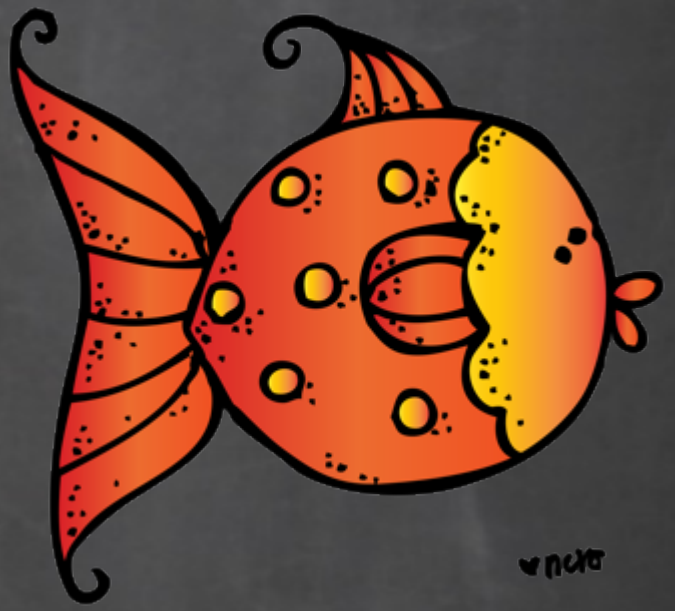
Plant & Animal Adaptations

Table of contents

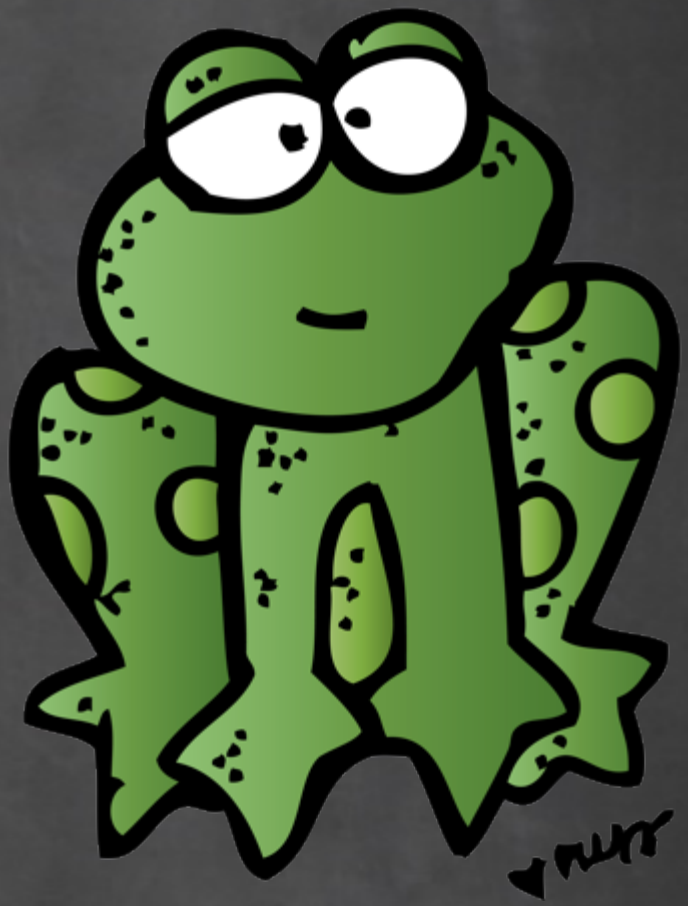
Physical Adaptations

When the body of an organism changes to allow the animal to survive in its environment.



Behavioral Adaptations

Things an organism does in order to survive in its environment.



camouflage

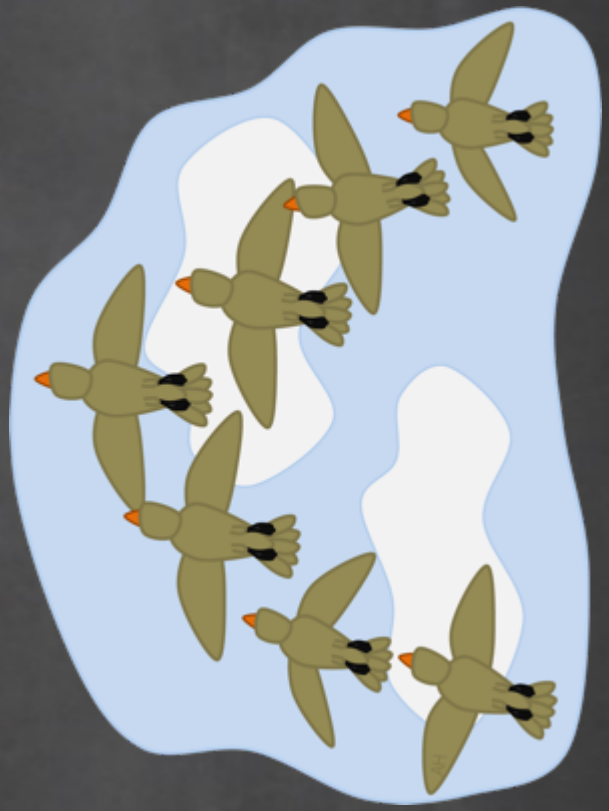
The use of colors to make an organism blend in to its environment so it is difficult to see.

Hibernation

This is when an organism sleeps or rests through most of the winter months.

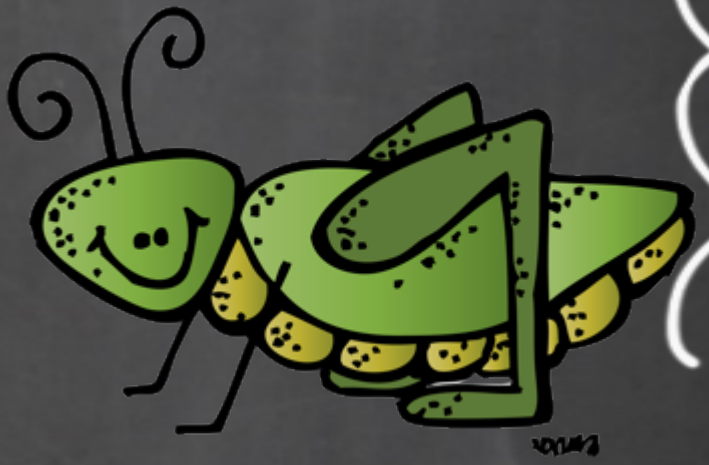
Migration

This is when animals travel seasonally to help them find a climate best suited for their survival.



Mimicry

A survival trick where an animal mimics or looks like another plant or animal.



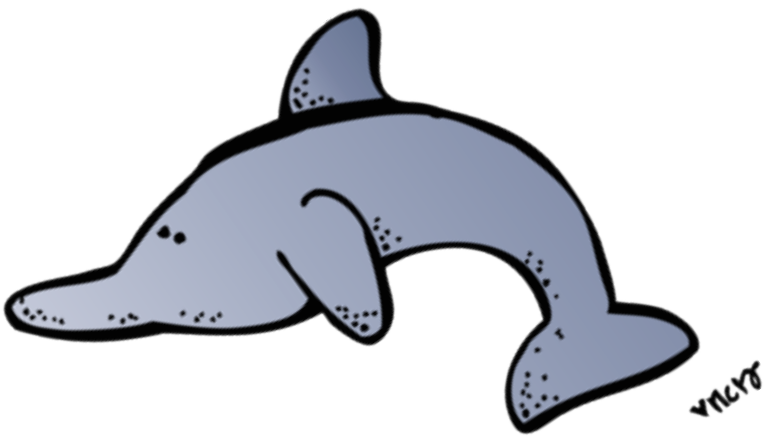
Name_____ Date_____

Plant & Animal Adaptations

K What I Know	W What I Want to Know	L What I Learned

Types of Adaptations

I like to begin my adaptions unit by introducing physical and behavioral adaptations. I explain each type of adaptation without giving too many examples. Then, I break my students into groups of four and turn this activity into a bit of a competition. I have students work together to brainstorm as many examples of physical and behavior adaptations as possible. I usually time my students for about five minutes and then I allow each group to share their examples, and the group with the most correct examples wins! As each group shares, I create a class anchor chart of examples of different adaptations.



Name_____ Date_____

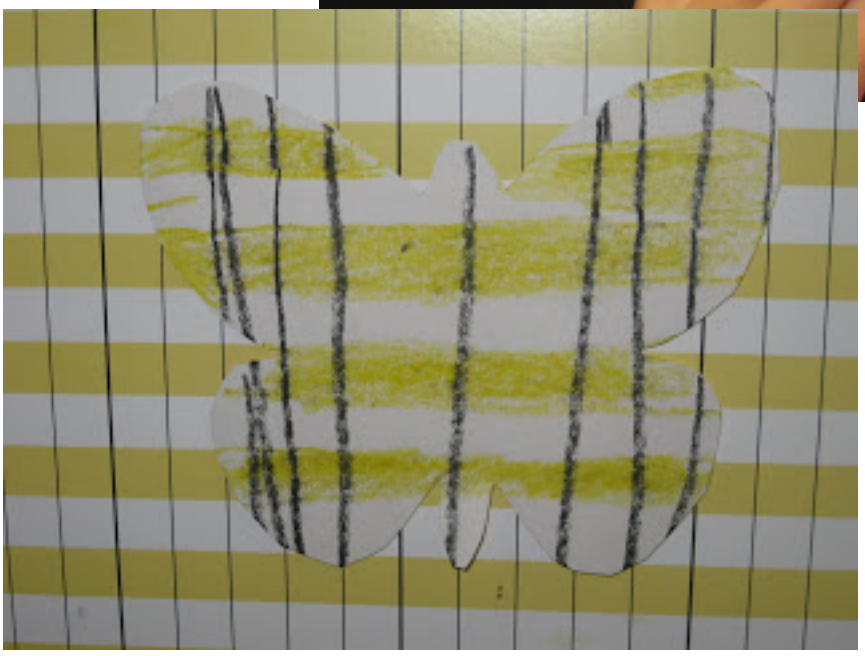
Types of Adaptations

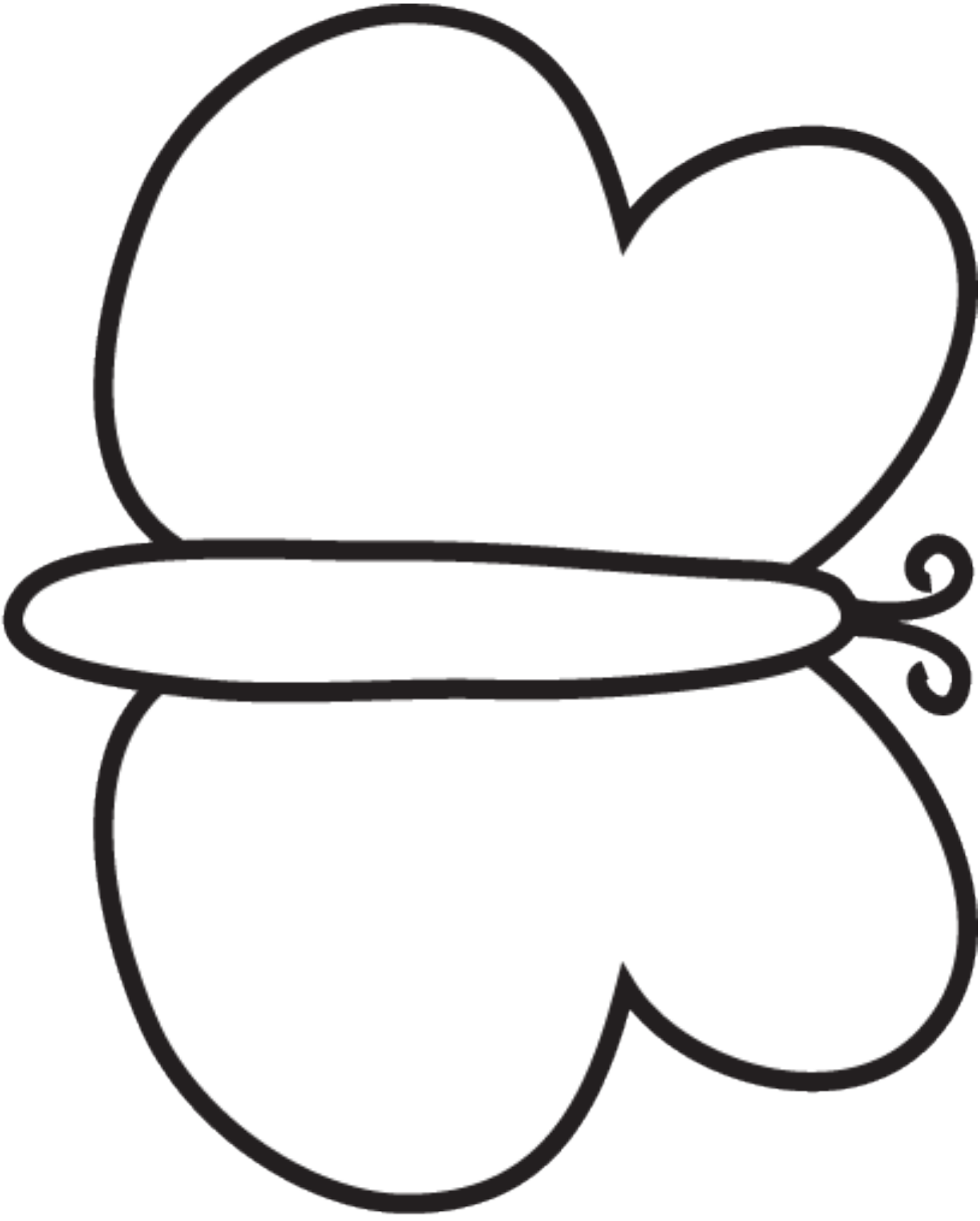
Physical Adaptations	Behavioral Adaptations

Butterfly Camouflage

This is always one of my students' favorite activities! In this lesson I reinforce the concept of camouflage by have my students decorate butterflies that blend in to the environment. Give each student a blank butterfly template and have them look around the room to find a habitat for their butterfly. Students should color and create a design for the butterfly that allows it to blend in to wherever the students plan to place the butterfly. I like to have my students tape their butterfly to the wall and have a few other students come in to the classroom to try to find all of the butterflies. It's always fun to see which butterfly is the most difficult to find!


stars





Birds' Beaks Experiment

This is another one of my students' favorite activities! It is so much fun and really helps get the concept of beak adaptations across to students. This activity does require quite a bit of preparation, but I feel that it is definitely worth the work. To begin with, collect several types of tools to serve as birds' beaks (tongs, tweezers, slotted spoons, eye droppers, staple removers, etc.) Then, collect a variety of bird foods:

- snails-macaroni
- grubs-m&ms
- nectar-red water
- worms-gummy worms
- seeds
- flesh-staples in cardboard
- fish-paper clips
- beetles-raisins in soil

Mix the food in with oatmeal or potting soil to make it a little more realistic for students. During the activity students have two attempts to collect as much food as possible with the two beaks of their choice. I like to give students 30 seconds for each attempt, and I have students record their results on their data collection sheet.

Bird's Beaks Experiment

Bird's Beaks Experiment

	Second Attempt		First Attempt	
Food Item	Beak Used (Tool Used)	Amount Eaten	Beak Used (Tool Used)	Amount Eaten
1. Snails (macaroni)				
2. Grubs (M&Ms)				
3. Nectar (red water)				
4. Earthworms (gummy worms)				
5. Seeds				
6. Flesh (staples)				
7. Fish (paperclips)				
8. Beetles (raisins)				

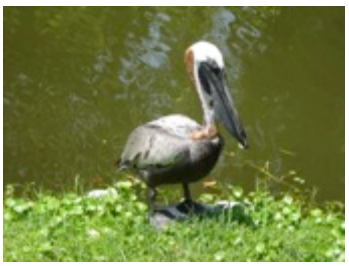
Name _____ Date_____

Bird's Beaks Worksheet

Look at each example of a bird's beak below and explain how the beak helps the bird to survive in its environment.

_____
_____
_____
_____
_____

_____
_____
_____
_____
_____



_____
_____
_____
_____
_____

_____
_____
_____
_____
_____

_____
_____
_____
_____
_____

_____
_____
_____
_____
_____

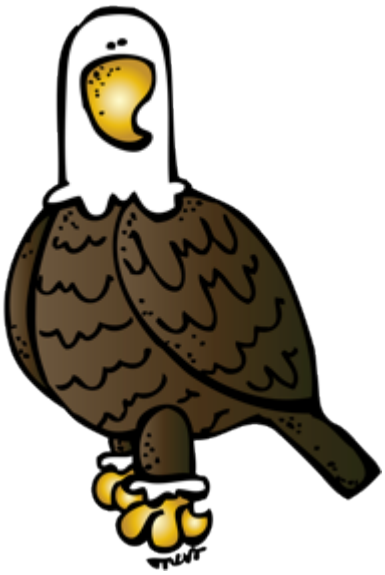
Bird's Feet Matching

Materials & Preparation-You'll need one set for each group of students.

- Pictures of bird's feet-laminate and cut out
- Descriptions of bird's feet-laminate and cut out
- Matching labels for types of feet-laminate and cut out

Directions

- Discuss with students how different birds have a variety of types of feet. These feet have different types of sizes, shapes, and purposes.
- Students should separate the three types of cards on a large, flat surface.
- Then, students should match the correct picture, description, and label together.



Swimming

Scratching

Grasping

Perching

Running

Climbing

These feet have sharp nails on the front and back of the foot to help dig into wood to keep the birds from slipping.

Webbed feet help birds paddle through water quickly.

These birds can move quickly with three toes that all face forward.

These birds have three toes facing the front and one toe facing the back, so they can wrap their toes around branches.

These claw like feet are used for grabbing prey.

These feet have four toes with claws that are good for digging in the ground.

Swimming

Webbed feet help birds paddle through water quickly.

Scratching

These feet have four toes with claws that are good for digging in the ground.

Grasping

These claw like feet are used for grabbing prey.

Perching

These birds have three toes facing the front and one toe facing the back, so they can wrap their toes around branches.

Running

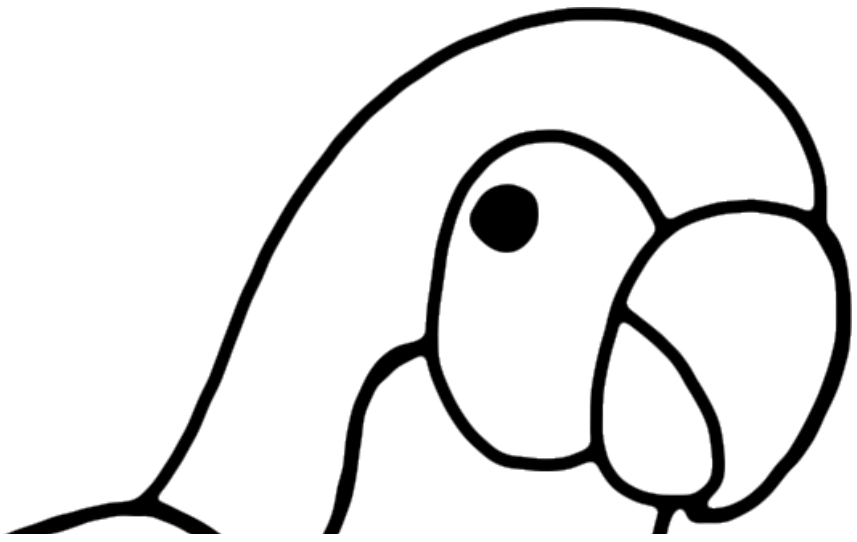
These birds can move quickly with three toes that all face forward.

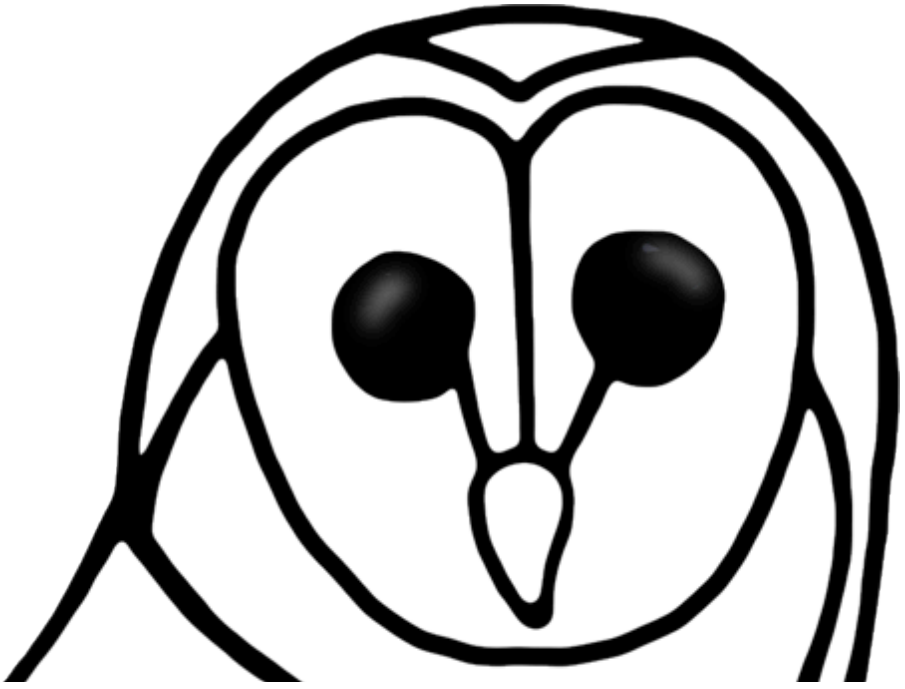
Climbing

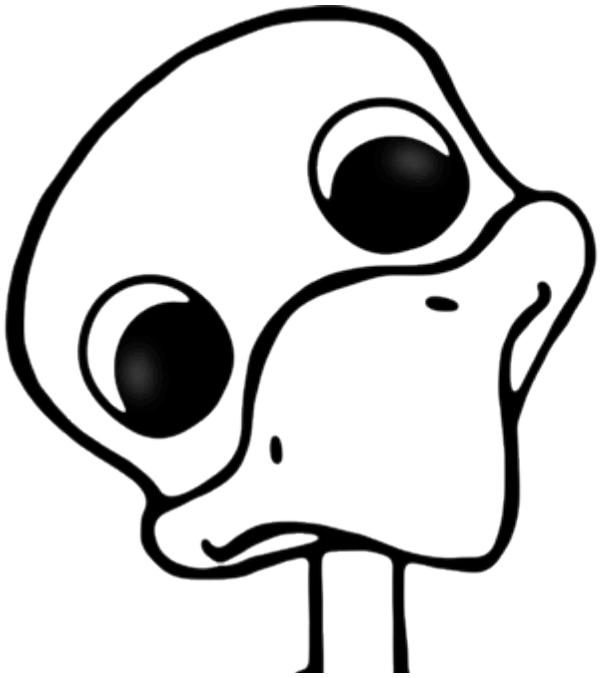
These feet have sharp nails on the front and back of the foot to help dig into wood to keep the birds from slipping.

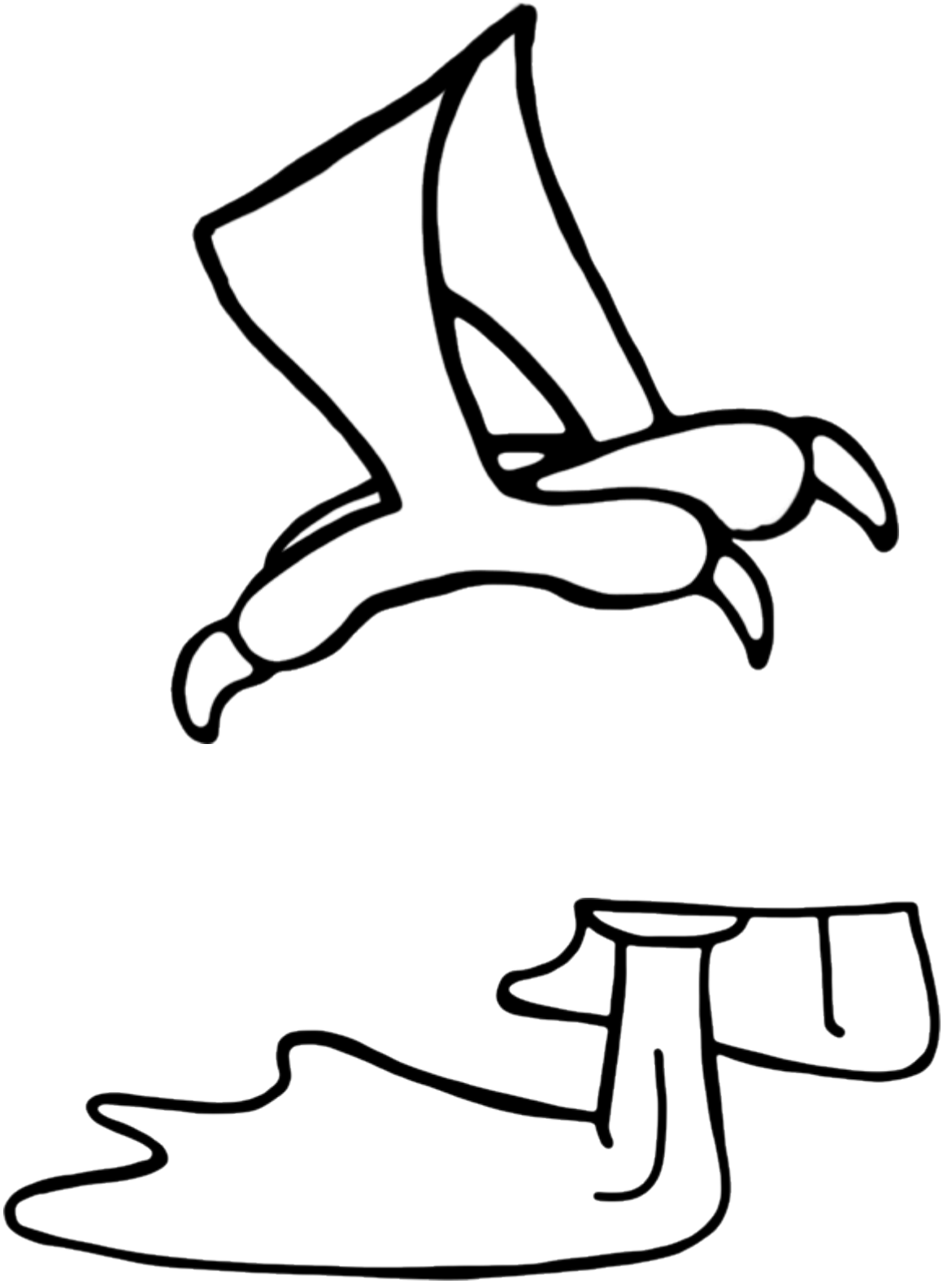
Build a Bird

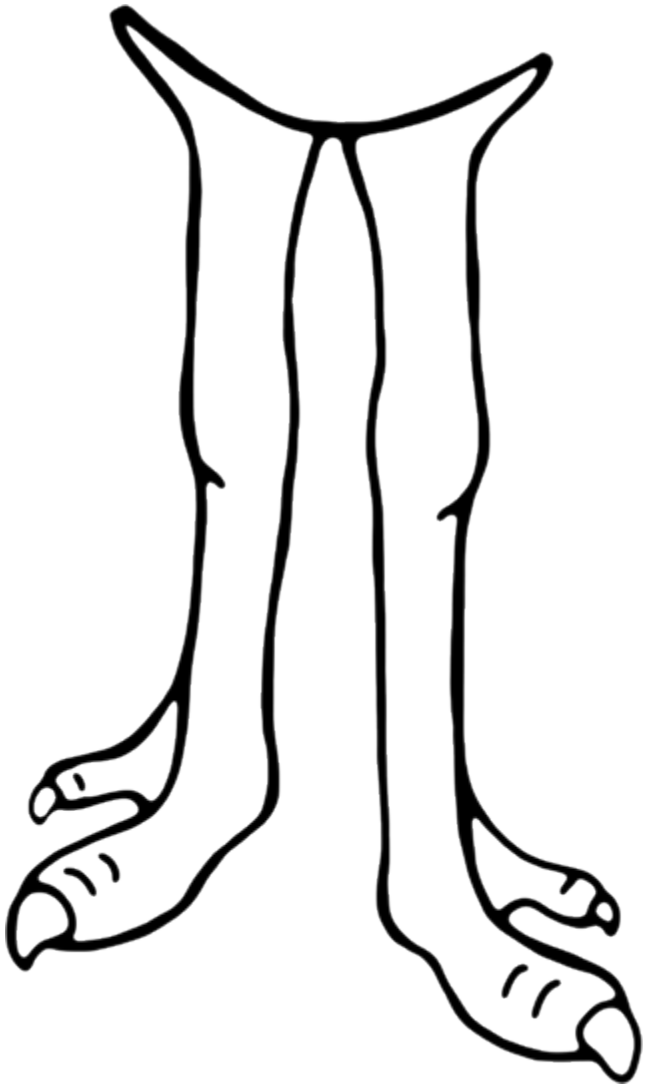
Culminate your bird lessons with this activity that your students are sure to love! In this activity, students will draw the bird's body as a starting place and then design their own new species of bird. Students will need to select a head and feet for their bird. Students should glue the bird together on a piece of construction paper and then write a paragraph explaining the habitat their bird lives in and how it has adapted to live in that habitat.

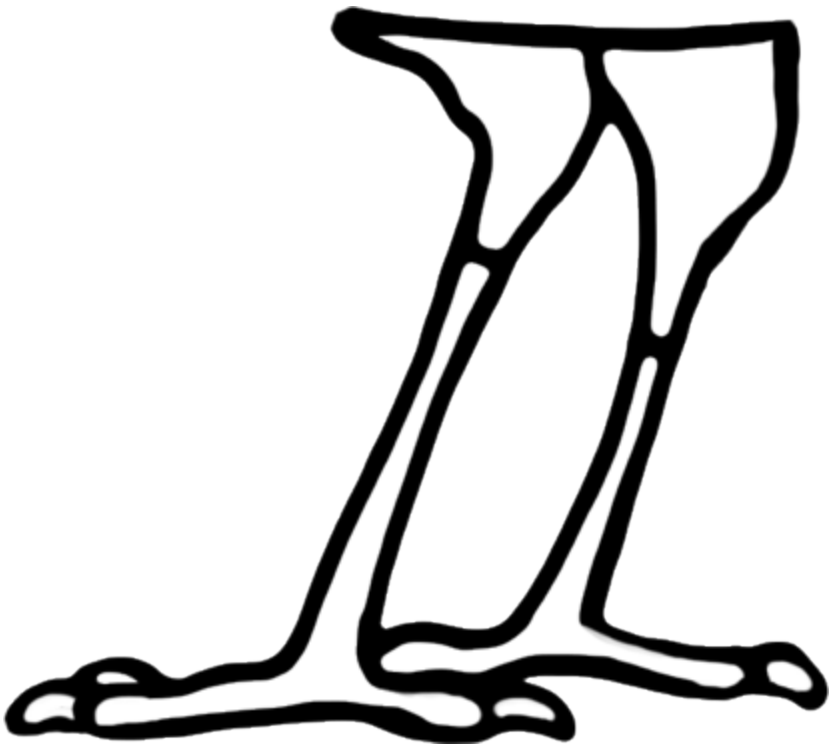








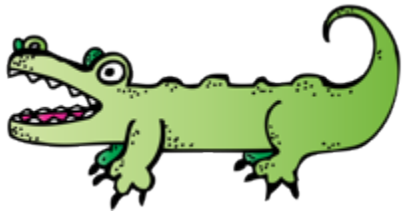




Adaptations Foldable

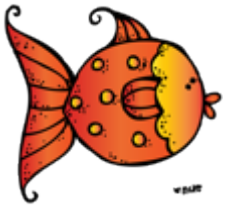
Students can continue to learn about animal adaptations with this foldable. You can either use the prelabeled foldable template or the blank template, or you could even use the template as a model and have students create their own foldable using a piece of construction paper. In this activity, students should identify six different animal adaptations on the outside of the foldable. Then, on the inside of the foldable, students should give an example of an animal with that adaptation and explain how that specific feature helps the animal to survive in its environment.

Webbed Feet



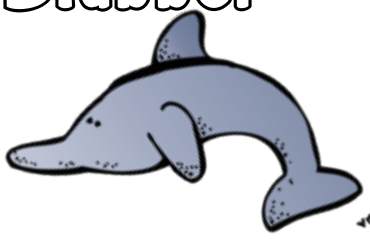
Sharp Claws

Gills

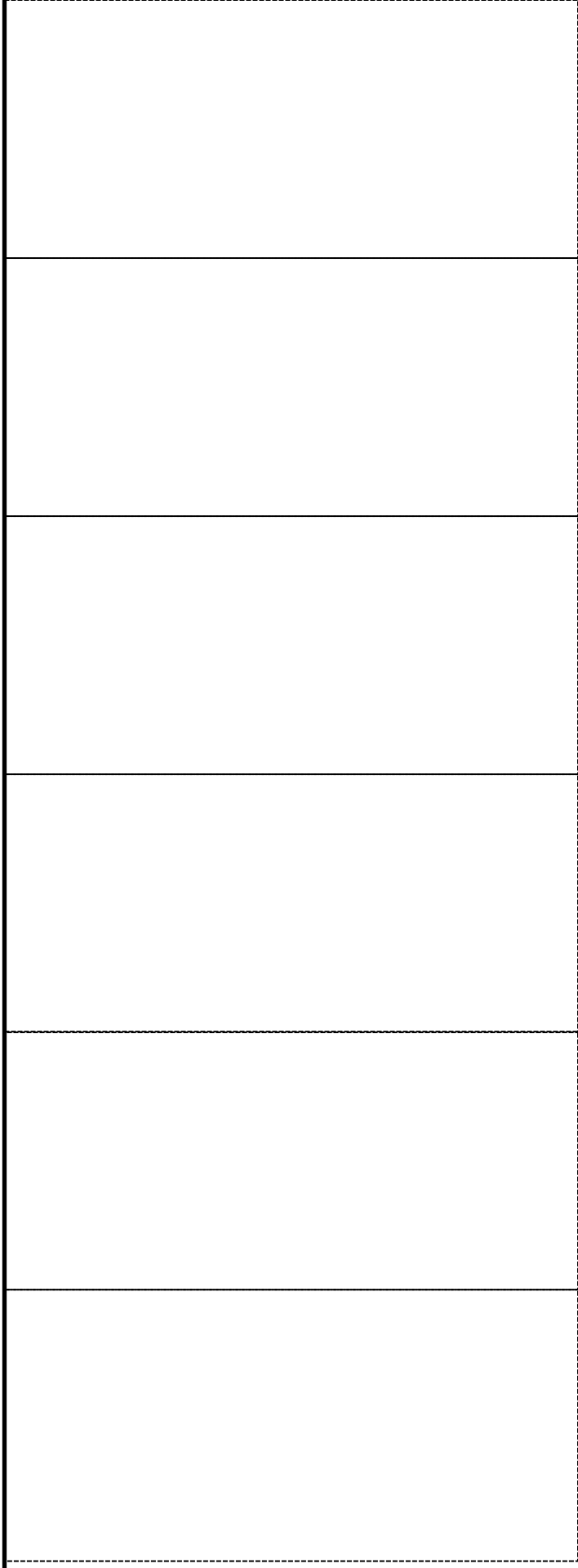


Thick Fur

Blubber



Hooves



Name_____ Date_____

Physical Adaptations

Webbed Feet

_____

_____

_____

Sharp Teeth

_____

_____

_____

Sharp Claws

_____

_____

_____

Thick Fur

_____

_____

_____

scales

_____

_____

_____

Name_____ Date_____

Physical Adaptations

Webbed Feet

alligator

duck

platypus

Sharp Teeth

lion

tiger

alligator

Sharp Claws

eagle

bear

bobcat

Thick Fur

sheep

Polar Bear

Arctic Fox

scales

fish

snakes

turtles

Name_____ Date_____

Behavioral Adaptations

Migration	Hibernation	Mimicry

Name_____ Date_____

Behavioral Adaptations

Migration

Monarch Butterfly

Caribou

Gray Whale

African Elephant

Arctic Tern

Answers Will Vary

Hibernation

Bats

Box Turtles

Bumble Bees

Garter Snakes

Hedgehogs

Answers Will Vary

Mimicry

Praying Mantises

Walking Stick

Flat Worm

Robber Bee

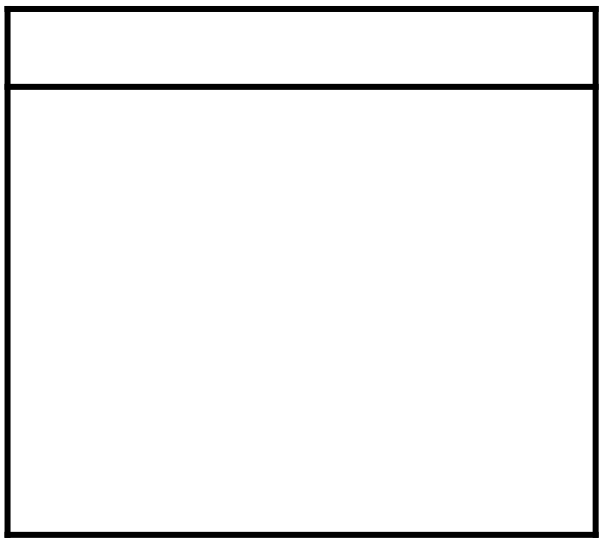
Hawk Moth Caterpillar

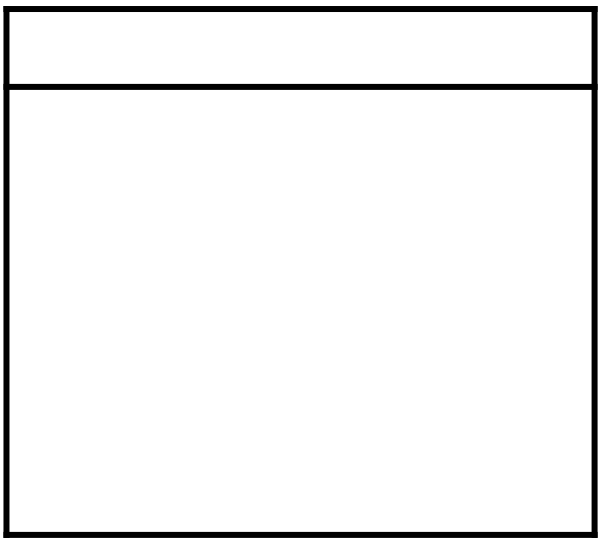
Answers Will Vary

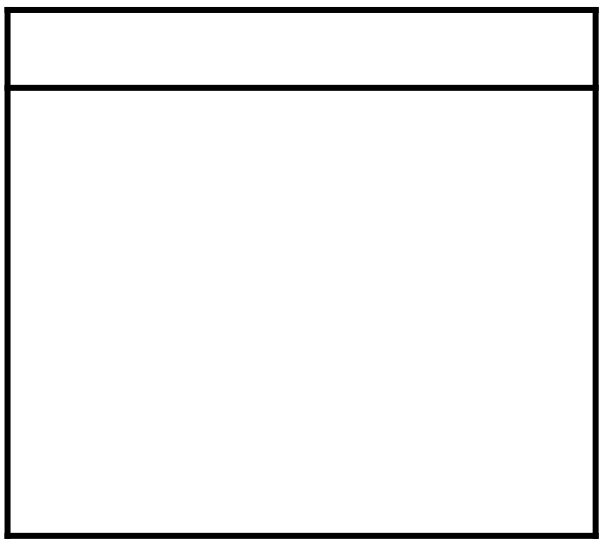
Plant Adaptations Flipbook

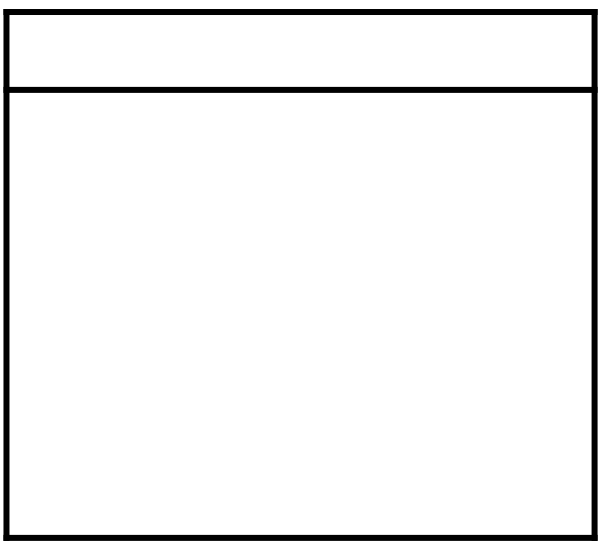
Print the following pages. I like to print on cardstock or heavy paper for extra durability. Have student cut out the squares on the paper labeled "Top". Students should then place a thin strip of glue on the top section of each square on the paper labeled "bottom". Then, they should place the cut out square directly on top of the glue, so you have a square flap that opens and shuts. Students should explain different adaptations plants have in each of the habitats shown on the front of the flipbook.

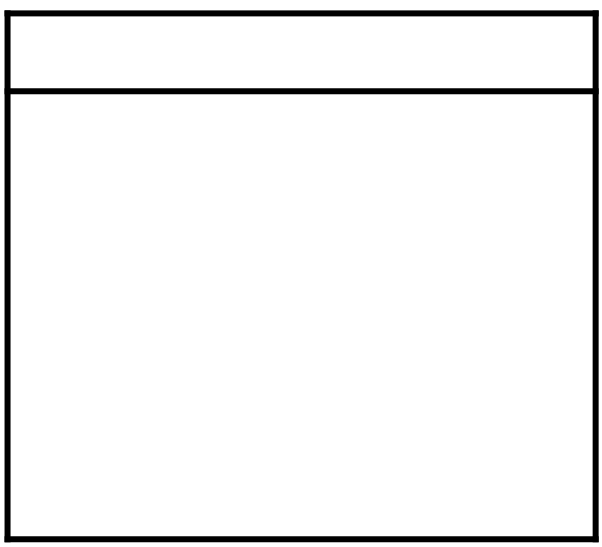
Plant Adaptations FlipBook (Bottom)

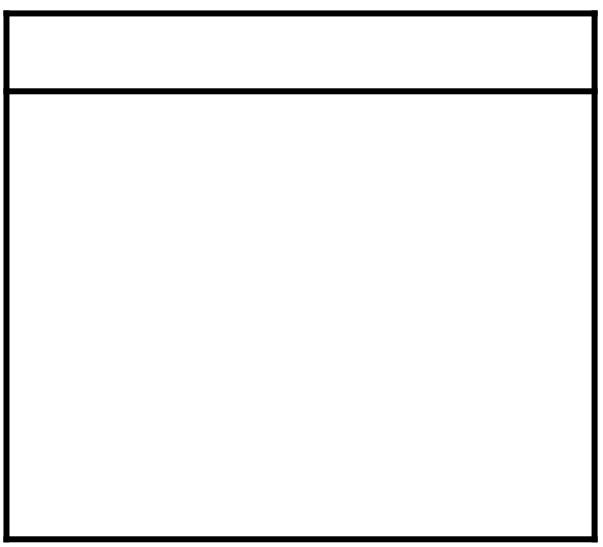






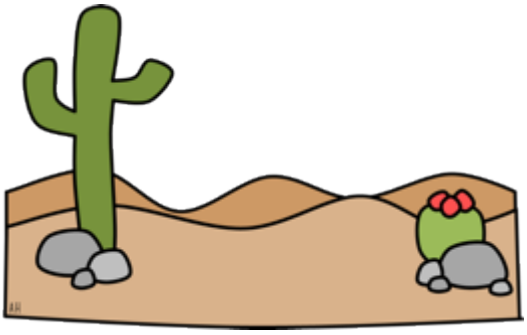




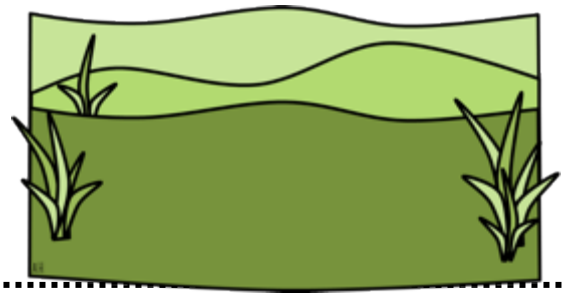


Plant Adaptations FlipBook (top)

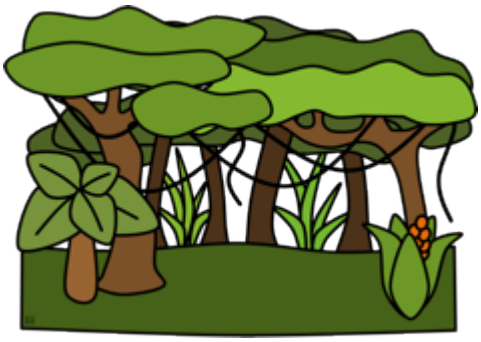
Desert



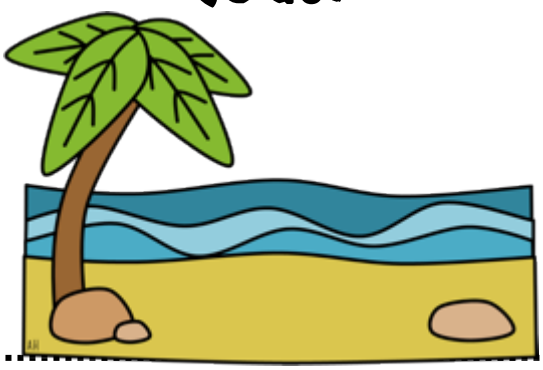
Grassland



Rainforest

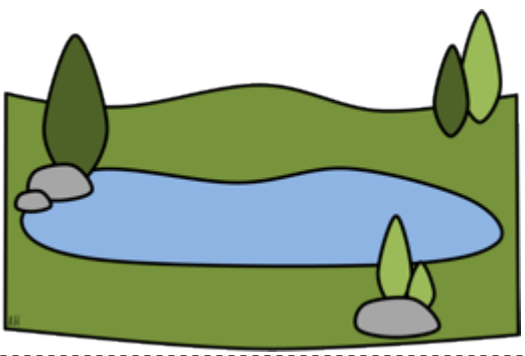


Coast



Forest

Swamp



Plant Adaptations FlipBook (answer key)

Desert

- waxy leaves
- small leaves
- long root systems
- leaves with hair or waxy coating
- flowers that open at night

Grassland

- some prairie trees have thick bark to resist fire
- roots of prairie grasses extend deep into the ground to absorb as much moisture as they can
- prairie grasses have narrow leaves which lose less water than broad leaves
- soft stems enable prairie grasses to bend in the wind

Rainforest

- saxy surfaces allow water to run off
- some plants climb on others to reach the sunlight
- some plants grow on other plants to reach the sunlight
- smooth bark and smooth or waxy flowers speed the run off of water
- plants have shallow roots to help capture nutrients from the top level of soil

Coast

- an increased thickness in the leaves to protect the plant from exposure to the sun and salt
- hair on the leaves, which helps to avoid heat stress– common in plants found close to the shore
- wiry stiff leaves and stems which enable the plants to live in coastal areas

Forest

- wildflowers grow on forest floor early in the spring before trees leaf-out and shade the forest floor
- many trees are deciduous (they drop their leaves in the autumn, and grow new ones in spring).
- most deciduous trees have thin, broad, light-weight leaves that can capture a lot of sunlight
- trees have thick bark to protect against cold winters

Swamp

- underwater leaves and stems are flexible to move with water currents
- some plants have air spaces in their stems to help hold the plant up in the water
- some plants have leaves that float atop the water
- some plants in soil that lack nutrients are carnivorous

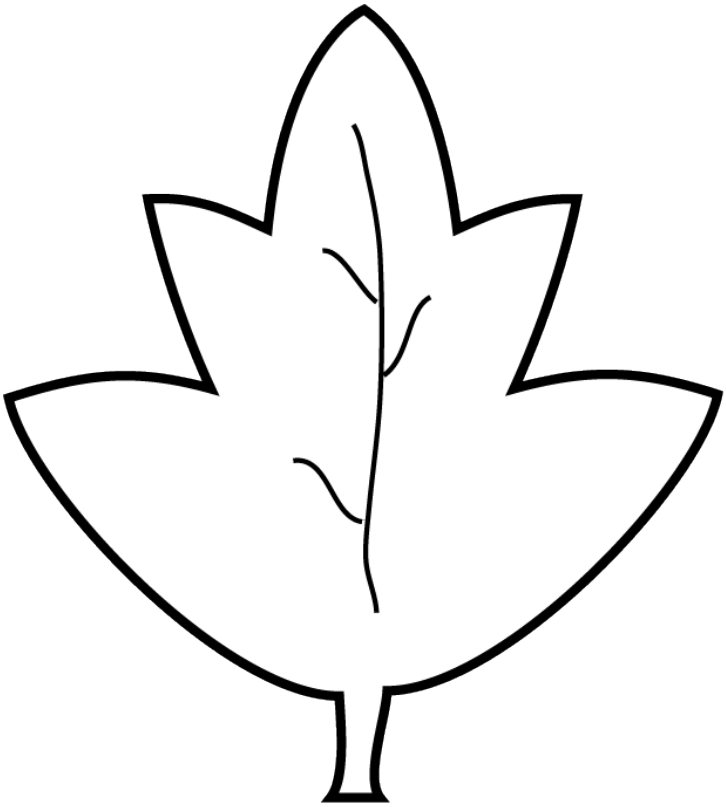
Leaf Shape & Water

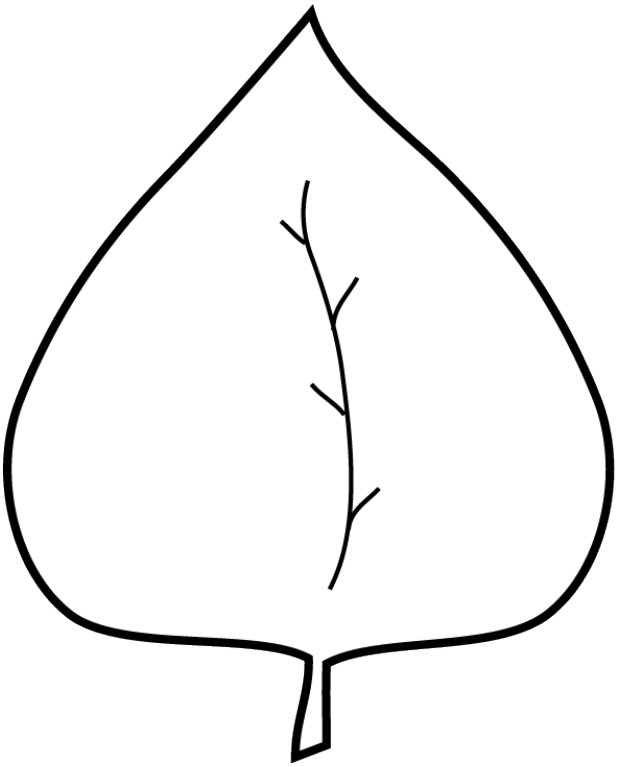
Materials

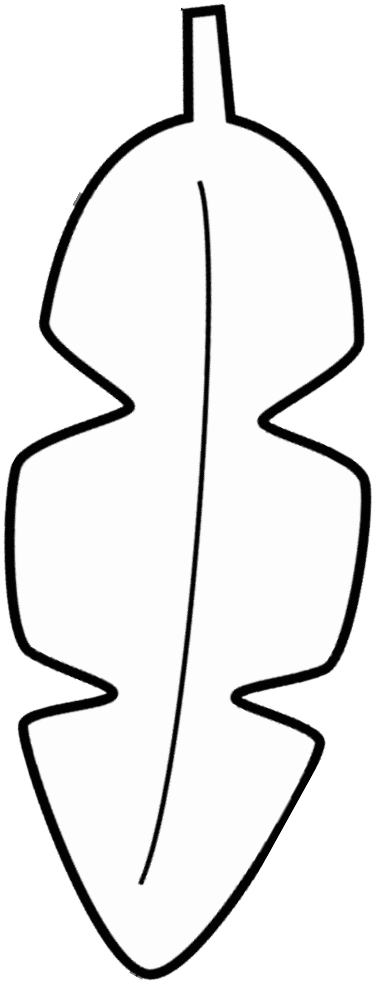
- Leaf templates
- Construction paper
- Wax paper
- Spray bottle
- Scissors

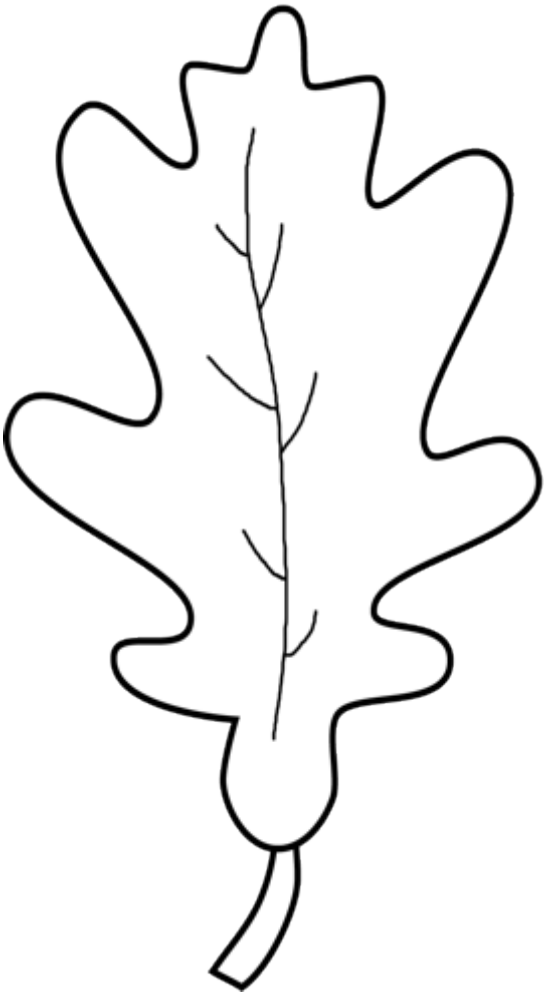
Directions:

- Give students a copy of the leaf patterns to trace (as an alternative, you can have students trace actual leaves they've found.)
- Students should trace each leave on a piece of construction paper and a piece of wax paper.
- Have students spray the construction paper leaves first and see which leaf sheds water the best and which leaf retains water the best.
- Then, repeat the step with the wax paper leaves and make the same observations.
- After finishing the steps above, complete the Leaf Shape questions together to ensure students' understanding of the activity.









Name_____ Date_____

Leaf Shape & Water

1. What shape leaf sheds water most quickly? _____

2. What type of paper sheds water most quickly? _____

3. Where would plants that have leaves that shed water quickly most likely live? Why?_____

_____

4. Where would plants that have leaves that shed water slowly most likely live? Why?_____

_____

5. Name two ways a waxy coating on leaves help a plant to survive.

_____

_____

Thickness of Leaves

Materials

- Thick sponges (one for each group)
- Thin sponges (one for each group)
- Measuring cup (one for each group)
- Thickness of a Leaf recording sheet

Directions

- Divide students into small groups and give each group one thick sponge and one thin sponge to act as leaves.
- Have students pour equal amounts of water over each sponge. Allow the sponges to sit in the water for a couple of minutes.
- Then, have students squeeze the thin sponge into the measuring cup to determine how much water it held. Make sure students record their measurements before they empty their measuring cups.
- Repeat the same steps using the thick sponge and once again make sure students record their measurements.
- Have students complete the Thickness of a Leaf recording sheet.

Name_____ Date_____

Thickness of Leaves

1. How much water did the thin sponge hold? _____

2. How much water did the thick sponge hold? _____

3. How much more water did the thick sponge hold than the thin sponge?

_____

4. Imagine that the sponges are leaves. Where would a plant with thick leaves most likely live? Why? _____

_____

_____

5. Where would a plant with thin leaves most likely live? Why? _____

_____

_____

Seeds of all kinds

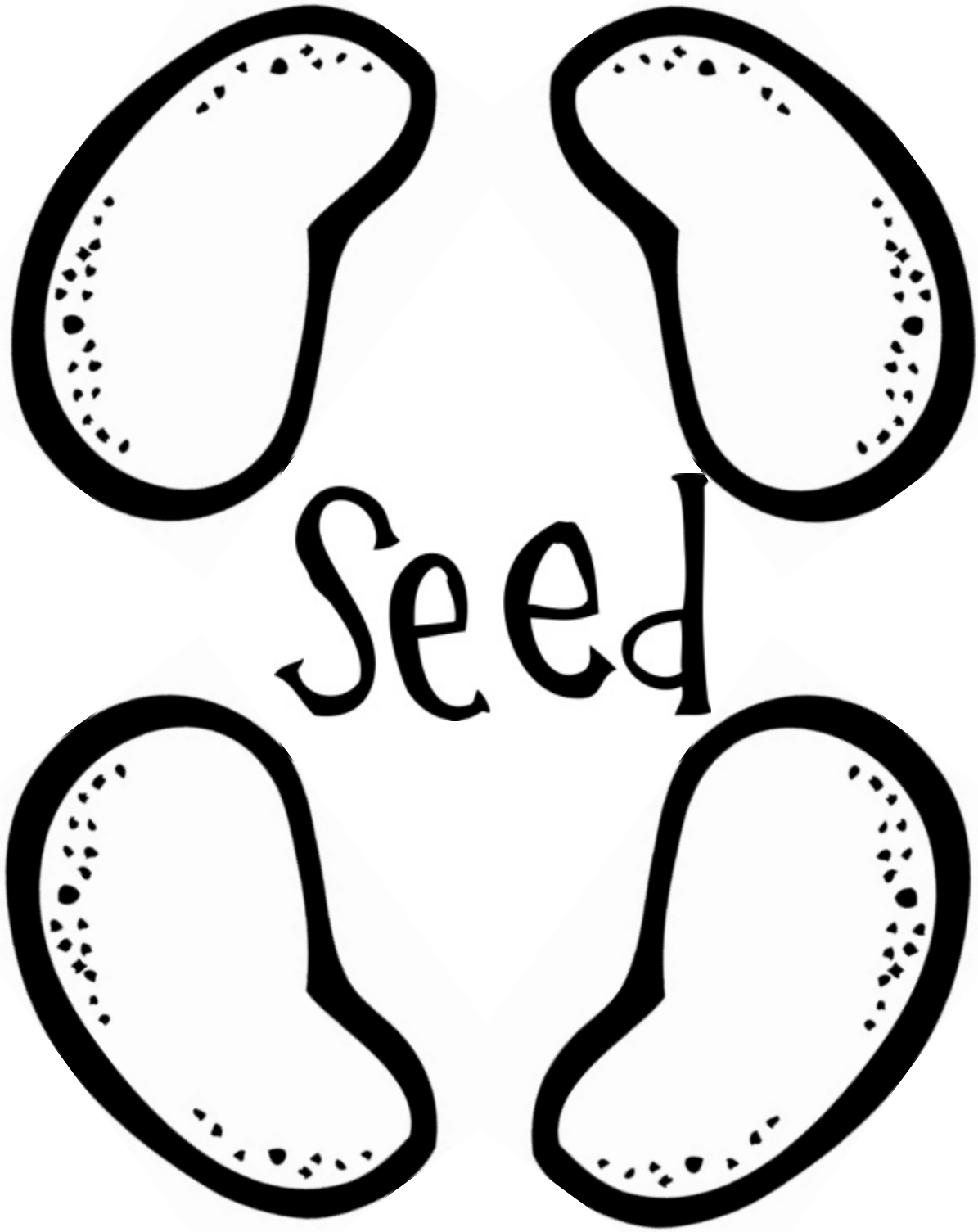
About a week before beginning the adaptions unit, have students save a sample of seeds from every fruit they eat during the next few days. Encourage students to collect as many different types of seeds as possible. After students bring their seeds in, have students observe each others' seeds. Have students complete the included graphic organizer noting various differences between all of the seeds. Students should note differences such as:

- Some seeds are small.
- Some seeds are large.
- Some fruits have more seeds than other fruits.
- Some seeds on the inside of the fruit and other seeds on the outside of the fruit.

Discuss these differences together, and have students explain why they believe the seeds are all different.

Name_____ Date_____

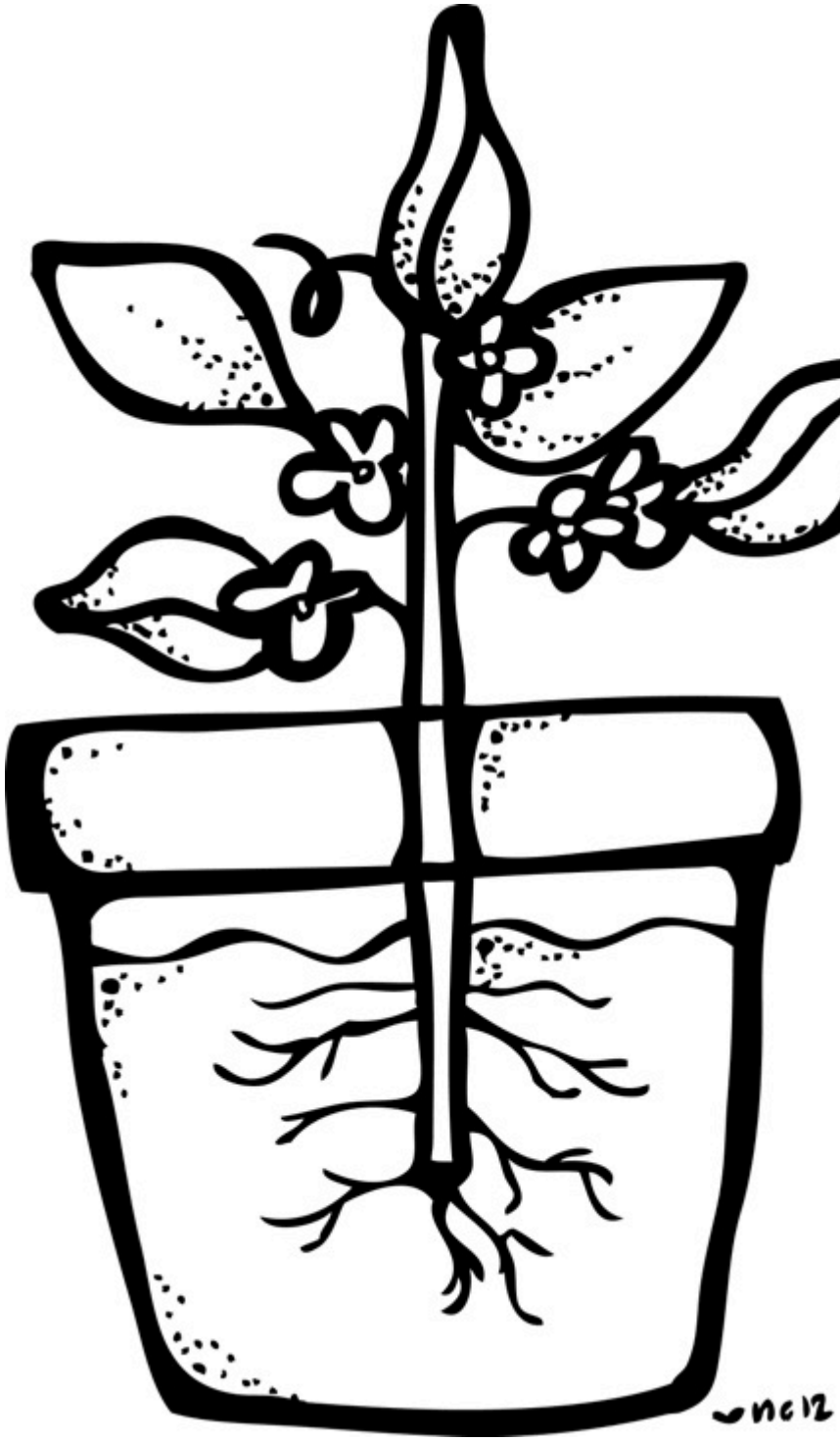
On the seeds below, describe four major differences you noted among the seeds brought to your classroom.



Name_____ Date_____

Plant Adaptations

Explain how different parts of a plant can be adapted to thrive in different environments.



Flowers

Leaves

Stem

Roots

Desert	Rainforest	Temperate Forest	Marsh & Swamp	Grasslands

Wildflowers often grow on the forest floor.

Soft leaves allow grasses to bend in the wind.

Some plants are carnivorous because of the lack of nutrients in the soil.

Some plants climb on each other to reach the sunlight.

Smooth bark and waxy leaves help water to run off quickly.

Roots of grass extend deep in the ground to find moisture.

Many of the trees are deciduous and lose their leaves in the winter.

Has some flowers that only open at night.

Some plants have spiny points to keep animals from eating it.

Some trees have "knees" that help the tree grow in wet areas.

Grasses and leaves have narrow leaves to prevent moisture loss.

Thick bark protects the trees in cold winters.

Many plants grow on the surface of the water.

May store water in the stem and does not have leaves to conserve water.

Many leaves have drip tips to encourage fast run-off of rain.

Desert	Rainforest	Temperate Forest	Marsh & Swamp	Grasslands
				
May store water in the stem and does not have leaves to conserve water. Some plants have spiny points to keep animals from eating it. Has some flowers that only open at night.	Smooth bark and waxy leaves help water to run off quickly. Many leaves have drip tips to encourage fast run-off of rain. Some plants climb on each other to reach the sunlight.	Thick bark protects the trees in cold winters. Many of the trees are deciduous and lose their leaves in the winter. Wildflowers often grow on the forest floor.	Many plants grow on the surface of the water. Some trees have "knees" that help the tree grow in wet areas. Some plants are carnivorous because of the lack of nutrients in the soil.	Grasses and leaves have narrow leaves to prevent moisture loss. Roots of grass extend deep in the ground to find moisture. Soft leaves allow grasses to bend in the wind.

Create a TriaRama

Materials

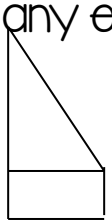
- Large white construction paper (12x18)
- Crayons and/or colored pencils

Directions

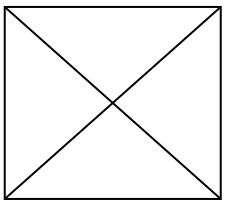
- Have students create a triarama (step-by step directions are included)
- Students should color and decorate the background to reflect a specific habitat.
- Then, students should design one animal and one plant that has specific adaptations that allow it to thrive in that specific environment.
- After students design their plants and animals, they should write three paragraphs about their project. One paragraph should describe the habitat, the second paragraph should describe the animal and how it is adapted for the habitat, and the third paragraph should describe the plant and how it is adapted to thrive in the habitat.

Create a TRIARAMA

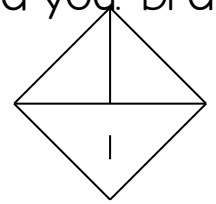
1. Create a square a piece of construction paper by making a diagonal fold where the top edge and one side edge overlap. Cut off any extra paper.



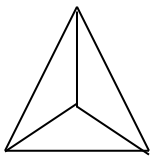
2. Unfold the square and refold it in the opposite direction to make a crease.



3. Cut along one of the folds up to the center point. Rotate paper so that it looks like a diamond and the cut line points directly toward you. Draw the background scene on the top half.



4. Completely overlap the two triangles created by the cut to form an open pyramid. Glue to secure.



5. Visit this site for an online tutorial: http://www.youtube.com/watch?v=7v7M-67p3xY

Plant and Animal Adaptations Book

There are multiple ways to complete this activity. One of the easiest methods is to complete a class plant and animal adaptations book. You'll only need to decorate one cover page, and then each student will complete one blank page. On the blank page, students should select one plant or animal (or you can assign the plant or animal) and write the name of the plant or animal on the top of the page, draw a picture on the middle of the page, and explain how the plant or animal is adapted to its environment on the bottom of the page. Then, combine all of the pages to create one class book.

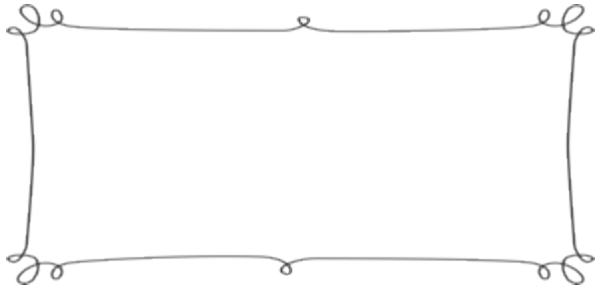
You could also create group books or allow students to complete individual books. If you chose to complete the books using this format, you'll need to make additional copies and have students select multiple plants and animals.

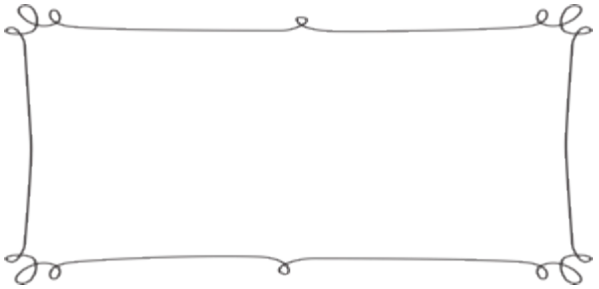
Plant & Animal Adaptations

By:_____

Plant & Animal Adaptations

By:_____





Thank YOU!

I hope that you and your students enjoy this science unit! If you have any questions or concerns, feel free to email me at ashleigh_60@hotmail.com. I'll try and respond asap. If you like this product, you may want to check out some of the other items in my TpT store, where I have many other math units, work station ideas, and more! You can also visit my blog for lots of ideas and free printables.

http://www.teacherspayteachers.com/Store/Ashleigh

http://ashleigh-educationjourney.com/

credits

letteringdelights.com

kpmdoodles.com

www.teacherspayteachers.com/Store/Zip-a-dee-doo-dah-Designs

www.teacherspayteachers.com/Store/Jen-Jones-hello-Literacy

thistlegirldesigns.com

www.teacherspayteachers.com/Store/Kimberly-Geswein-Fonts

www.scrappindoodles.com

www.teacherspayteachers.com/Store/Krista-Wallden

www.teacherspayteachers.com/Store/Ashley-Hughes-38

www.teacherspayteachers.com/Store/Glitter-Meets-Glue-Designs

melonheadzillustrating.blogspot.com/