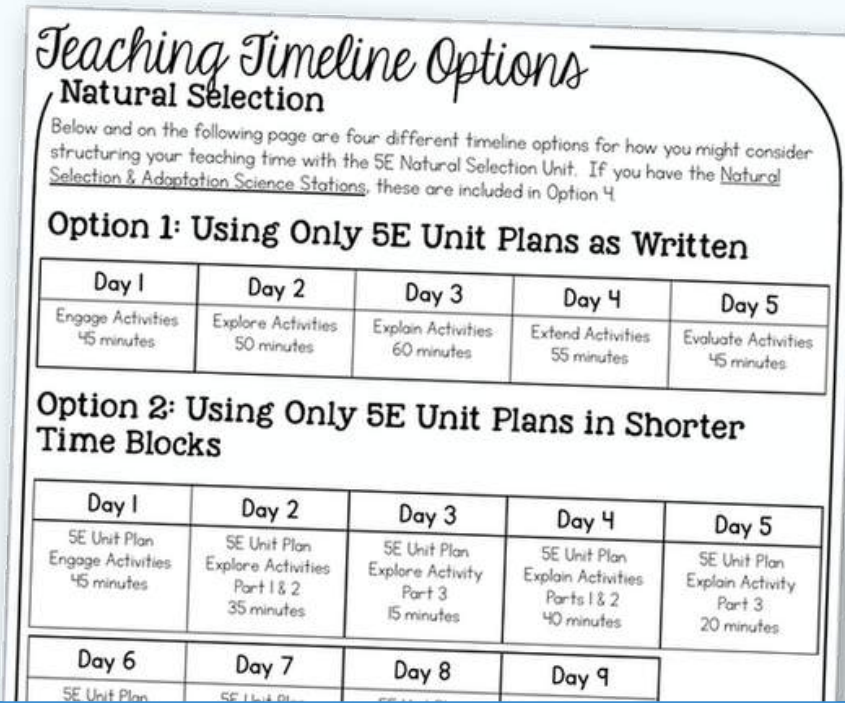
Planned and Ready to Teach

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!



This resource provided lots of engaging activities to help my students understand the concept of natural selection.

Mary Catherine K.



My students loved this resource, as did I. It gave engaging activities and truly implemented the 5E model!

Tay Teaches Middles



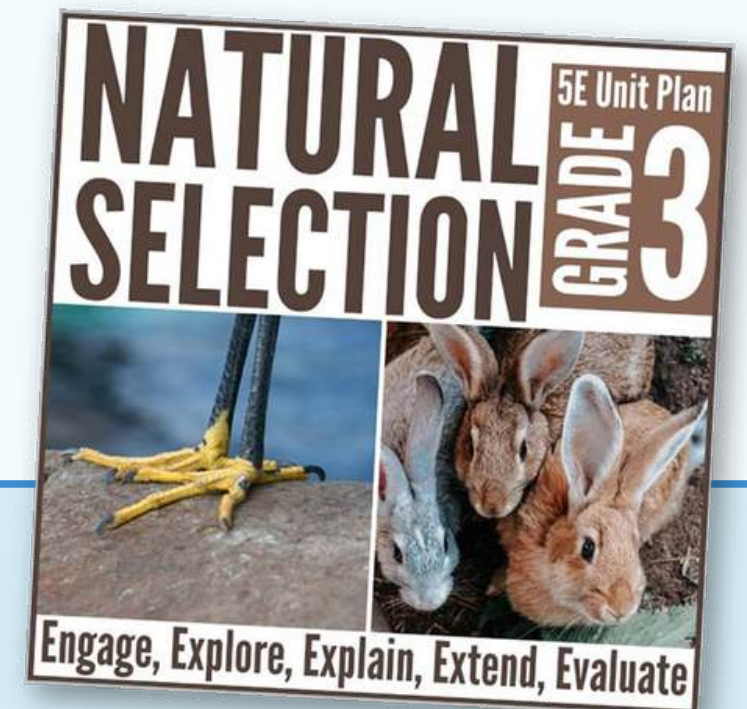
This unit was engaging and interesting.

Elise D.



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

SEE THE BUNDLE



FULL-YEAR BUNDLE

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**