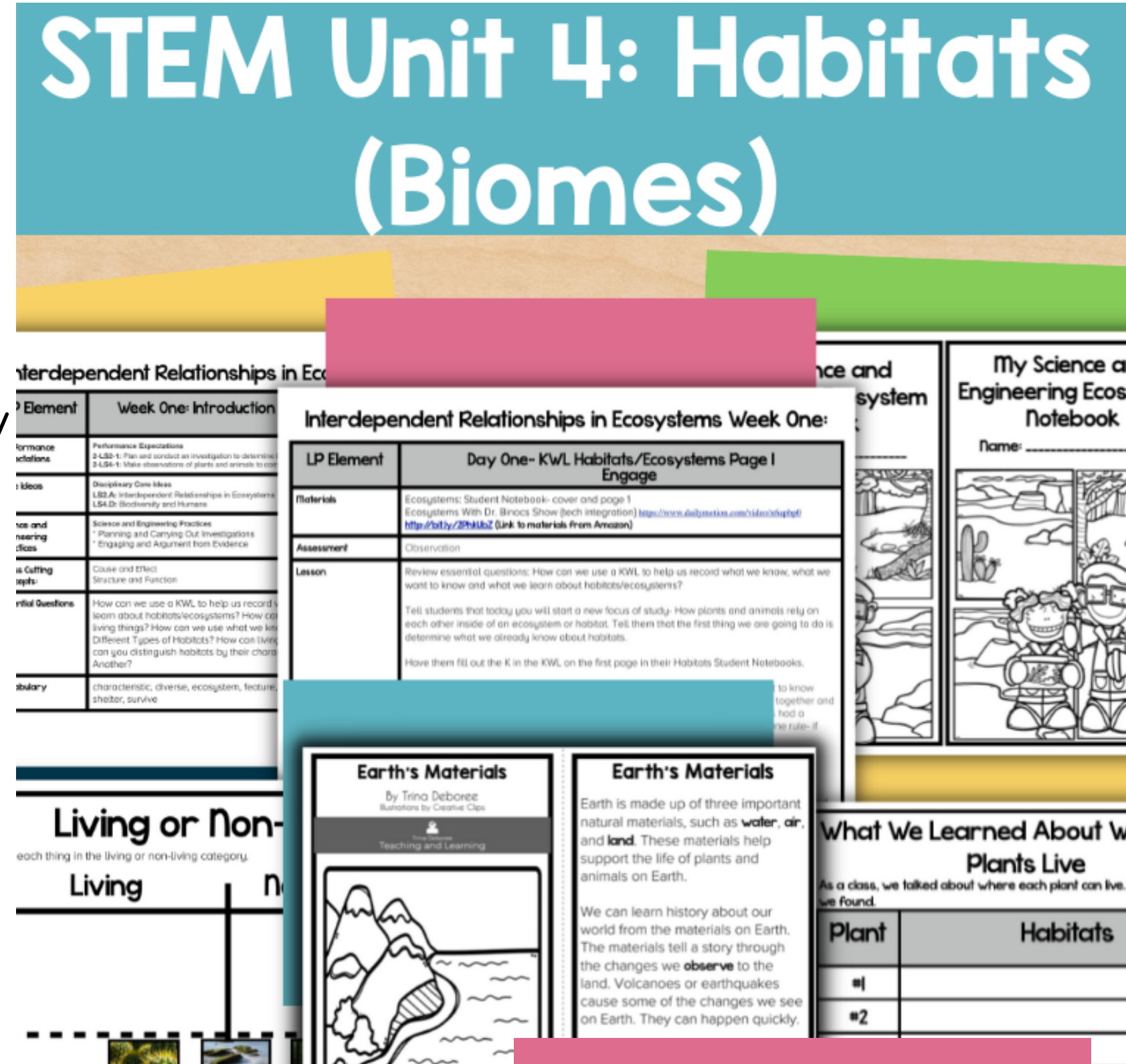


Habitats (Biomes) STEM Unit for 2nd Grade NGSS Unit Four

This Resource

Includes:

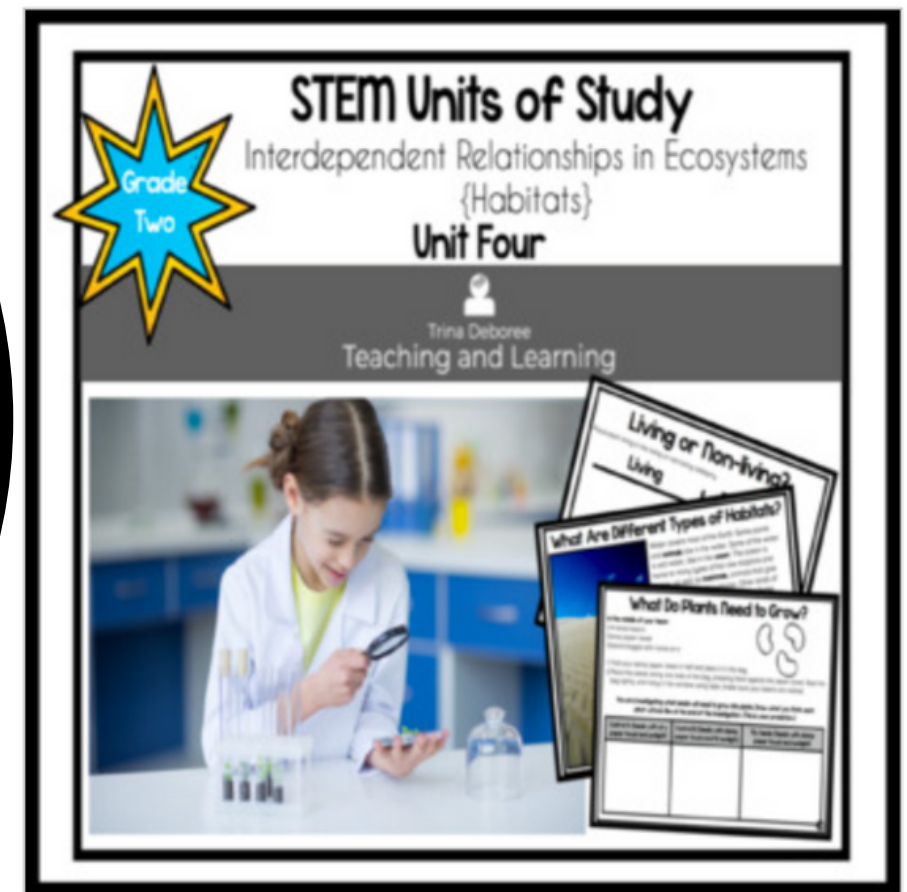
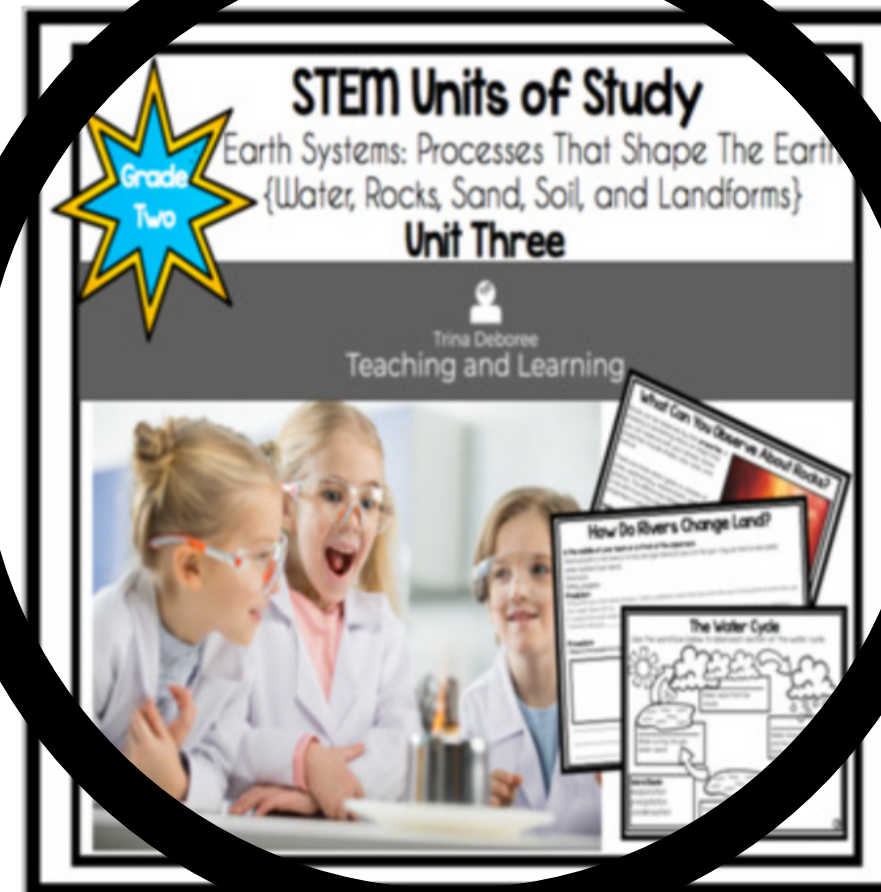
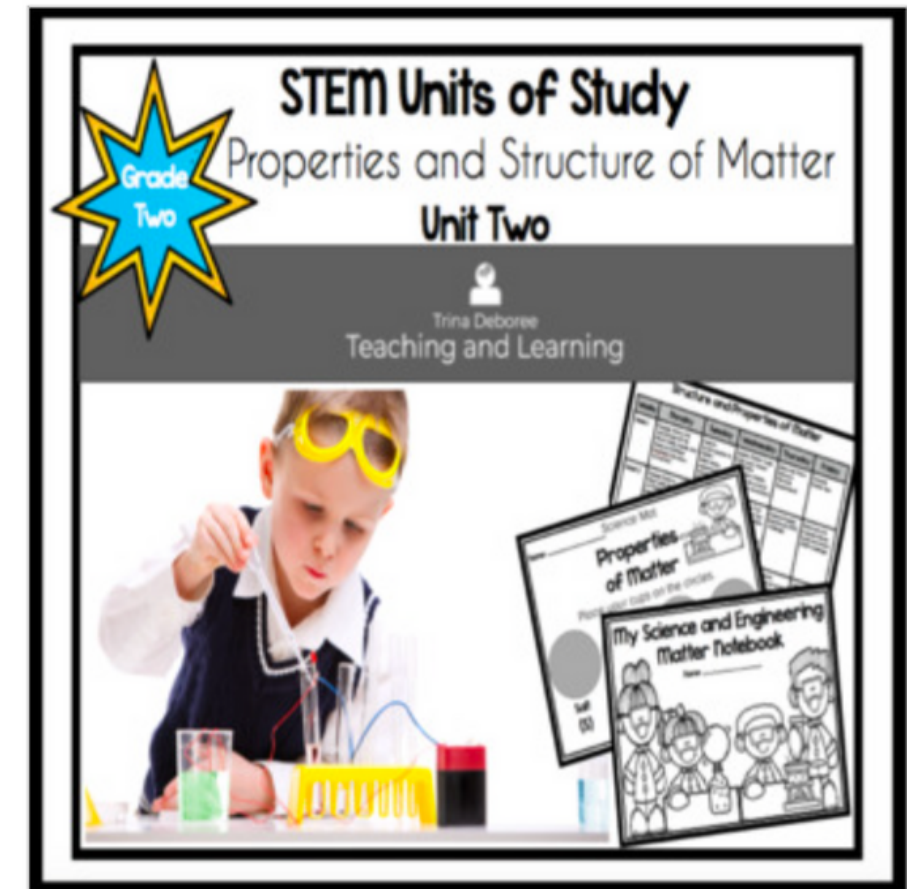
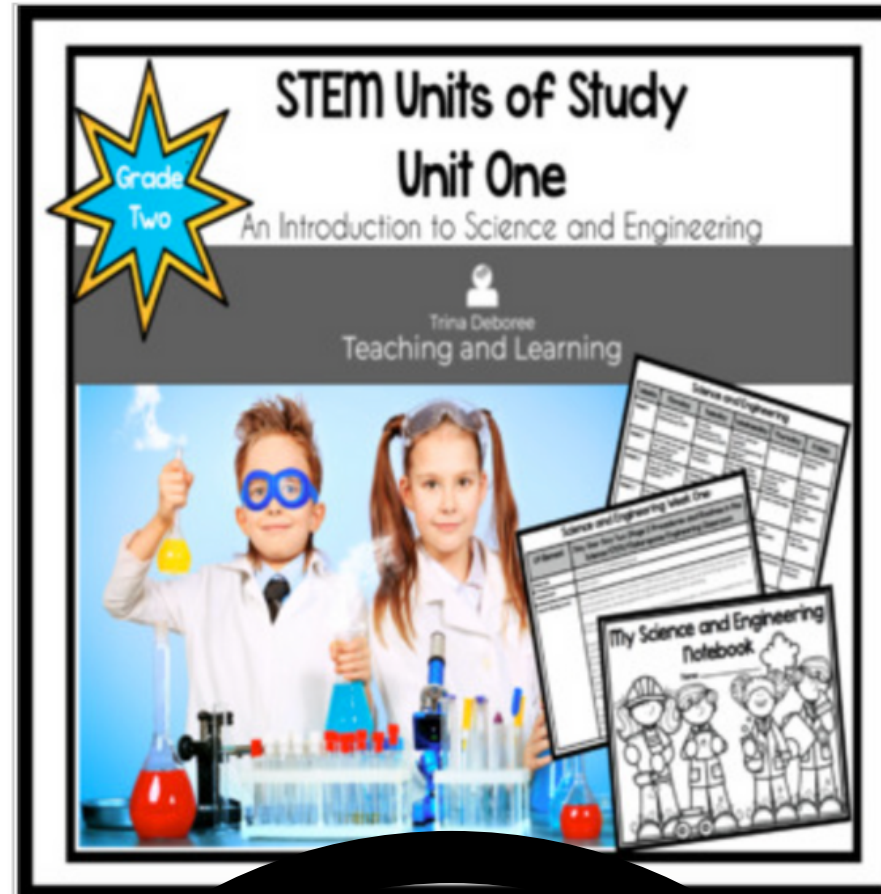
- ✓ 30 Done for You Lesson Plans
- ✓ 6 Engaging Science Inquiry Activities
- ✓ Hands-on Makerspace Activities
- ✓ 1 Nonfiction Text written for 2nd graders
- ✓ Formative and Summative Assessment
- ✓ Student Notebooks Included



↓ More

STEM Units Across the Year for Second Grade

Save 50%



How do students better understand the practice of science and engineering?

3-STEM & Reading Integration

This unit integrates all STEM subjects and reading and has taken the guesswork out of your planning.

2-Offers Hands-On

By integrating content standards into your reading block you are buying back time to do hands-on activities!

1-Lesson Plans and Activities Done

Save MASSIVE time on lesson plans for 4 weeks!

Questions What is Pollination?
Answer Key

Do pollinators know they are helping the plants? How do you know?
no
Because pollinators aren't doing a job on purpose. They are getting food for themselves.

Why do pollinators visit flowers?
to get nectar or food for themselves

How do both the plants and pollinators benefit from pollination?
The plants get their pollen moved to other flowers, which allows them to make new plants, and the pollinator gets food.

Why should we thank pollinators?
If plants were not pollinated, fruits and vegetables would not grow.

Why are pollinators in danger?
People are building in the wilderness, which causes animals (pollinators) to lose their homes and food. Chemicals like pesticides and disease are killing many pollinating insects.

What can we do to help pollinators?
We need to tell other people why pollinators are important. It also helps to grow native flowers at home or school. Planting gardens will help.

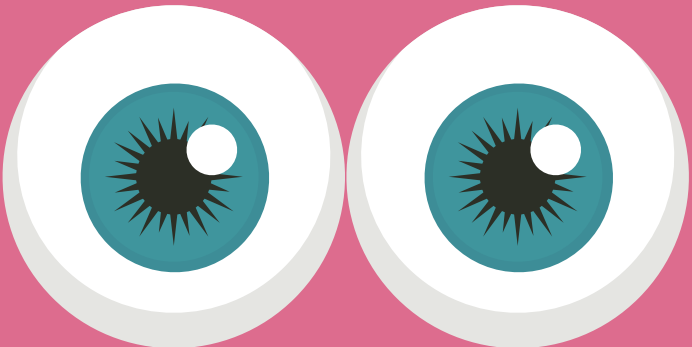
Look at a Flower-What Do You See?
Observe the flower carefully. Draw a picture that shows its shape, colors, patterns, and parts.

Listen to the characteristics of a flower; then record the observations for your flower.

Characteristic	Observation
Color	
Pattern	
Shape	
Smell	

Look for the powdery substance (pollen) in the center of the flower. Use a Q-tip to smear some of the pollen into the box below and tape it in place.

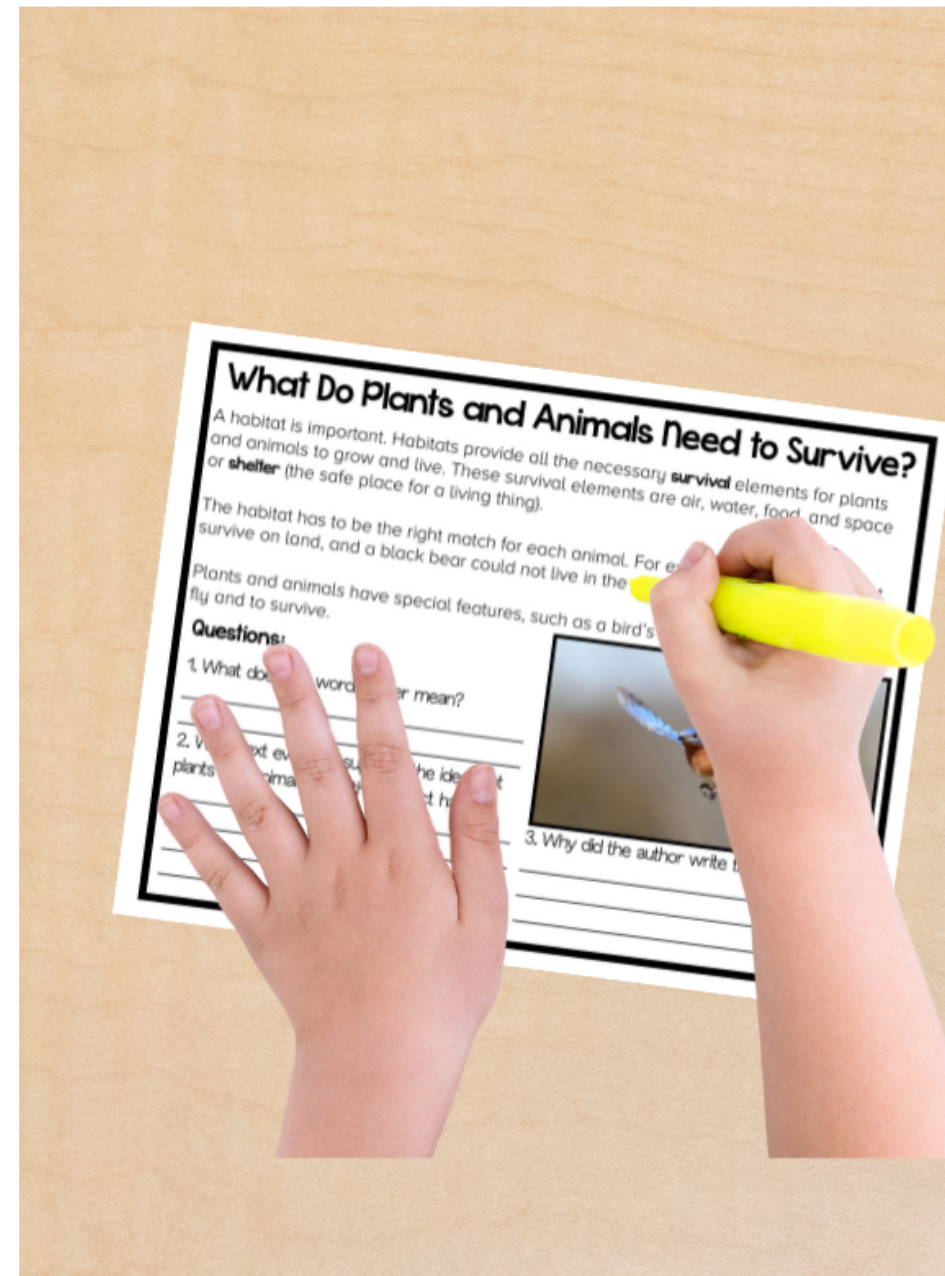
Keep Scrolling to See Inside!



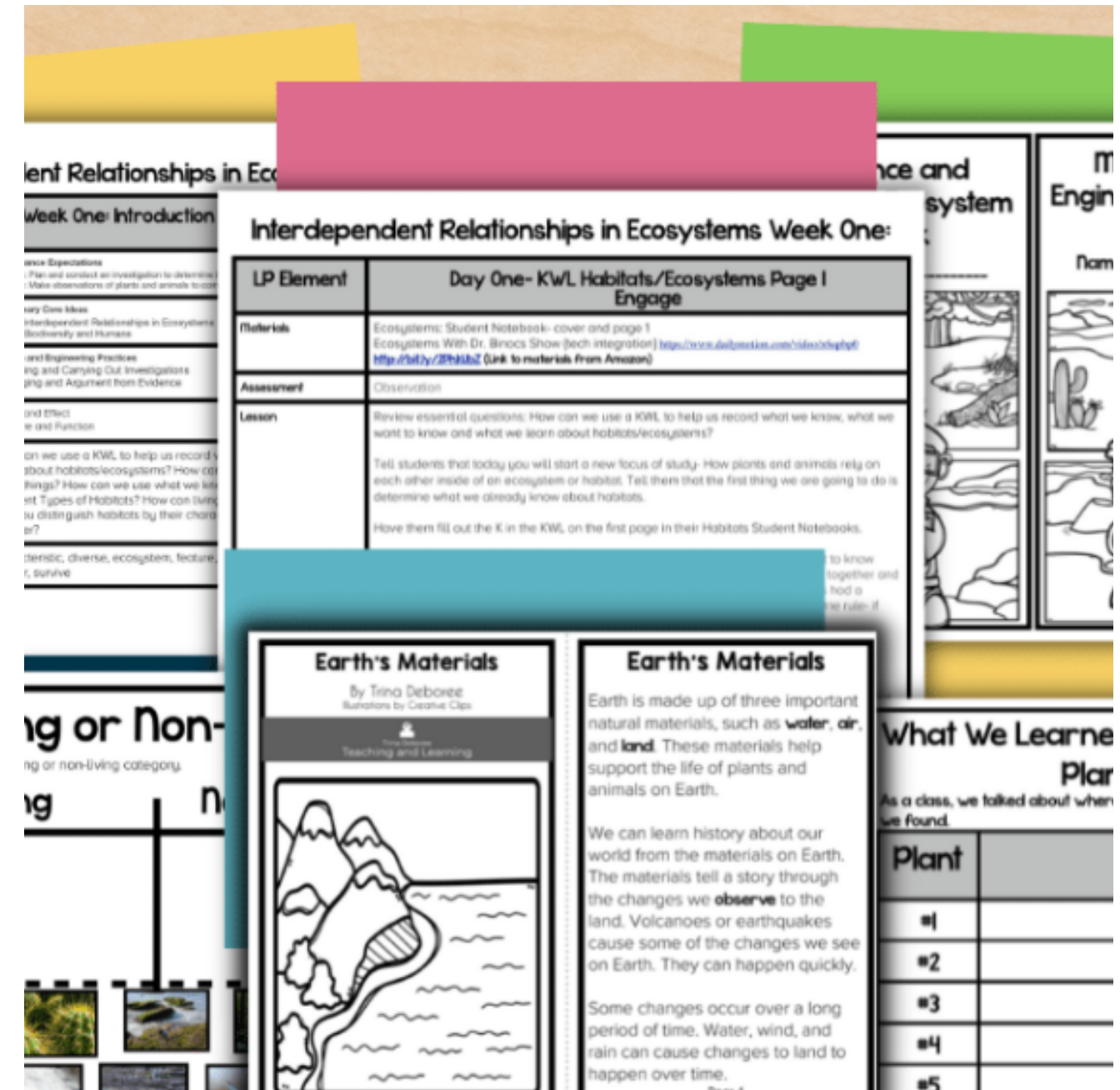
Perfect for:



Lesson Planning



Science Inquiry



STEM Challenges

More Ideas

Integrate reading and writing and STEM in this done for you STEM unit of study.



A Closer Look at Plans

Interdependent Relationships in Ecosystems Week One:

LP Element	Day One- KWL Habitats/Ecosystems Page 1 Engage
Materials	Ecosystems: Student Notebook- cover and page 1 Ecosystems With Dr. Binocs Show {tech integration} https://www.dailymc http://bit.ly/2PhkUbZ (Li
Assessment	Observation
Lesson	<p>Review essential questions: How can we use a KWL to help us record what we want to know and what we learn about habitats/ecosystems?</p> <p>Tell students that today each other inside of an ecosystem to determine what we already know about habitats.</p> <p>Have the students write their Habitats</p> <p>Next, all students to discuss with partners and put their ideas. Once starting an idea. Once chance and show they one is up, they all are up. If one is down- they are all down.</p> <p>Have a few share out some things they heard or said. Then have the KWL.</p> <p>Next, have students watch Dr. Binocs- Ecosystems. Tell students the</p>

Materials listed

Assessment Included

Lesson background provided for teacher

Interdependent Relationships in Ecosystems Week One:

LP Element	Day One- KWL Habitats/Ecosystems Page 1 Engage
Lesson	<p>one thing that they learn about ecosystems in the L section of their notebook.</p> <p>Allow students to do a numbered list of one thing that they learned and add to their L section, as well as a drawing.</p> <p>At the conclusion of the lesson, r</p>

Lesson Contains:

- Essential Questions
- 5 E Model
- High Engagement Strategy
- Final Review

Standard Included in Overview











More

Take a closer Look!


Student Notebook Sample

Living or Non-living?

Place each thing in the living or non-living category.

Living	Non-living
	
	
	
	

What Are Different Types of Habitats?




Water covers most of the Earth. Some plants and **animals** live in the water. Some of the water is salt water, like in the **ocean**. The ocean is home to many types of fish like dolphins and sharks, as well as **mammals**, animals that give birth to live young, like whales. Other kinds of plants and animals live in fresh water. Some **freshwater** animals include alligators and crocodiles.

Some kinds of plants and animals can never live in the water. They live on land. There are different kinds of land habitats. Some examples are **prairies**, **deserts**, and **forests**.

The desert is a habitat that gets very little rain fall. The animals and plants that live in the desert can survive without water for long periods of time.




What Do Plants Need to Grow?

In the middle of your team:
 3-4 dried beans
 Damp paper towel
 Ziplock baggie with name on it



1. Fold your damp paper towel in half and place it in the bag.
2. Place the seeds along one side of the bag, pressing them against the paper towel. Seal the bag tightly, and hang in the window using tape. (make sure your beans are visible)

You are investigating what seeds will need to grow into plants. Draw what you think each plant will look like at the end of the investigation. (This is your prediction)

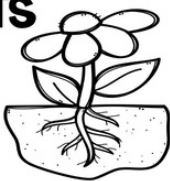
Control A (Seeds with dry paper towel and sunlight)	Control B (Seeds with damp paper towel and NO sunlight)	My Seeds (Seeds with damp paper towel and sunlight)
		

Record thinking

Nonfiction included

Observing Different Plants

In the middle of your team or as a demonstration:
 Plant #1-5





Observing Different Plants

Plant	What I noticed about this plant
#1	
#2	
#3	
#4	
#5	

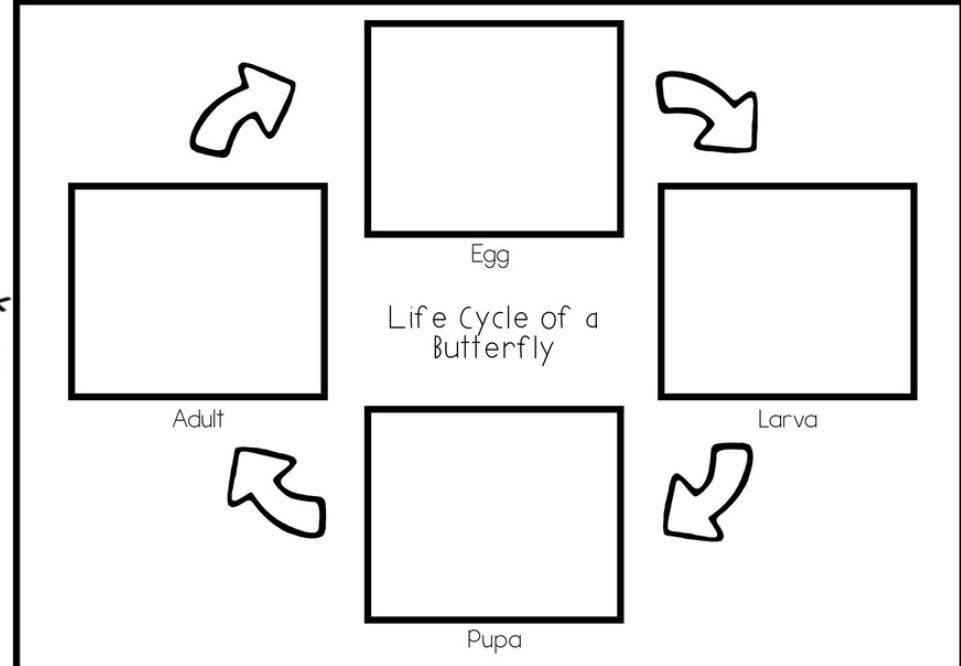
Questions What is Pollination?

Answering Questions From the Text.

Do pollinators know they are helping the plants? How do you know?	Why do pollinators visit flowers?	How do both the plants and pollinators benefit from pollination?
Why should we thank pollinators?	Why are pollinators in danger?	What can we do to help pollinators?

Place the stages of the life cycle of a butterfly in the correct location.



Life Cycle of a Butterfly

Adult

Egg

Larva


Pupa

Take a closer Look!

1 STEM Challenges/Makerspace

Ask My Questions

Engineers and scientists ask lots of questions. They also try to answer questions. Think about your problem. Now think like a scientist and an engineer.




1. What pollinators did you see in the video clip?

2. How did the pollinators get from one flower to another?

3. Why were these animals visiting the flowers?

Teaching and Learning



4. What parts of the pollinators' body helped them get to the nectar?

5. What type of pollinator will you create?

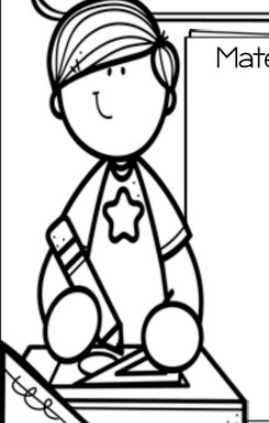
6. What is an important feature of a pollinator?

7. Formulate a question you have about pollinators.

Teaching and Learning

Imagine My Solution

My Plan For Making My Solution




Materials Needed:

How will the construction work?

Teaching and Learning

Reflect Upon and Improve My Solution

All About My Pollinator




The Problem My Pollinator Solved

How Did It Go?

Teaching and Learning

Reflect Upon and Improve My Solution

Challenges I Had With My Pollinator



The thing I like the best about my pollinator..

The one thing I could improve about my pollinator..

Teaching and Learning

Compare and Contrast Solutions

Solution Presentations

1	2	3	4
<ul style="list-style-type: none"> Identifies 1 solution Shares 1 similarity and 1 difference or is lacking in one area Attempts to give details 	<ul style="list-style-type: none"> Identifies 2 solutions Shares at least 2 similarities and differences Mostly uses correct punctuation Description may be missing evidence and details 	<ul style="list-style-type: none"> Identifies 2 solutions Shares at least 3 similarities and 3 differences Provides details Correct punctuation 	<ul style="list-style-type: none"> Responds with specific names of solution Provides evidence with specific details that show a higher level of understanding Shares 3 or more similarities and differences Correct punctuation

Choose 2 different solutions. Then share some key similarities and some key differences.

Solution 1: _____

Solution 2: _____

Solutions

Both Solutions

Teaching and Learning

Close-Up Look at STEM Challenge

Problem

Challenge Criteria
& Constraints

Think Sheets

Work Through
Engineering Design
Process

Reflect Upon and Improve My Solution

Challenges I Had With My Pollinator

The thing I like the best about my pollinator...

The one thing I could improve about my pollinator...




↓ More

Take a closer Look!

6 Explorations/Experiments

What Do Plants Need to Grow?

In the middle of your team:
3-4 dried beans
Damp paper towel
Ziplock baggie with name on it




1. Fold your damp paper towel in half and place it in the bag.
2. Place the seeds along one side of the bag, pressing them against the paper towel. Seal the bag tightly, and hang in the window using tape. (make sure your beans are visible)

You are investigating what seeds will need to grow into plants. Draw what you think each plant will look like at the end of the investigation. (This is your prediction.)

Control A (Seeds with dry paper towel and sunlight)	Control B (Seeds with damp paper towel and NO sunlight)	My Seeds (Seeds with damp paper towel and sunlight)

Observe Your Seeds Daily

Record your observations for the next 3-5 days.




Days	Control A (Seeds with dry paper towel and sunlight)	Control B (Seeds with damp paper towel and NO sunlight)	My Seeds (Seeds with damp paper towel and sunlight)
Day 2			
Day 3			
Day 4			
Day 5			

What conclusion can you draw based on your findings? _____

Observing Different Plants

In the middle of your team or as a demonstration:
Plant #1-5

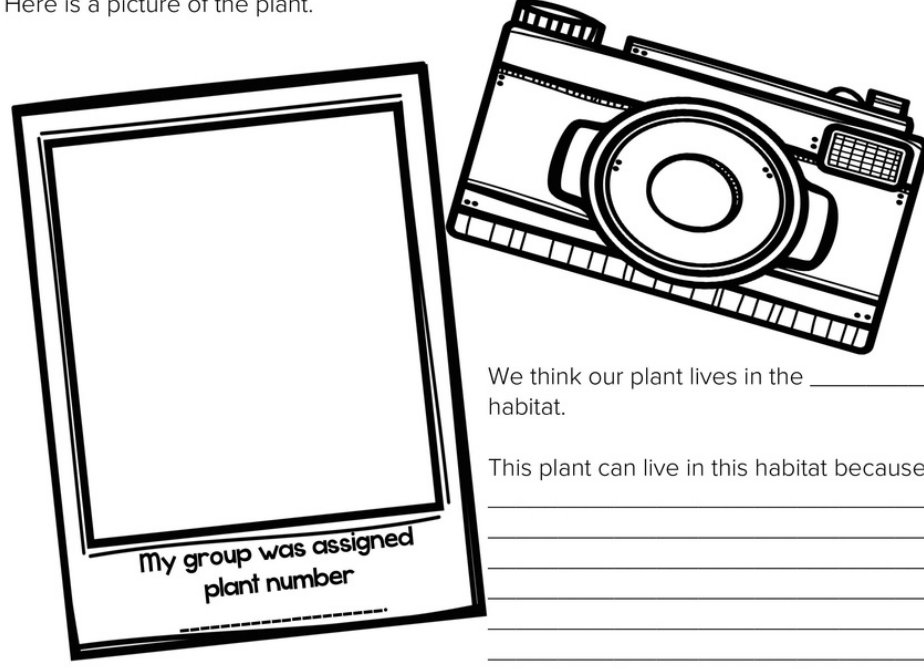


Observing Different Plants

Plant	What I noticed about this plant
#1	
#2	
#3	
#4	
#5	

Analyzing One Plant

Here is a picture of the plant.



We think our plant lives in the _____ habitat.

This plant can live in this habitat because... _____

My group was assigned plant number _____



What We Learned About Where Our Plants Live

As a class, we talked about where each plant can live. Here is what we found.

Plant	Habitats
#1	
#2	
#3	
#4	
#5	

Look at a Flower-What Do You See?


Observe the flower carefully. Draw a picture that shows its shape, colors, patterns, and parts.

Listen to the characteristics of a flower; then record the observations for your flower:

Characteristic	Observation
Color	
Pattern	
Shape	
Smell	

Look for the powdery substance (pollen) in the center of the flower. Use a Q-tip to smear some of the pollen into the box below and tape it in place.



Take a closer Look!

Nonfiction with Questions & Readers

Where Do Plants and Animals Live?

Living things need a place to live. A place where plants and animals get what they need to stay alive is a **habitat**. Different plants and animals live in different habitats. Living things have special features that help them survive in their habitats.

The way a plant or animal looks can give you clues about the habitat in which they live. Ocean plants and animals have features that help them survive under water. Desert plants and animals have **features** that help them survive long periods of time without a lot of water.

There are different types of habitats on Earth. Different animals and plants live in different areas of the world.



What Are Different Types of Habitats?



Water covers most of the Earth. Some plants and **animals** live in the water. Some of the water is salt water, like in the **ocean**. The ocean is home to many types of fish like dolphins and sharks, as well as **mammals**, animals that give birth to live young, like whales. Other kinds of plants and animals live in fresh water. Some **freshwater** animals include alligators and crocodiles.

Some kinds of plants and animals can never live in the water. They live on land. There are different kinds of land habitats. Some examples are **prairies**, **deserts**, and **forests**.

The desert is a dry place. The animals that live in the desert can survive long periods of time without water.

What Do Plants and Animals Need to Survive?

A habitat is important. Habitats provide all the necessary **survival** elements for plants and animals to grow and live. These survival elements are air, water, food, and space or **shelter** (the safe place for a living thing).

The habitat has to be the right match for each animal. For example, a shark could not survive on land, and a black bear could not live in the ocean.

Plants and animals have special features, such as a bird's wings. Wings help a bird to fly and to survive.

Questions:

1. What does the word shelter mean?

2. What text evidence supports the idea that



3. Why did the author write this passage?

Informational text standards covered

Integrate STEM into your reading block

How Do Plants Grow?

By Trina DeBorez
Illustrations by Creative Clips

Trina DeBorez
Teaching and Learning



What is a Plant?

A plant is a living thing. It stays in one place. Plants grow and change, just like all living things.

All plants have the same basic needs. Plants need air, water, and sunlight. The sunlight is used for energy.

How Does a Plant Begin?

Plants depend on their habitats to provide resources they need to grow. If plants have what they need, they will develop through a life cycle.

Page 1



seed

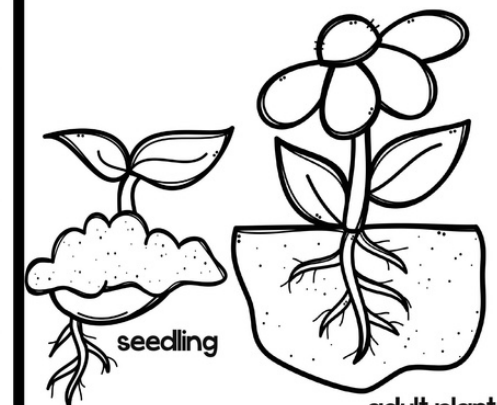
The life cycle of a plant begins with a seed. Under the right conditions, a seed starts to grow through a process of germination. **Germination** is where the seed splits open. A shoot then pushes out. A new plant is beginning.



Germination- the seed splits open.

Page 2

If the plant has access to sunlight and water, it will continue to grow into a **seedling**. During the seedling process, roots reach down into the soil, and a stem pushes up into the air. The plant continues to grow into an adult plant. The adult plant can reproduce or grow new plants.

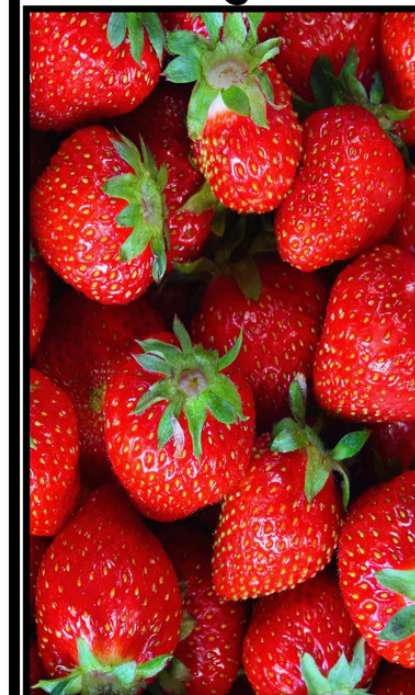


seedling

adult plant

Page 3

Investigate Phenomenon: Fruit Plants



Strawberries grow best after the threat of frost is over usually in late spring- March or April. Strawberries grow the best in sunlight with full sun. Strawberries prefer a sand loam soil that is deep and contains a high amount of organic matter.

Many strawberry farms are located in California and Florida with California producing 91% of the strawberry crops. Florida is responsible for the majority of winter crops.

Raspberries grow best from July to September in a dry area. Many raspberry farms are located along the west coast of the United States.

Cherries grow best in very moist soil during the month of June. Many cherries are produced in northern states, like Michigan and Wisconsin.

Brussel sprout plants thrive in cool soil and can be harvested in October. Most farms that produce Brussel sprouts are in the northwestern United States.

What does this make you wonder?

Page 4

Close-Up Look at Nonfiction

Where Do Plants and Animals Live?

Informational

Living things need a place to live. A place where plants and animals get what they need to stay alive is a **habitat**. Different plants and animals live in different habitats. Some animals have special features that help them survive in their habitats.

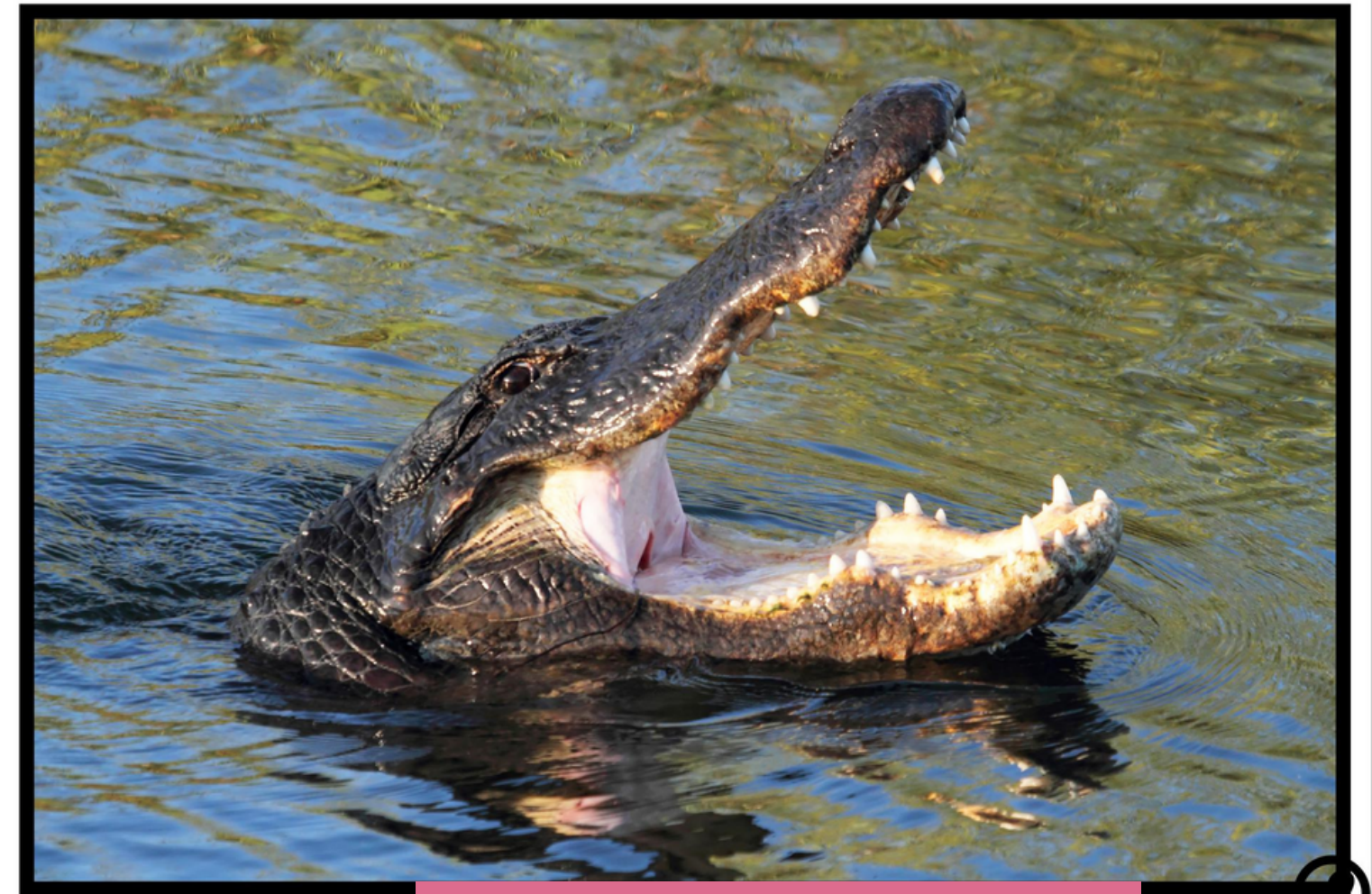
Nonfiction Reading Standards

The way a plant or animal looks can give you clues about the habitat in which they live. Ocean plants and animals have features that help them survive under water. Desert plants and animals have **features** that help them survive long periods without a lot of water.

Questions

There are different types of habitats on Earth. Different plants and animals live in different areas of the world.

Student Thinking Required








↓ More

Assessments

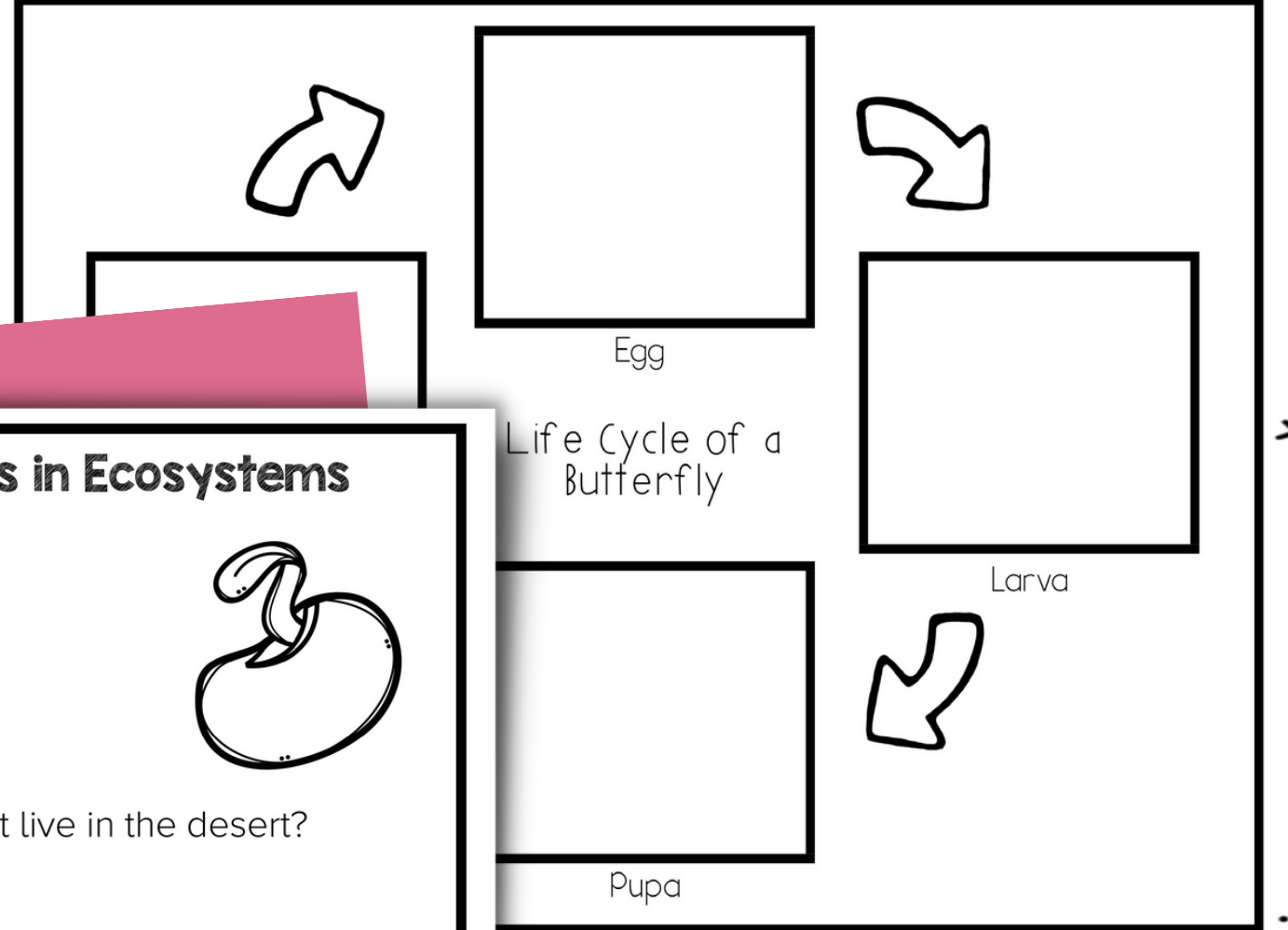
Land or Water?

Place the animal or plant in the proper habitat.

Land	Water
	
	
	

Life Cycle of a Butterfly

Place the stages of the life cycle of a butterfly in the correct location.



Egg

Larva

Pupa

32

Interdependent Relationships in Ecosystems

Name: _____

1. A seed will not begin to grow without _____.

- a. sunlight
- b. water
- c. soil
- d. flowers

2-LS2-1

2. Which characteristic is common for animals that live in the desert?

- a. thick hair
- b. gills
- c. scaly skin
- d. shallow roots

2-LS4-1

3. A scientist compares a desert plant and a grassland plant. Which of the following might she notice?

- a. the seed of the desert plant needs less water to grow.
- b. the grassland plant has larger leaves than the desert plant.
- c. the grassland plant has flowers and the desert plant does not.
- d. the grassland plant has roots and the desert plant does not.

Page 1

Formative and
Summative



More

What Teachers Are Saying...

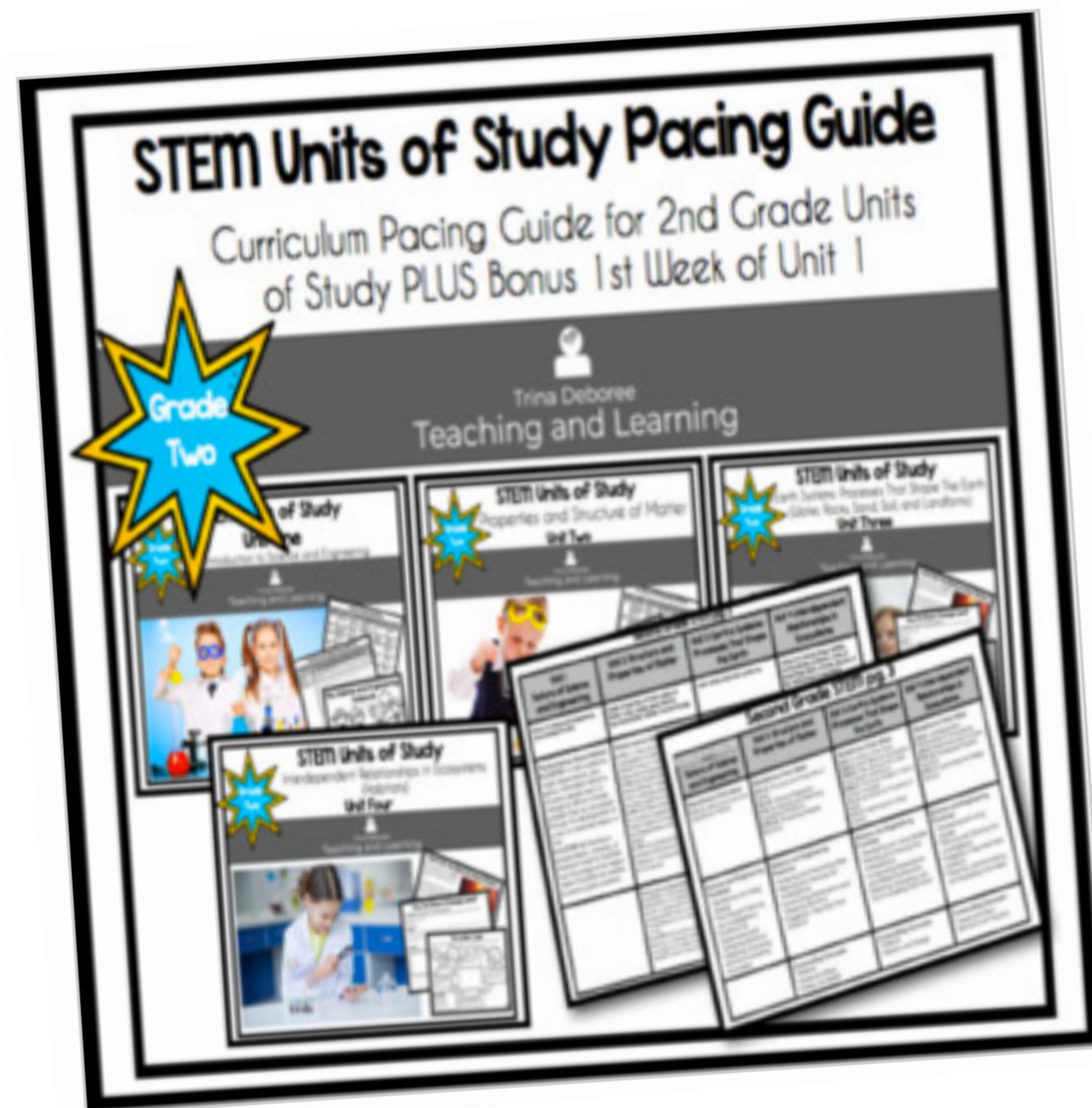
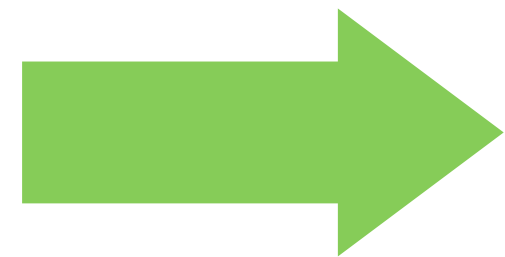
“Wonderful resource!
Highly engaging”
~Stacey M.



↓ More

Become a TDTL Listy and Download a STEM Unit Pacing Guide

Click the Image Below to Download.



TEACHING AND LEARNING



TRINA DEBOREE