★ TEKS Practice: Cumulative Review

3 The diagram shows moon phases, or how the moon looks on different nights of the month.

What is the reason for moon phases?

A Changes in how much sunlight reflects off the moon

B Changes in how much light the moon makes

C Changes in the size of the moon

D Changes in the moon's craters

---

4 Nick plans to walk to a park near his home. He steps outside to check the weather. He decides it is not safe to go to the park. What does Nick most likely find out about the weather?

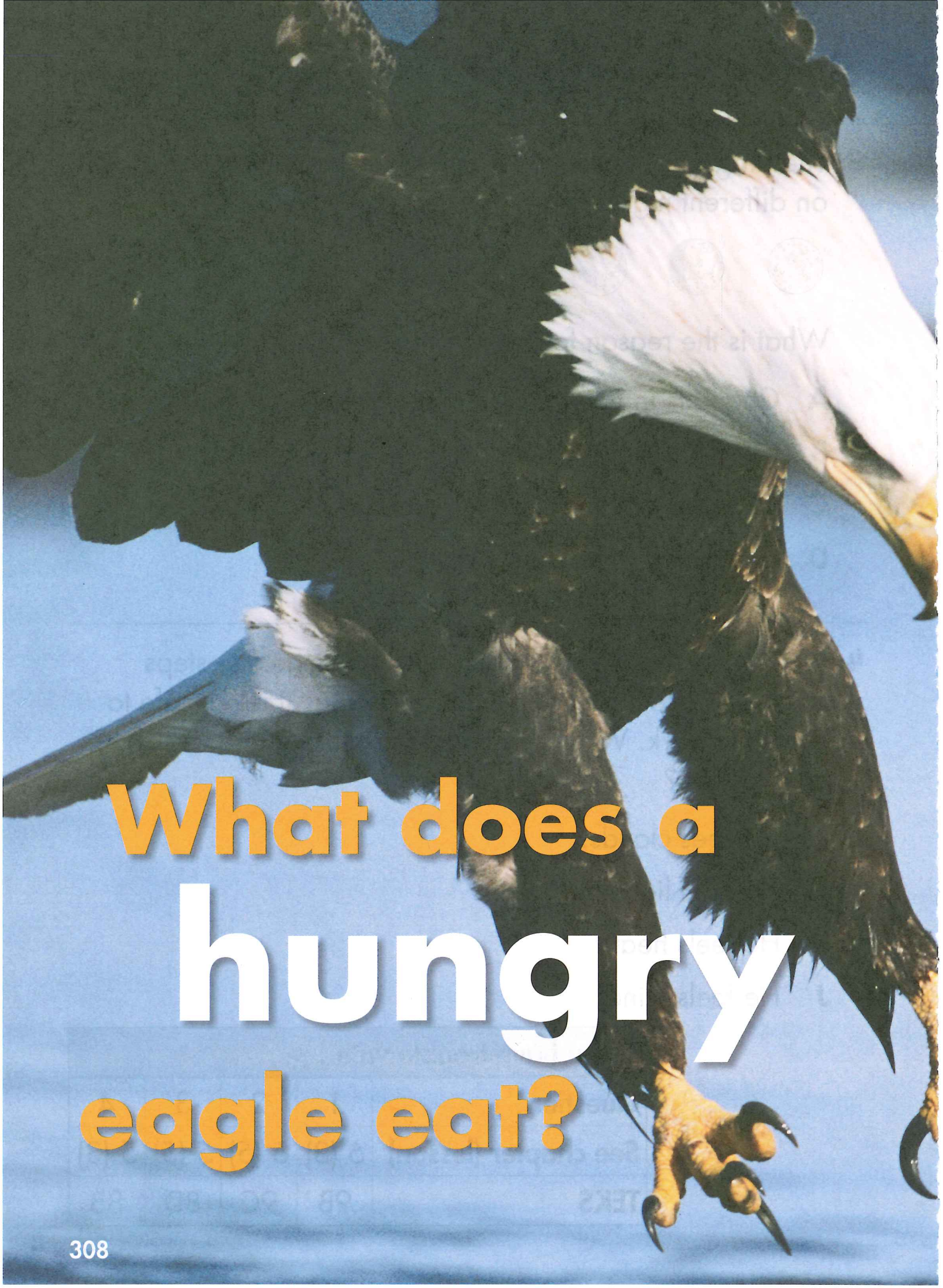
F He sees clouds.

G He sees lightning.

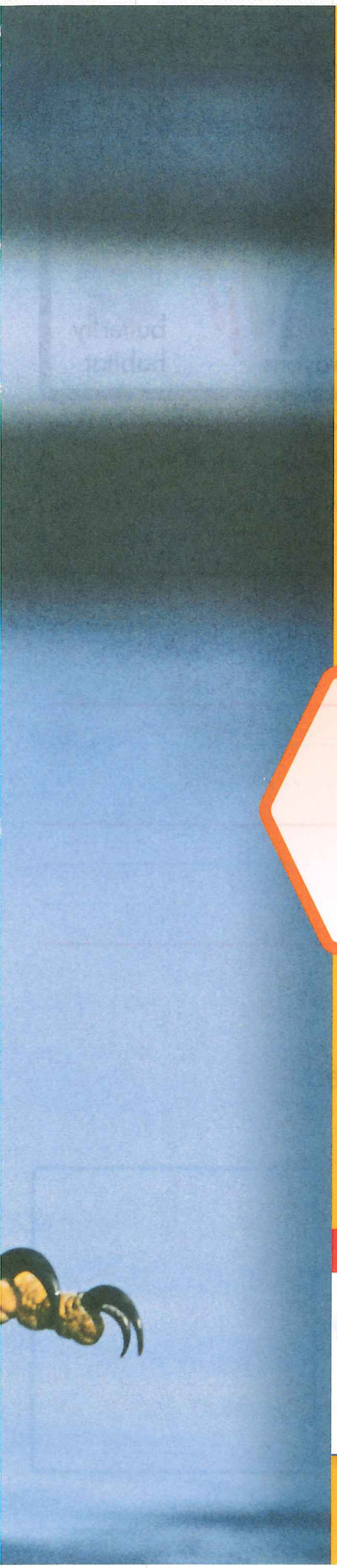
H He feels heat.

J He feels wind.

If you have trouble with . . .				
Question	1	2	3	4
See chapter (lesson)	6 (3)	6 (5)	5 (5)	5 (3)
TEKS	9B	9C	8D	8B



What does a hungry eagle eat?



Environments

Texas

Chapter 7

FOCUS ON TEKS 10A

How do living things change and grow in their environments?

Tell how you think the eagle gets its food.

Texas Essential Knowledge and Skills

TEKS 9A Identify the basic needs of plants and animals. **10A** Observe, record, and compare how the physical characteristics and behaviors of animals help them meet their basic needs such as fins help fish move and balance in the water. **10B** Observe, record, and compare how the physical characteristics of plants help them meet their basic needs such as stems carry water throughout the plant. **10C** Investigate and record some of the unique stages that insects undergo during their life cycle.

Process TEKS: 1A, 1B, 2A, 2B, 2C, 2D, 2E, 2F, 3C, 4A

Lab zone Inquiry Warm-Up

TEKS 10C, 2B, 2D, 2E

How does a butterfly grow and change?

Materials

- ☐ 1. **Observe** the caterpillars every day for 3 weeks.
- ☐ 2. **Collect Data** Write your observations.

Inquiry Skill
When you **communicate,** you tell what you observe.

Week 1:

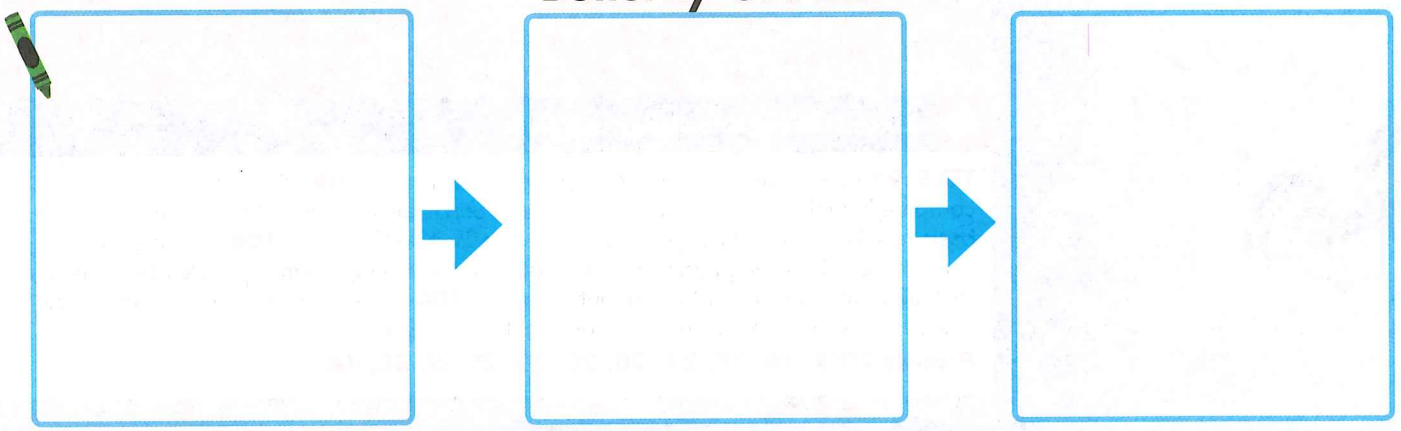
Week 2:

Week 3:

Explain Your Results

3. **Communicate** Draw the stages you observed.

Butterfly Growth



Connect to Reading

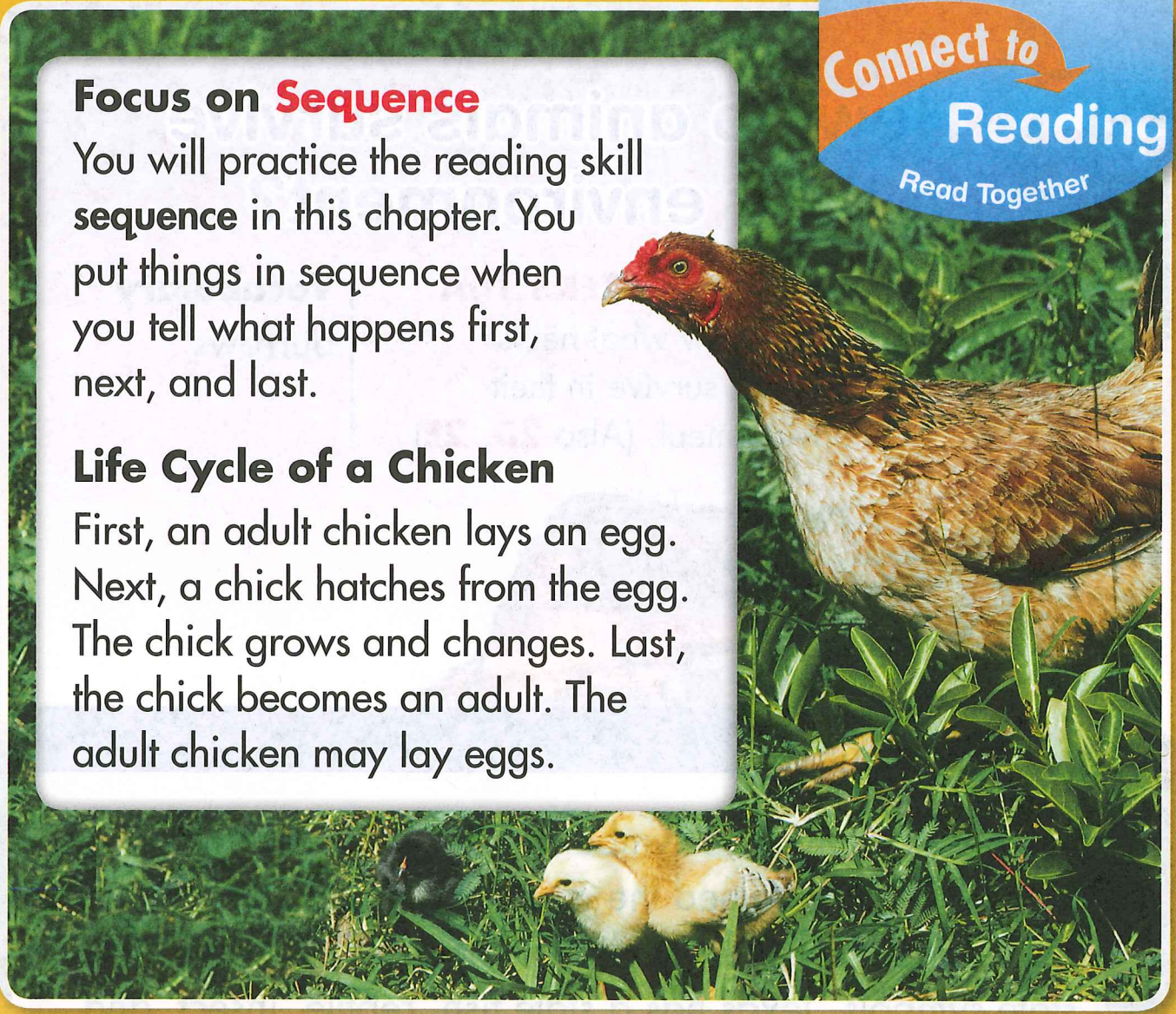
Read Together

Focus on Sequence

You will practice the reading skill **sequence** in this chapter. You put things in sequence when you tell what happens first, next, and last.

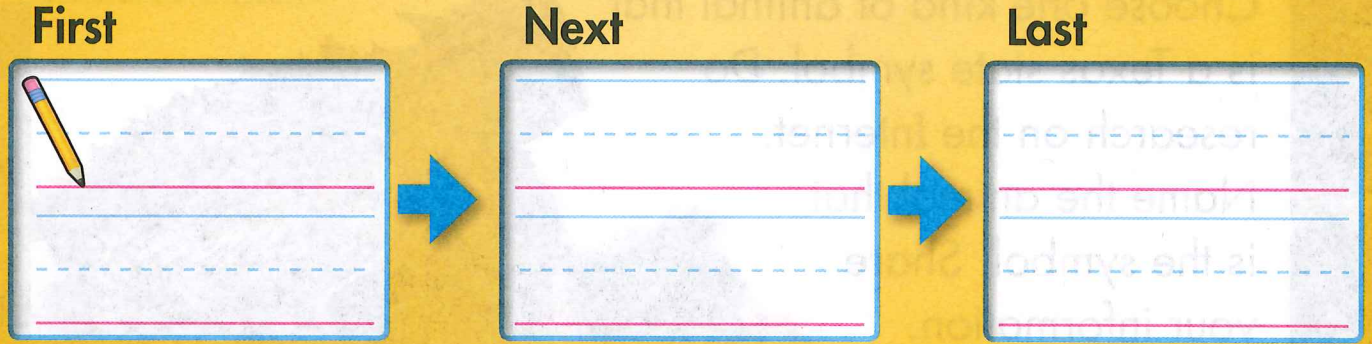
Life Cycle of a Chicken

First, an adult chicken lays an egg. Next, a chick hatches from the egg. The chick grows and changes. Last, the chick becomes an adult. The adult chicken may lay eggs.



Practice It!

Write which comes first, next, and last.



Texas

Lesson 1

How do animals survive in their environment?

I will know TEKS 10A
I will know what helps animals survive in their environment. (Also **2D**, **2E**)

Vocabulary
burrows

Connect to Social Studies

Social Studies TEKS 14C

Texas has many state symbols. Some of them are animals. In 1927, Texas named the mockingbird the state bird. Since then, the state has named many other animals as state symbols. Texas has a state fish, reptile, insect, and amphibian. A small mammal, a large mammal, and a flying mammal are also now state symbols.

Choose one kind of animal that is a Texas state symbol. Do research on the Internet. Name the animal that is the symbol. Share your information.

Texas horned lizard

PEARSON Texas.com

Lab zone Quick Lab

TEKS 10A, 1A, 1B, 2D, 2E, 4A

Materials

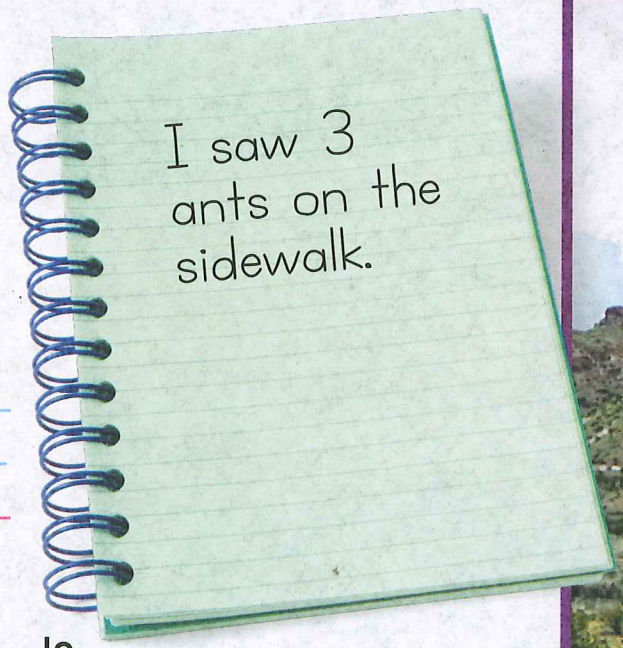
pencil

notebook

What living things live around the school?

1. Walk around the school and look for living things. You might look for insects, birds, and other animals.
2. **Record** your observations. Identify the animals you saw. Tell how many you saw and where you saw them.

Texas Safety
LAB RULES
Stay with your teacher and group. Do not touch any animals.



Explain Your Results

3. **Communicate** What animals did you see?

4. **Infer** Why do you think these animals can live around your school?

5. Why shouldn't you touch the animals?

Environments

Earth has many different environments. It has water environments such as the ocean, lakes, and rivers. It has land environments including grasslands and deserts. Some environments are hot, and some are very cold. Some environments are dry, and some are wet. Animals live in each of these environments.

These deer live in an area with trees and grasses.

Animal Environments

Animals survive in their environments in different ways. Many animals have body parts that can help them survive. The way an animal behaves in different situations can help it survive too.

The desert kingsnake looks for food at night.

An armadillo has strong claws for digging.

Look at the picture of the armadillo. **Circle** the body part that helps it dig.

Fish in Water

Some fish are freshwater fish. They swim in lakes, rivers, and streams. Some fish are saltwater fish. They swim in the ocean.

Fins help fish swim. They may help keep a fish balanced or help the fish move up and down. The tail fin helps the fish move forward.

Fish protect themselves from enemies in different ways. Some fish live in big groups called schools. By living in a school, a fish is less likely to be eaten. Some fish can swim very fast. They can get away from an enemy.

Tell about how fins help a fish.

Its fins help the fish survive in its environment.

A group of fish living together is called a school.

Animals in the Desert

Deserts have little water and often very hot days. Animals that live in deserts have ways of surviving there.

Many desert animals are active at night. It is cooler in the desert at night than during the day. These animals sleep or rest during the day. Desert kit foxes, mice, and rats are some of the animals that look for food at night.

Some desert animals have body parts that help them stay cool. The desert jackrabbit has very large ears. The jackrabbit loses heat through its ears. This helps it stay cooler.

Look at the photographs. **Tell** how the desert kit fox and desert jackrabbit are alike.

The desert kit fox hunts at night.

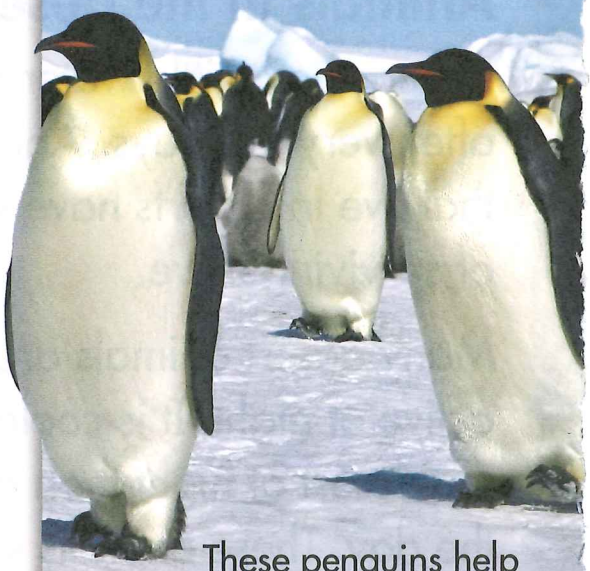
A desert jackrabbit has very large ears.

Animals in Cold Places

Some animals live in very cold places. They have body parts and behaviors that help them survive the cold weather.

Some penguins live in Antarctica. It is very cold there. A penguin has a thick layer of fat under its skin. This helps keep it warm. A penguin's feathers are layered over each other. This helps the penguin keep dry when swimming.

Some penguins stand close together in groups. They help each other stay warm this way.



These penguins help each other stay warm.

Polar bears live in the icy Arctic region. Like penguins, they have a layer of fat. This fat layer and their thick fur help keep polar bears warm.

Polar bears have fur on the bottom of their paws.

Underline how penguins keep each other warm. What do both penguins and polar bears have that helps keep them warm?

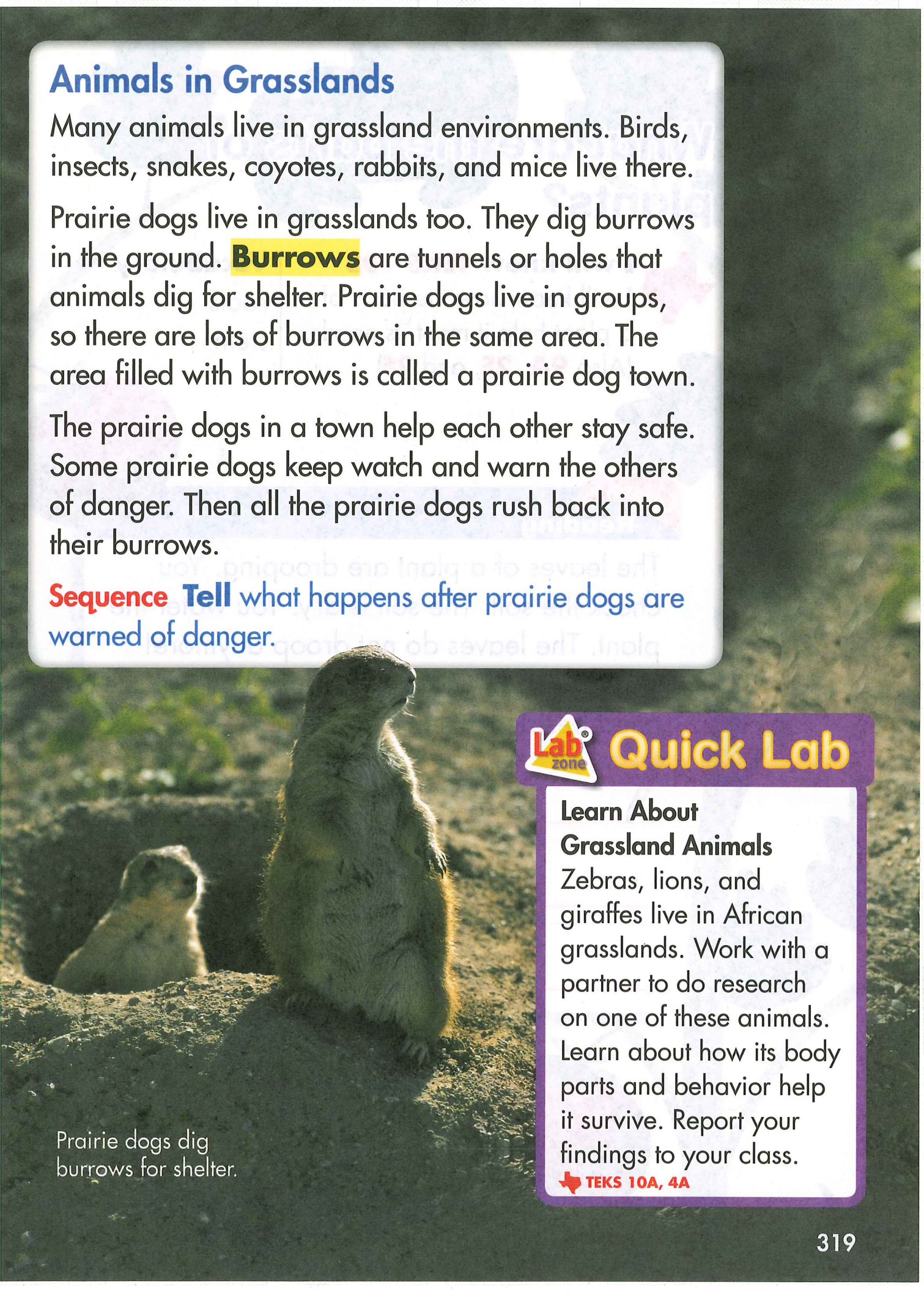
Animals in Grasslands

Many animals live in grassland environments. Birds, insects, snakes, coyotes, rabbits, and mice live there.

Prairie dogs live in grasslands too. They dig burrows in the ground. **Burrows** are tunnels or holes that animals dig for shelter. Prairie dogs live in groups, so there are lots of burrows in the same area. The area filled with burrows is called a prairie dog town.

The prairie dogs in a town help each other stay safe. Some prairie dogs keep watch and warn the others of danger. Then all the prairie dogs rush back into their burrows.

Sequence **Tell** what happens after prairie dogs are warned of danger.



Prairie dogs dig burrows for shelter.

Lab zone Quick Lab

Learn About Grassland Animals

Zebras, lions, and giraffes live in African grasslands. Work with a partner to do research on one of these animals. Learn about how its body parts and behavior help it survive. Report your findings to your class.

TEKS 10A, 4A

Texas

Lesson 2

What are the parts of plants?

I will know TEKS 10B
I will know how the parts of a plant help it meet its needs. (Also **9A**, **2E**, and **2F**)

Vocabulary
roots
stem

Connect to **Reading**

The leaves of a plant are drooping. You check the soil. The soil is dry. You water the plant. The leaves do not droop anymore! Write two sentences about something plants need besides water. ELA TEKS 21B

Lab zone Quick Lab

TEKS 10B, 1A, 2B, 2E, 2F

How does a stem help a plant get water?

Materials

- red food coloring
- water in a graduated cylinder
- celery

Texas Safety
LAB RULES

Wear your lab apron or shirt. Do not put your hands in the water. Clean up spills. Wash your hands.

1. Put 10 drops of food coloring in the cylinder.
2. Put the celery stalk in the water. Set the cylinder aside.
3. **Observe** Wait a day and then look at the celery stalk and leave. Check it again tomorrow.

Explain Your Results

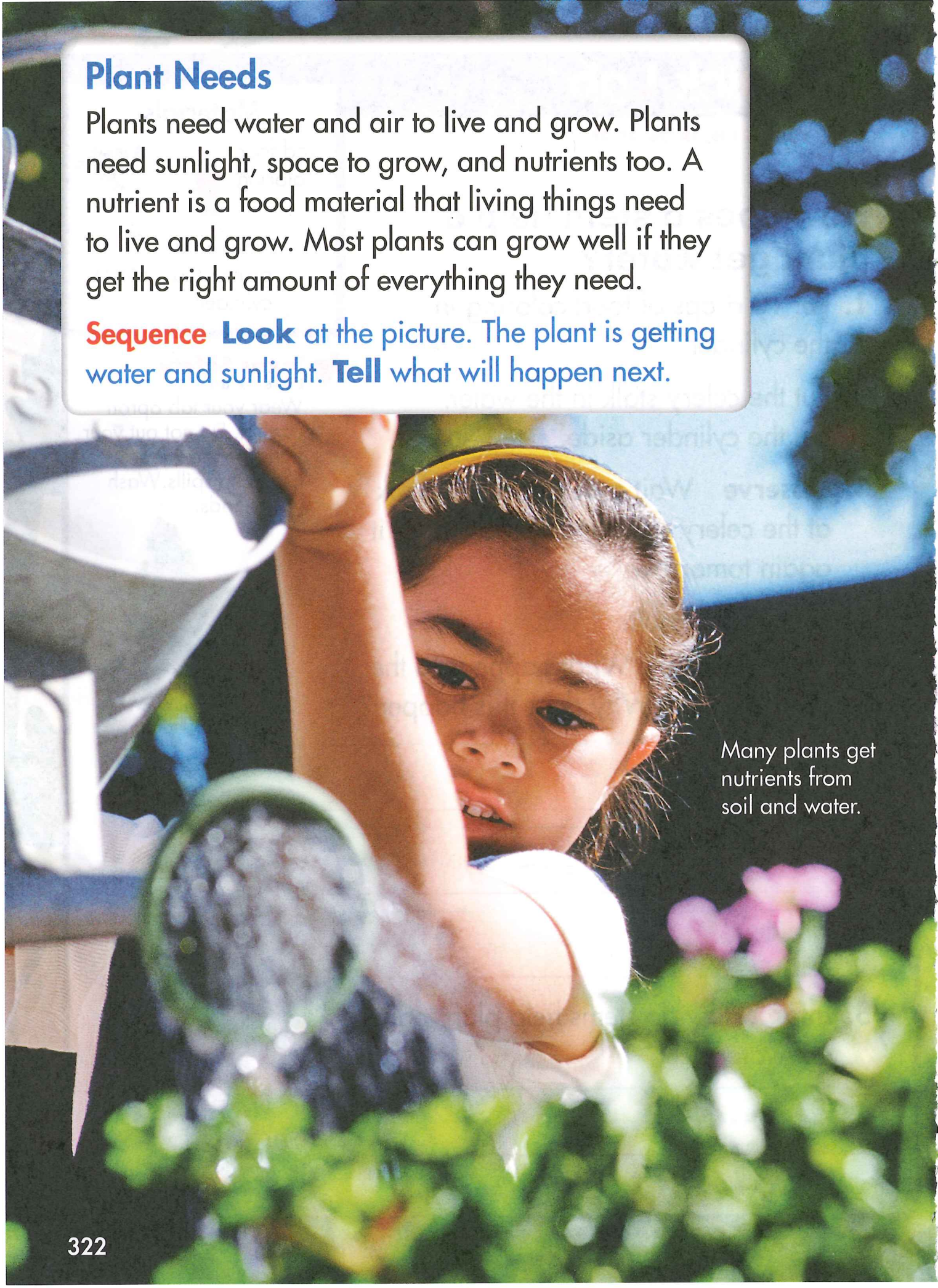
4. **Communicate** What happens to the celery leaves? Why does this happen?

5. **Infer** How do stems help plant parts get water?

Plant Needs

Plants need water and air to live and grow. Plants need sunlight, space to grow, and nutrients too. A nutrient is a food material that living things need to live and grow. Most plants can grow well if they get the right amount of everything they need.

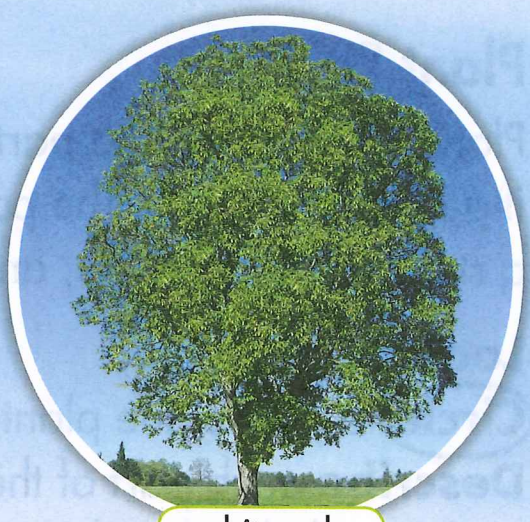
Sequence **Look** at the picture. The plant is getting water and sunlight. **Tell** what will happen next.



Many plants get nutrients from soil and water.

All plants have the same needs. But how much they need can be different. Some plants need more water than others. The white ash tree needs more water than the barrel cactus. The cactus can grow in very dry places.

Observe the pictures of the white ash and the field of bluebonnets.
Tell why a white ash tree needs more space than one bluebonnet plant does.



white ash

barrel cactus

bluebonnet

Plant Parts

Plants have parts. The parts of a plant help it get what it needs. The parts include roots, a stem, leaves, flowers, and seeds.

Look at the picture.
Circle a part of the plant that makes food.
Describe each part of the plant. **Tell** how each part helps the plant meet its needs.

Cactus

Leaves make food for most plants. But cactuses are different. The thick green stem or pads of a cactus make its food.

Tell how the leaves of a tree and the pads of a cactus are alike.

The green pads of the prickly pear cactus make its food.

The stem and arms of the saguaro make its food.

Lab zone Quick Lab

Air in Soil

Roots cannot get air when soil is packed too hard. Plant a seed in a cup of loose soil. Plant a seed in a cup of packed soil. Water both and observe. Put your healthy plant in the ground. It will help clean the air. TEKS 10B, 2E

Seed Plants

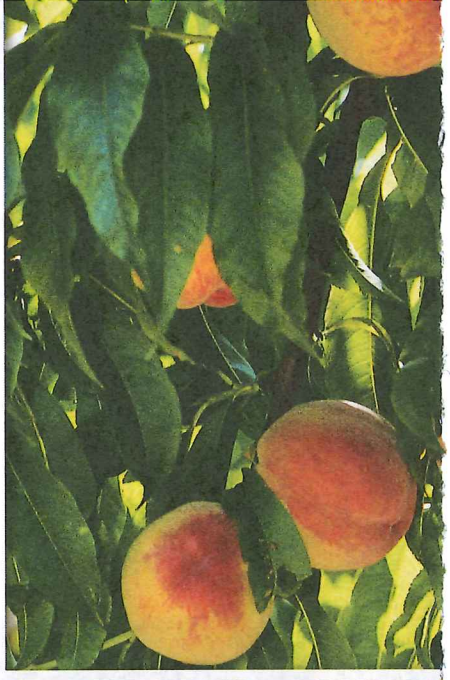
Most plants are seed plants. Seed plants make seeds and grow from seeds.

Some seed plants have flowers. Many plants with flowers grow fruits. Seeds may grow inside the fruits. The fruits cover and protect the seeds. Fruits and seeds are different shapes and sizes. You can eat the fruit of some seed plants. You can eat a tomato. You cannot eat the fruit of other seed plants. You cannot eat holly berries.

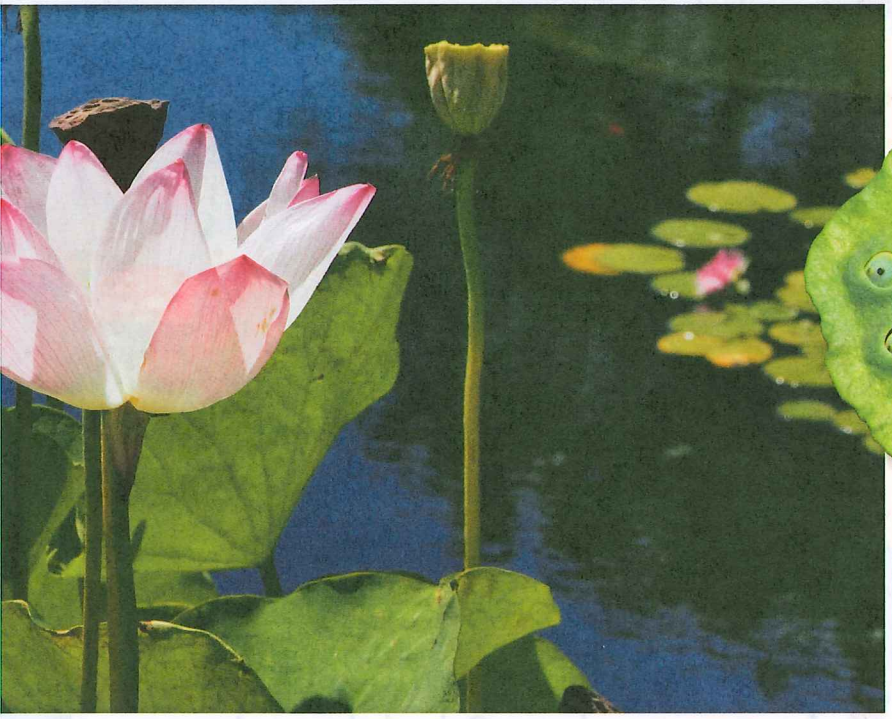
Not all seed plants have flowers. Some seed plants have cones. Seeds grow inside the cones. The cones protect the seeds. Seeds might fall to the ground when the cones open.

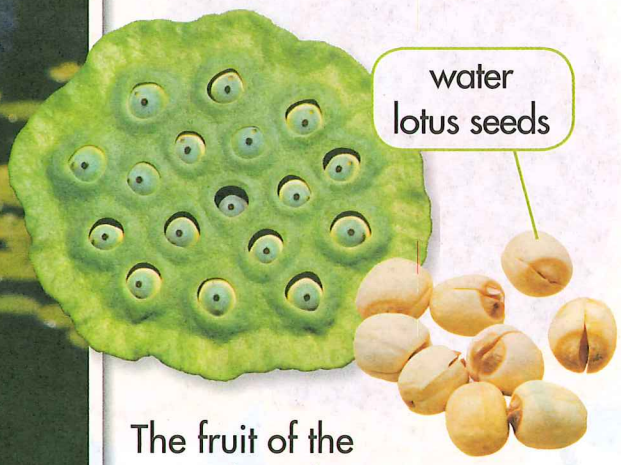
Look at the pictures and read the captions. **Write** how the peach tree and the pine tree are different.

Tell how the water lotus and the peach tree are alike.

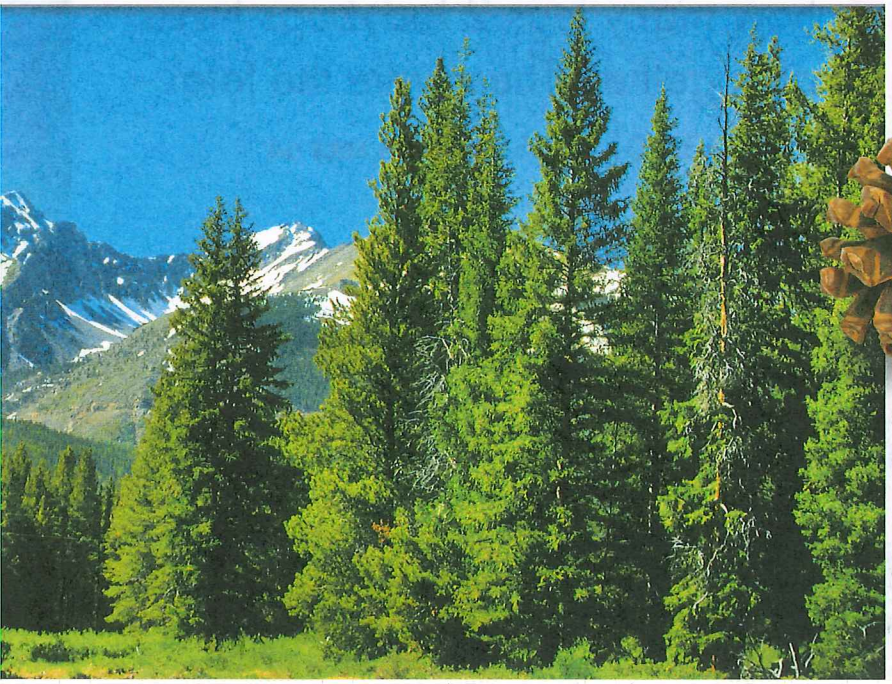


Peach trees grow flowers. The bottom part of each flower grows into a fruit called a peach.





The fruit of the water lotus forms the center of the flower.



Pine trees have cones that protect the seeds growing inside.

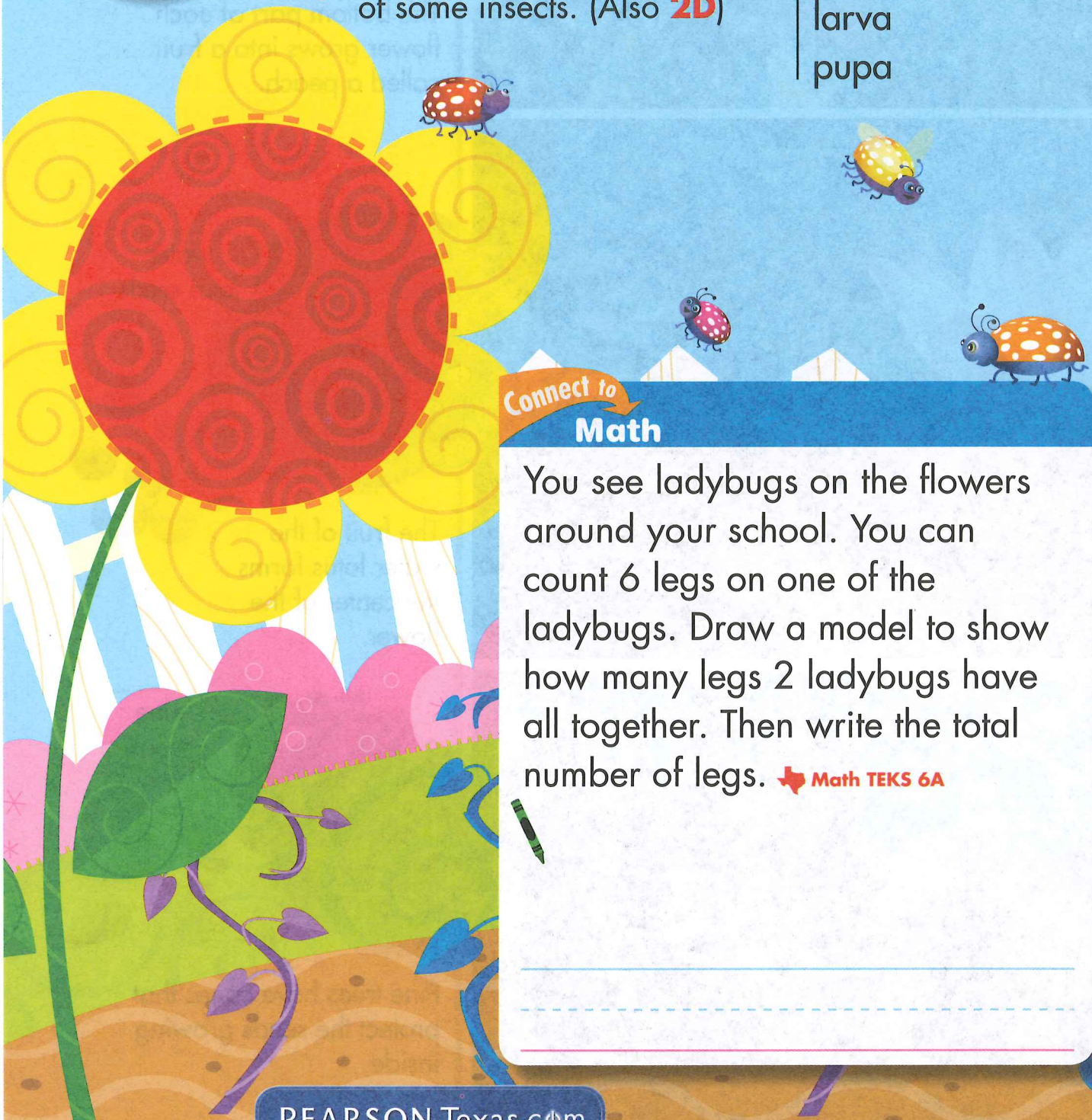
Texas

Lesson 3

What are the life cycles of some insects?

I will know TEKS 10C
I will know about the life cycle of some insects. (Also **2D**)

Vocabulary
life cycle
larva
pupa



Connect to Math

You see ladybugs on the flowers around your school. You can count 6 legs on one of the ladybugs. Draw a model to show how many legs 2 ladybugs have all together. Then write the total number of legs. Math TEKS 6A

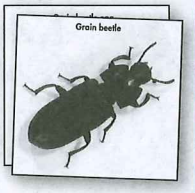
PEARSON Texas.com

Quick Lab

TEKS 10C, 2D

Materials

Butterfly and Grain Beetle Life Cycle Cards



How do insect life cycles compare?

☑ 1. Put the life cycle cards in order.

☑ 2. **Record** Match and draw each stage.

Life Cycles

Insect	Egg	Larva	Pupa	Adult
Butterfly				
Grain beetle				

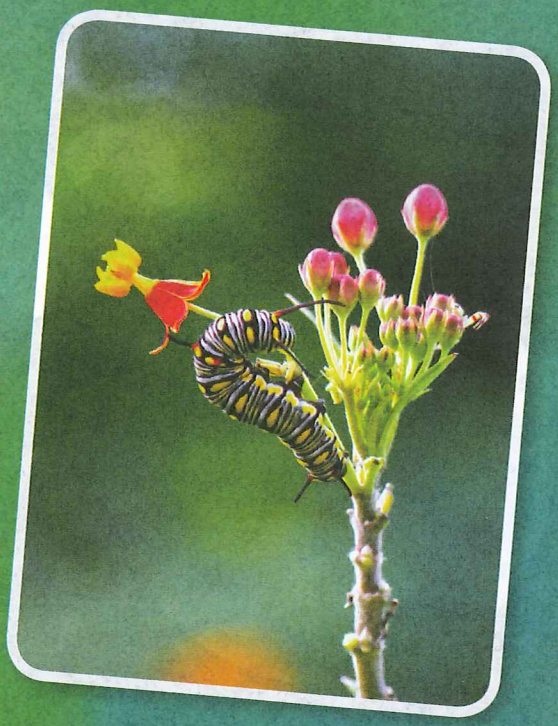
Explain Your Results

3. **Communicate** How are these life cycles alike and different?

Insects

Insects have six legs. Butterflies are insects. Look at the butterfly. First, it lands on a flower. Next, the butterfly drinks the nectar from the flower. The nectar is food for the butterfly. Last, the butterfly flies away.

This butterfly gets what it needs from the flower.



The caterpillar eats lots of food.

The caterpillar changes inside the chrysalis.

Butterflies are living things. Living things grow and change. The way a living thing grows and changes is called its **life cycle.** Many young insects look very different when they become adult insects.

The butterflies drink nectar.

Sequence **Write** what happens next and last.

First	Next	Last
A butterfly lands on a flower.		

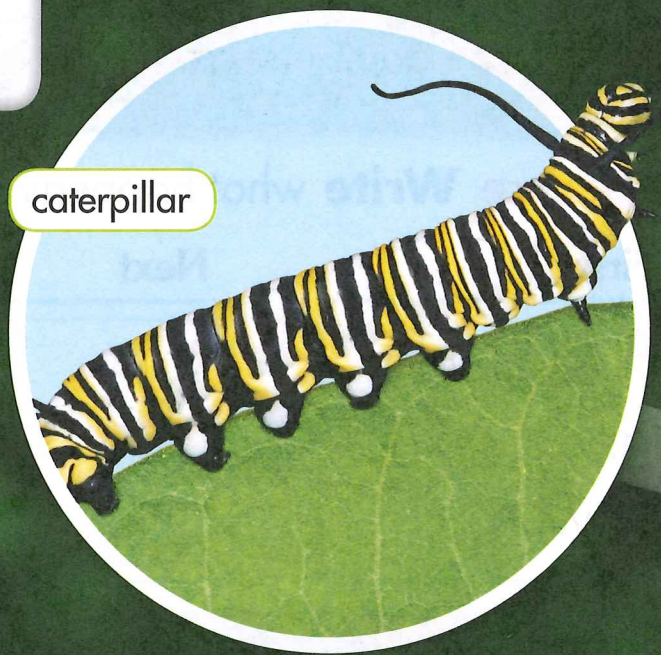
Butterfly Life Cycle

Butterflies go through a life cycle. First, the butterfly is a tiny egg. Next, a larva hatches from the egg. A **larva** is a young insect. A butterfly larva is called a caterpillar. Caterpillars eat a lot and grow very quickly.

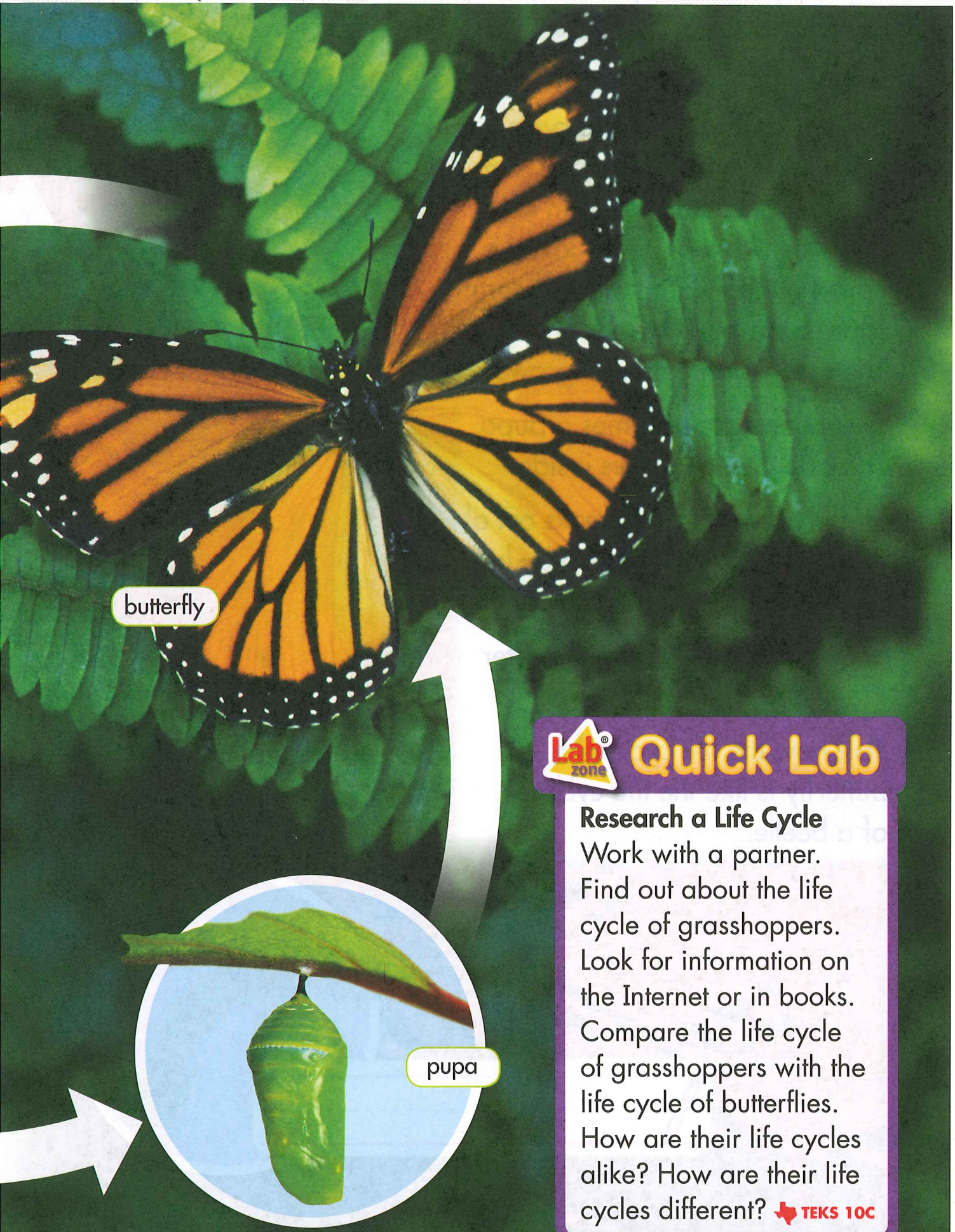
The caterpillar finds a place to attach itself. A hard covering called a chrysalis grows around the caterpillar. The caterpillar becomes a **pupa.** Wings begin to grow in this stage.

Last, the adult butterfly breaks out of the chrysalis. The butterfly may lay eggs. The life cycle begins again.

Tell about the stages of the butterfly life cycle.



Sequence **Draw** an X on the stage after the larva stage.



Lab zone Quick Lab

Research a Life Cycle

Work with a partner. Find out about the life cycle of grasshoppers. Look for information on the Internet or in books. Compare the life cycle of grasshoppers with the life cycle of butterflies. How are their life cycles alike? How are their life cycles different? TEKS 10C

Beetle Life Cycle

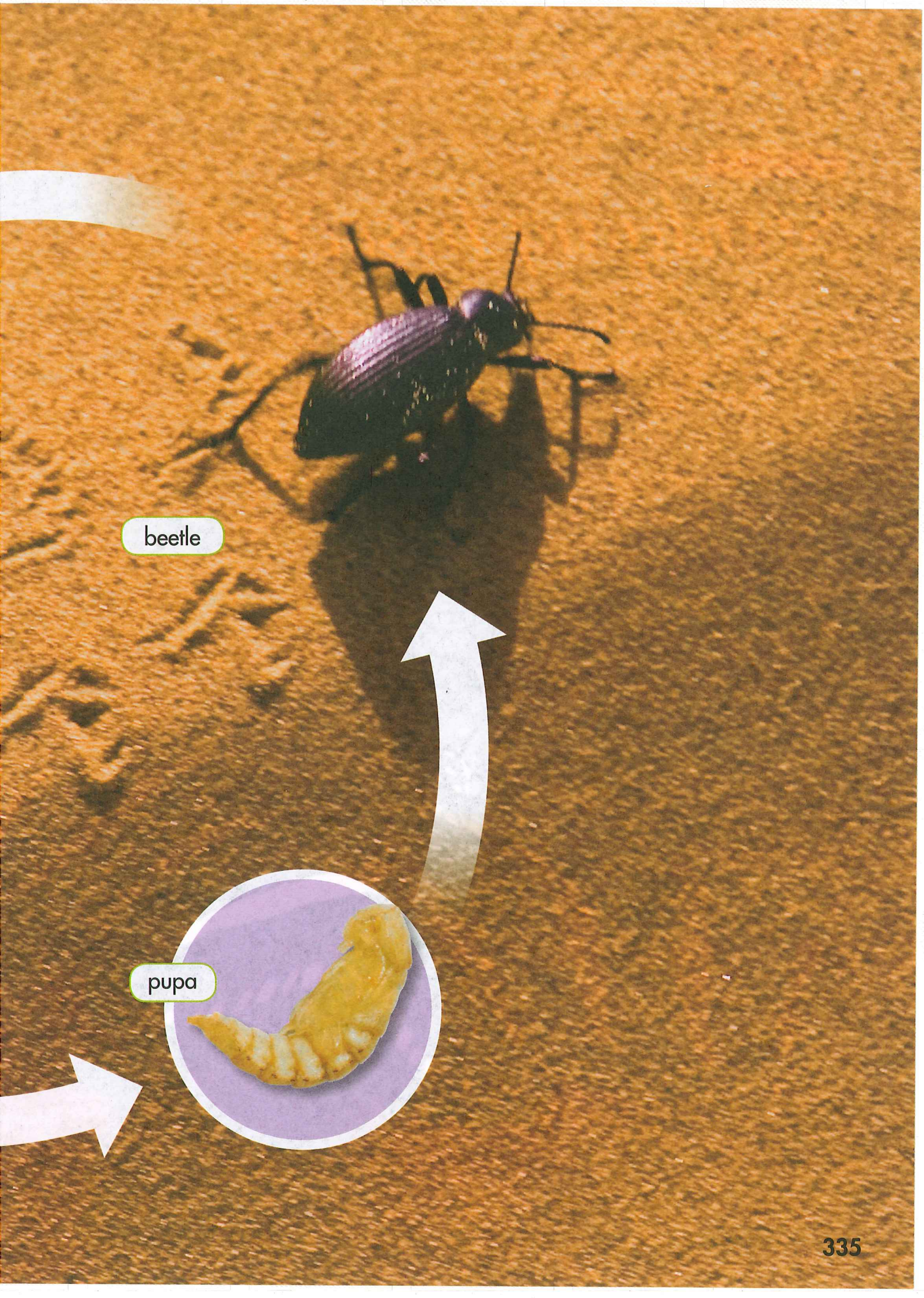
Beetles go through a life cycle too. First, the beetle is a tiny egg. Next, a larva hatches from the egg. One kind of beetle larva is called a mealworm. A mealworm is not a worm. It has six tiny legs. The mealworm eats and grows.

The mealworm becomes a pupa. The adult beetle grows inside.

Last, the adult beetle breaks out of its pupa shell. The beetle may lay eggs. The life cycle begins again.

Sequence **Label** the stage after the egg stage.

Tell how the life cycle of a butterfly is like the life cycle of a beetle.


beetle
pupa

TEKS 10C, 3C

Studying Insects

Have you watched butterflies and wondered about them? Dr. Larry Gilbert has. When he was a boy, he found a chrysalis. This find made him interested in butterflies. Dr. Gilbert has been studying butterflies ever since. Today Dr. Gilbert is a professor at the University of Texas in Austin. He also is in charge of the Brackenridge Field Laboratory.

Biography
Read Together

At the lab, Dr. Gilbert does research on butterflies and other insects. He studies the wing patterns and colors of butterfly wings. He also studies ways to control fire ants. In 2012 the Texas Academy of Scientists honored Dr. Gilbert. The academy named him the 2012 Distinguished Texas Scientist.

Write about how Dr. Gilbert became interested in studying butterflies.

Lab Investigation

TEKS 10C, 1A, 2C, 2D

What is the life cycle of a beetle?

Materials


hand lens


mealworms in plastic cup


crayons

Follow a Procedure

☐ 1. **Observe** the mealworms.

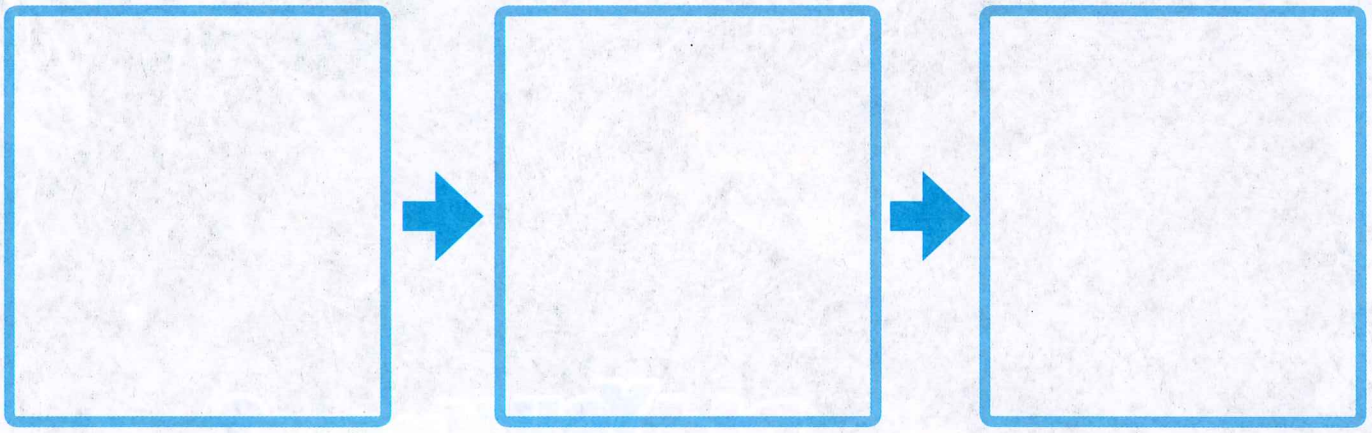
Inquiry Skill
You **collect data** when you draw what you observe.

Texas Safety
LAB RULES
Handle science materials and tools carefully. Do not touch the mealworms.

☐ 2. **Collect Data** Draw 2 stages you see.

☑ **3.** Observe the mealworms for 3 weeks. Look for a new stage.

☑ **4.** Draw the 3 stages.



Analyze and Conclude

5. Interpret Data How did the mealworm change?

6. Infer How is a beetle pupa like a butterfly pupa?

APPLY THE TEKS 10A

Read Together

Did You Know?

Collared peccaries live in dry areas of Texas. These animals are also called javelinas. The javelinas live in groups and eat cactuses. One cactus they eat is the prickly pear. This cactus provides the food javelinas need. It also provides the water they need. Then javelinas do not have to drink water. They get all the water they need from the prickly pears.

Write about why javelinas may not have to drink water.

Vocabulary Smart Cards

burrows
larva
life cycle
pupa
roots
stem

Play a Game!

Cut out the cards.

Work with a group.

Pick a card.

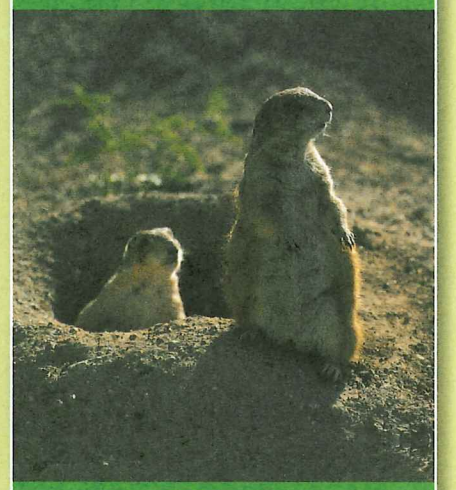
Tape a card to the back of each group member.

Have everyone guess their words.

life cycle

ciclo de vida

burrows



madriguera

larva

larva

roots

raíces

pupa

pupa

stem

tallo

tunnels or holes that animals dig for shelter

túnel u hoyo que los animales excavan para refugiarse

the way a living thing grows and changes

manera en que un ser vivo crece y cambia

parts of the plant that hold the plant in place and take in water and nutrients

parte de la planta que la mantiene en su lugar y que absorbe agua y nutrientes

a young insect

un insecto joven

part of the plant that carries water and nutrients to the leaves

parte de la planta que lleva el agua y los nutrientes a las hojas

stage in an insect's life between larva and adult

etapa de la vida de un insecto entre larva y adulto

TEKS Practice

Lesson 1 TEKS 10A

1. **Communicate** **Write** about how fins help a fish survive in its environment.

2. **Complete** the sentence.

A desert jackrabbit has big _____ that help it stay cooler.

3. **Identify** the body parts that help keep penguins dry when they swim.
Circle the words.

layered feathers fat layers under the skin

4. **Vocabulary** What are burrows?

TEKS Practice

Lesson 2 TEKS 10B

5. **Vocabulary** Which part of a plant carries water to its leaves?

Circle the letter.

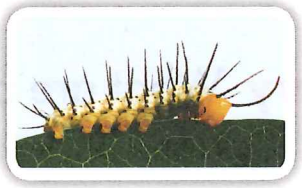
A stem
B flower
C roots
D seed

6. **Identify** what the leaves do for a plant.

Lesson 3 TEKS 10C

7. **Vocabulary** **Complete** the sentence.
The way a living thing grows and changes is called its _____.

8. **Analyze** **Write** how a larva is different from a butterfly.



TEKS Practice

9. **Sequence** In a beetle's life cycle, what does a mealworm change into?

Circle the word.

larva pupa beetle

REVIEW THE TEKS

Chapter 7

Lesson 1 How do animals survive in their environment?

TEKS: 10A

Lesson 2 What are the parts of plants?

TEKS: 10B

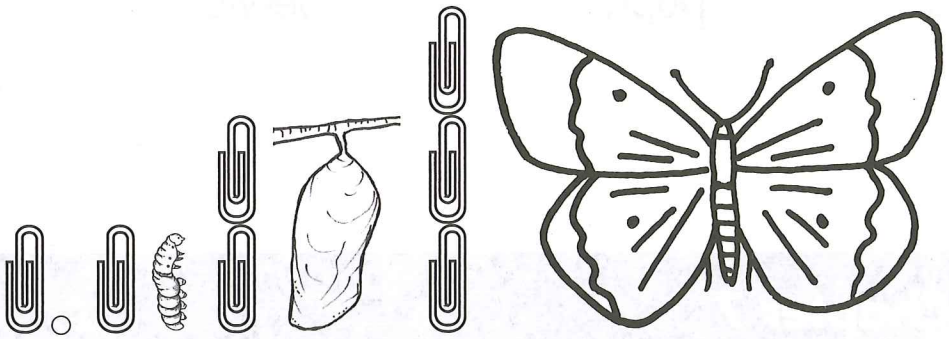
Lesson 3 What are the life cycles of some insects?

TEKS: 10C

★ TEKS Practice: Chapter Review

Read each question and circle the best answer.

1 Jeff studies the life cycle of a butterfly. He uses paper clips to measure the size of the butterfly at each stage.



Which sentence tells how the butterfly grows?

A The pupa is almost as long as two caterpillars.

B The butterfly is biggest when it is a pupa.

C The butterfly can spread its wings inside its chrysalis.

D The butterfly gets smaller during its life cycle.

2 A botanist is a scientist who studies plants. What question can a botanist explore by studying an apple?

F How does a stem hold up a plant?

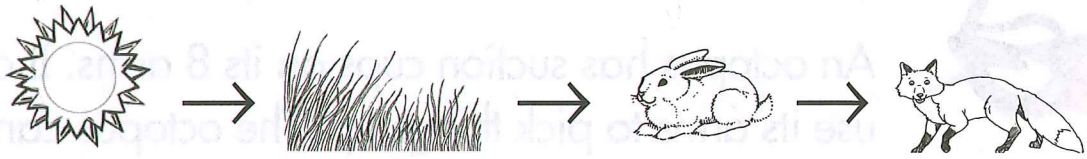
G How does a plant take in nutrients?

H How does a plant make its own food?

J How does a plant make seeds?

★ TEKS Practice: Cumulative Review

3 The picture shows a food chain.



Which is the prey in this food chain?

A Sun

B Grass

C Rabbit

D Fox

---

4 The arctic fox has a brown or gray coat in summer. In winter it has a white coat. Why does the fox's coat change?

F So it can sleep through the winter

G To make it look like a polar bear

H To make it harder to see in the snow

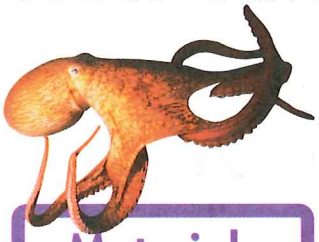
J Because it eats different foods

If you have trouble with . . .				
Question	1	2	3	4
See chapter (lesson)	7 (3)	7 (2)	6 (5)	7 (1)
TEKS	10C	10B	9C	10A

Lab zone Open-Ended Inquiry

TEKS 10A, 1A, 2A, 2B, 2D, 2E

How can an octopus use its arms?



An octopus has suction cups on its 8 arms. It can use its arms to pick things up. The octopus can use its arms to open a jar and get a fish that is inside.

Materials

paper fish in plastic jar with lid

8 suction cups

Inquiry Skill
You **control variables** when you change only one thing in your test.

Texas Safety
LAB RULES
Handle science materials carefully.

Ask a question.

How can an octopus use its arms to open a jar? **Use a model** to find out.

Make a prediction.

1. How many suction cups will you need to open a jar? Tell what you think.

I will need _____ suction cups.

Plan a fair test.

Use suction cups of the same size.

Design your test.

☑ **2.** List your steps.

Do your test.

☑ **3.** Follow your steps.

Collect and record data.

☑ **4.** Fill in the chart.

Tell your conclusion.

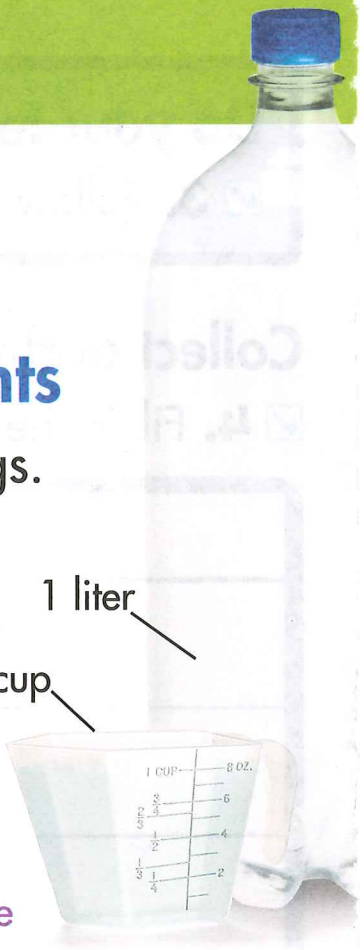
5. How many suction cups did you need to open the jar?

6. Communicate How did you use the suction cups to open the jar?

Measurements

Metric and Customary Measurements

Science uses the metric system to measure things. Metric measurement is used around the world. Here is how different metric measurements compare to customary measurements.



Volume

One liter is greater than 4 cups.

Fahrenheit

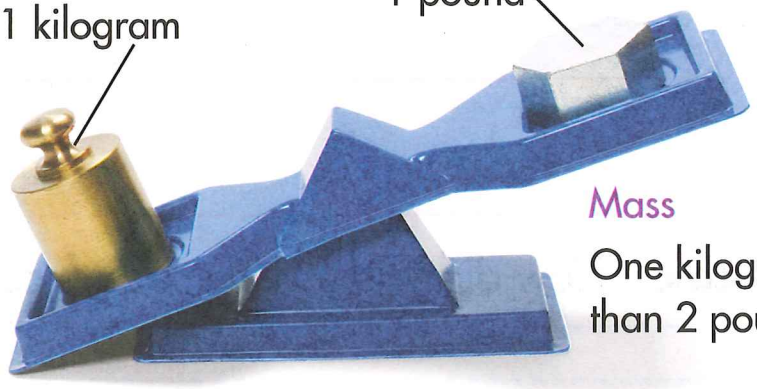
Celsius

Temperature

Water freezes at 0°C, or 32°F.
Water boils at 100°C, or 212°F.

1 kilogram

1 pound



Mass

One kilogram is greater than 2 pounds.

1 meter

1 foot

Length and Distance

One meter is longer than 3 feet.