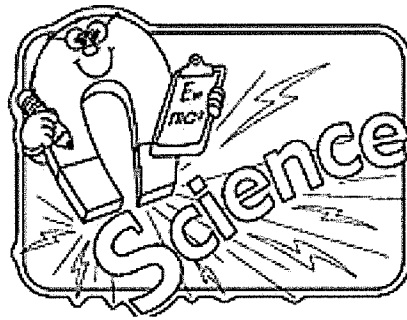


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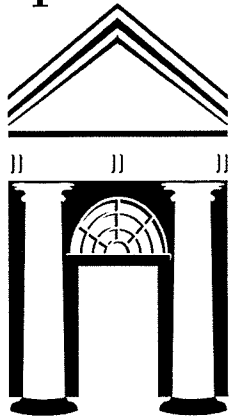
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4th Grade SCIENCE



Week of 5/10 - 5/14/2021

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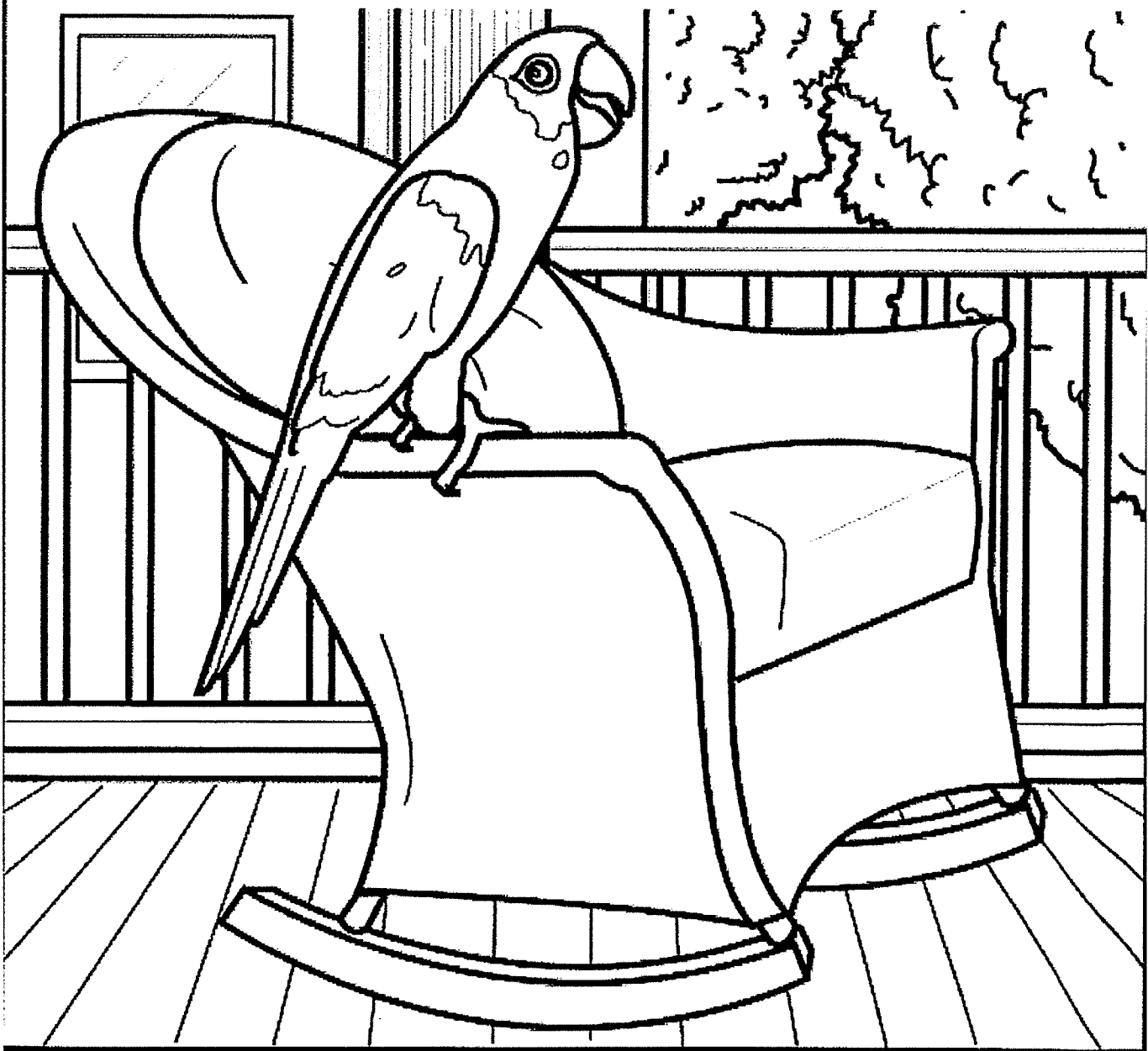
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UNIVERSITY

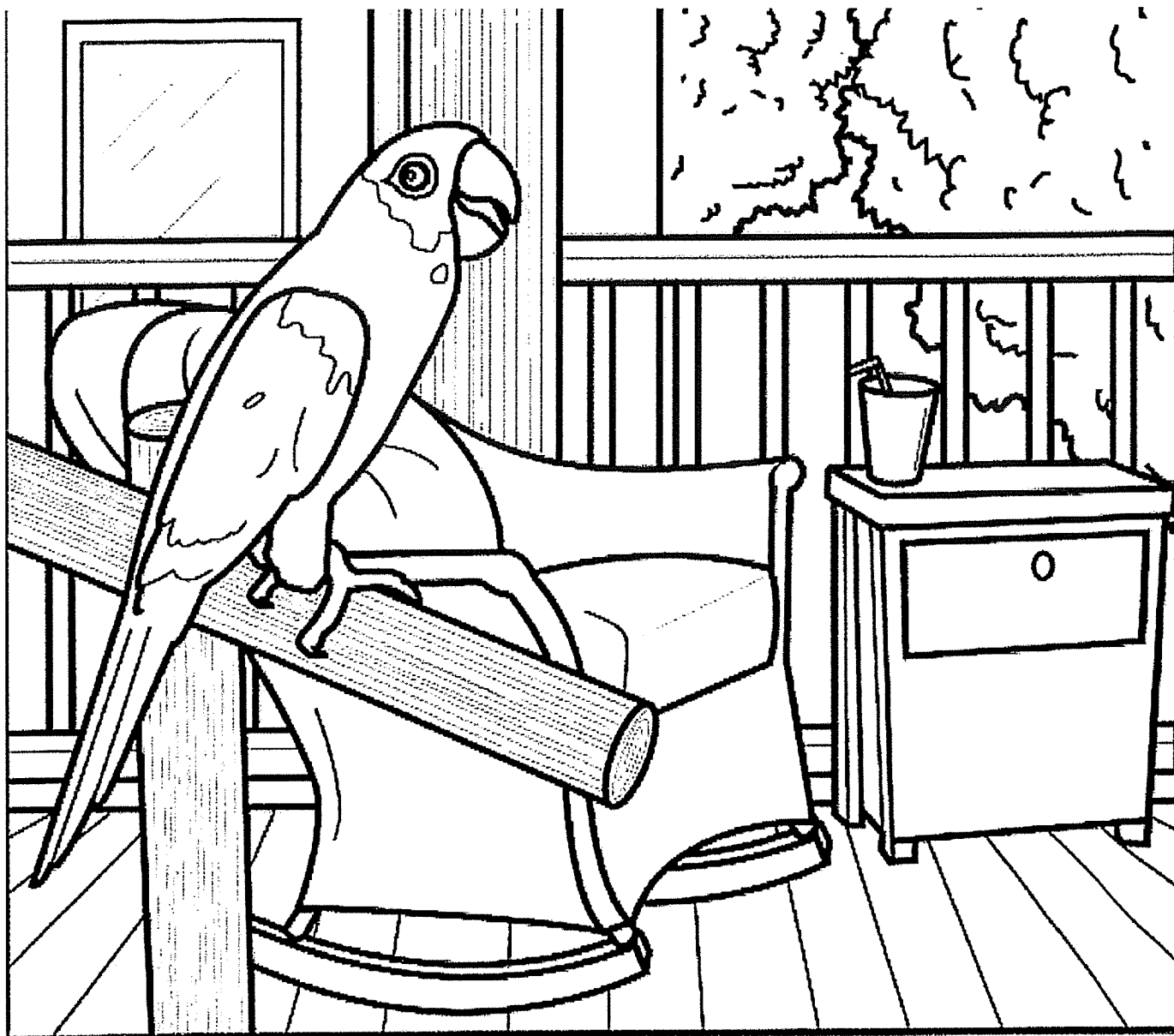
Monday

Date: May 10

Learning Target: I can classify things as living or nonliving.

What Are Living Things?

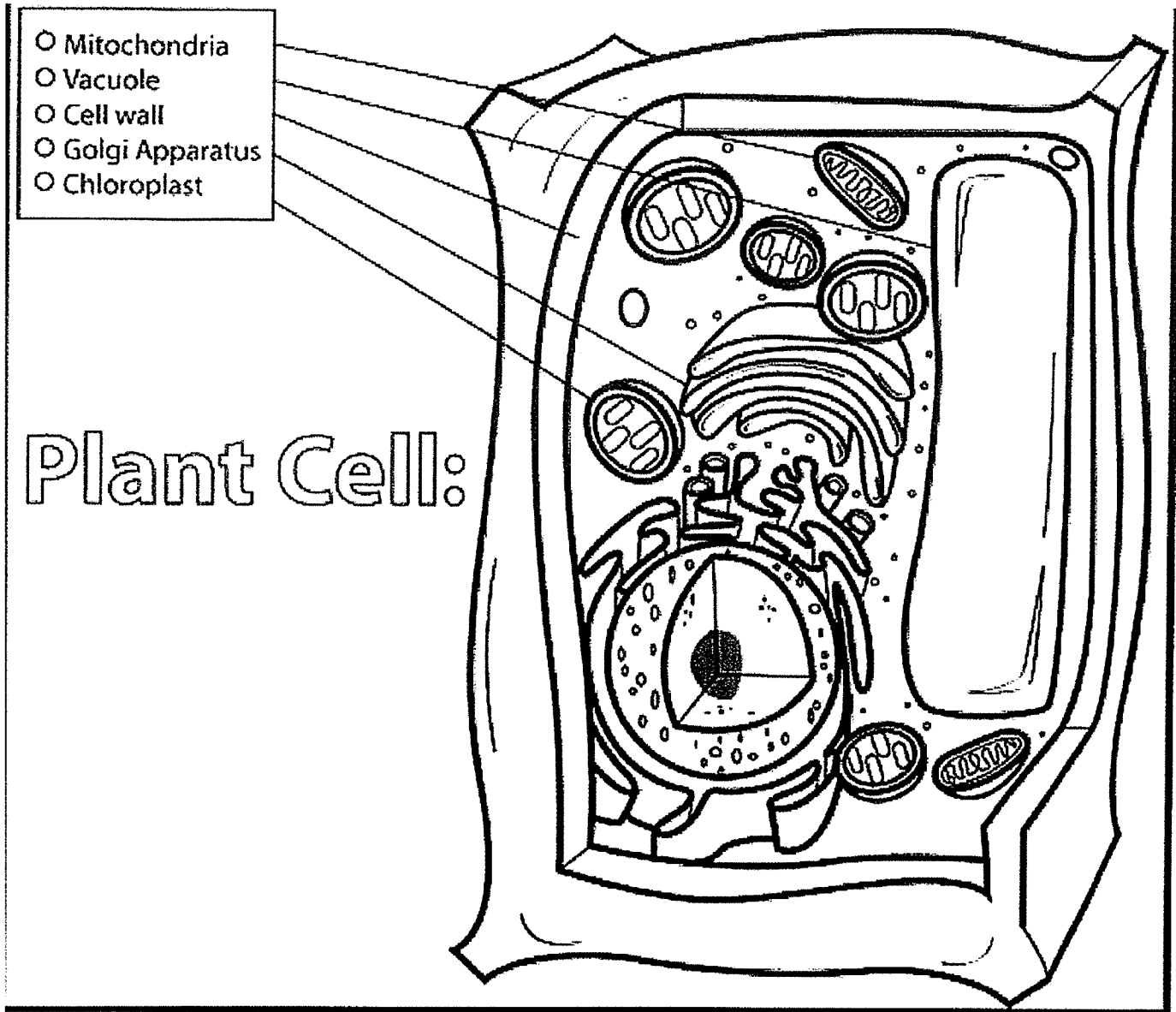




There are many things around us, but in the simplest terms, just two.

There are living and non-living things. That's all. It's really true!

In order to be living, things must have seven basic properties, and on the next few pages we'll address each one of these.



All living things are **organized** and composed of living cells.

They can be animals, such as monkeys, or plants like coral bells.

Their cells all work together to keep the living thing alive.

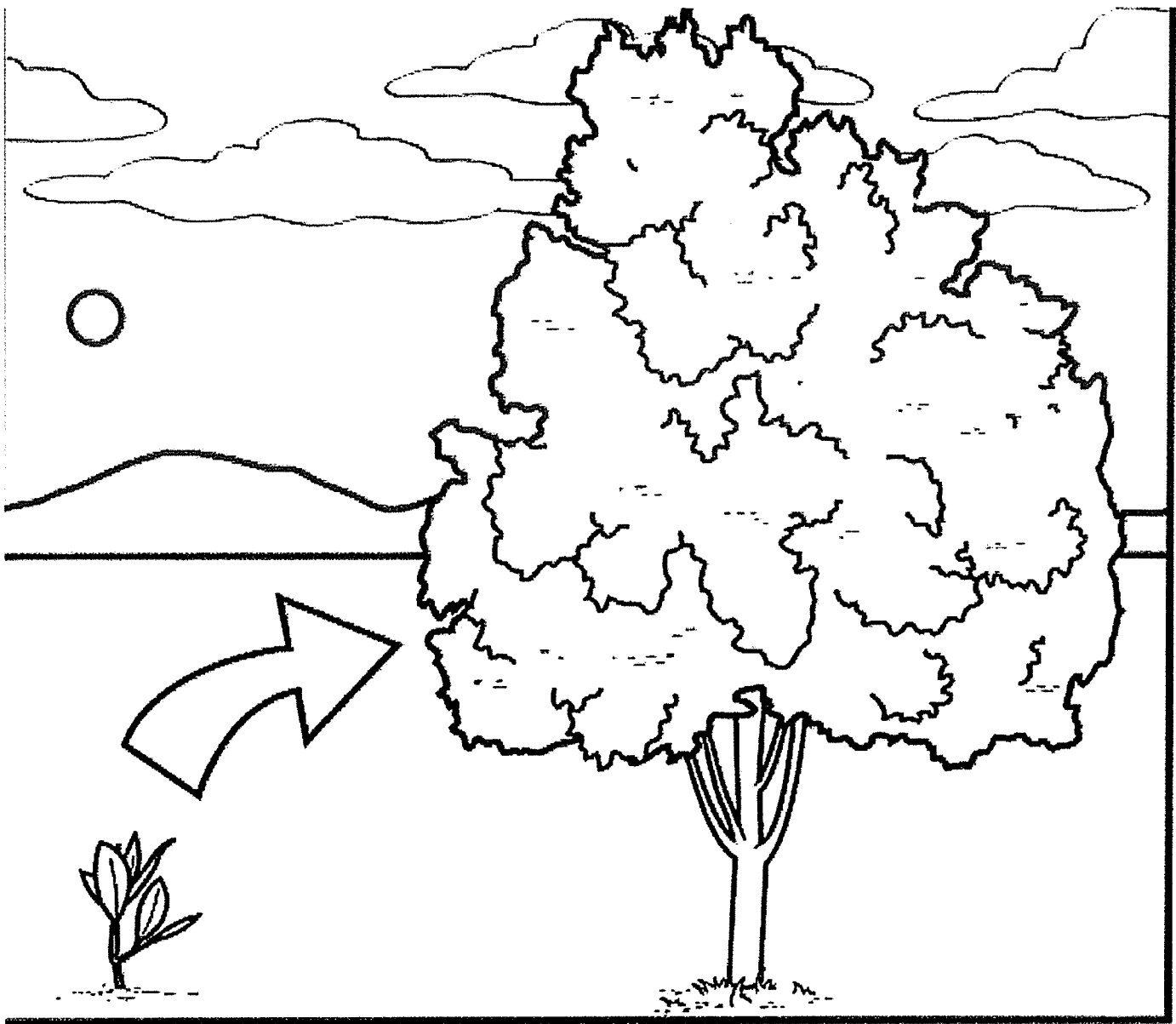
Without these very special cells living things would not survive.



All living things need nutrients to **take in energy**.
That means all living things must eat, like human
beings or a tree.

Animals don't make their own food. They must eat
other things.

Plants use photosynthesis to produce the energy it
brings.

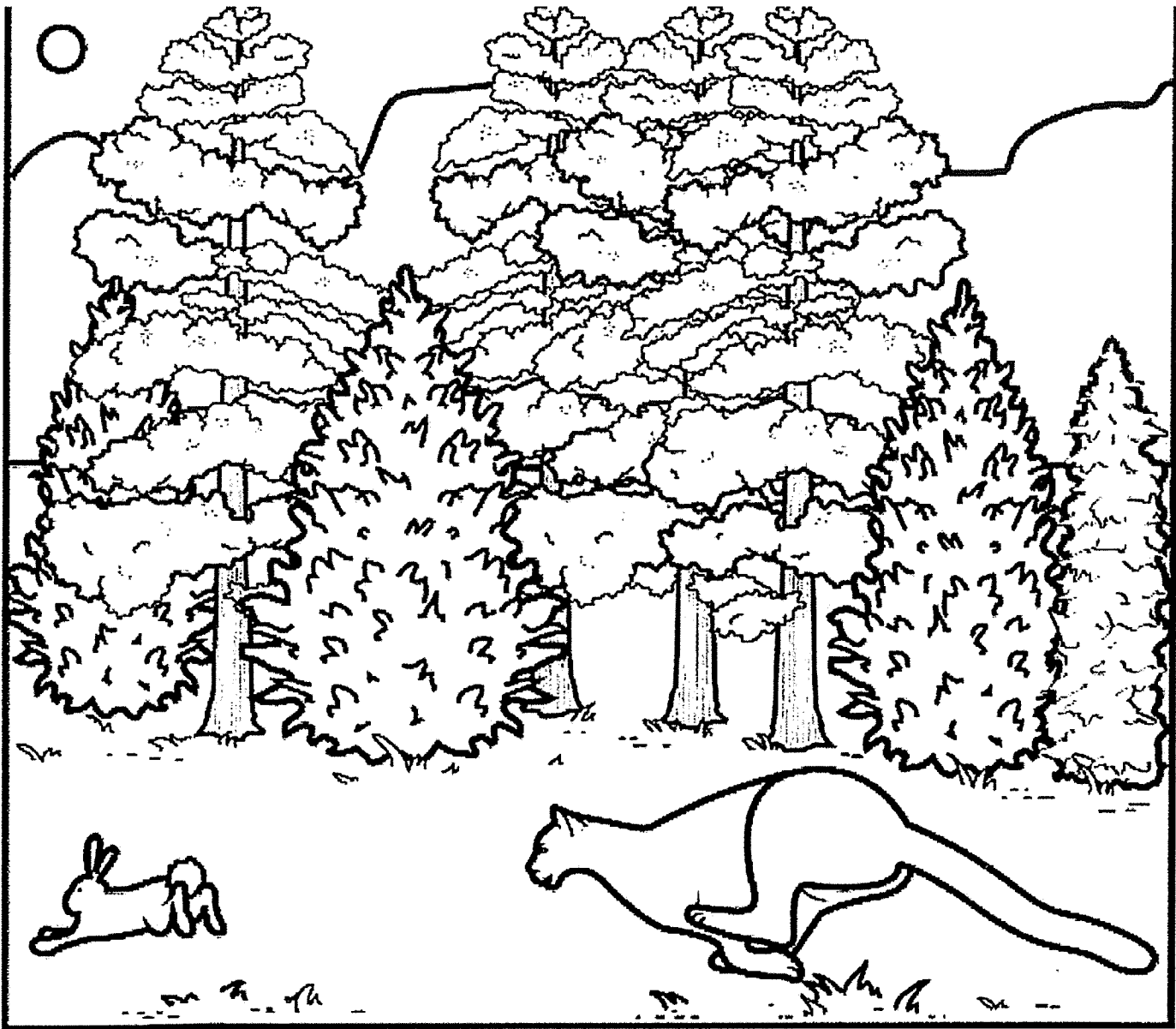


All living things will start out small and then begin to **grow.**

It can be a transformation that in many living things is slow.

Plants start out as seedlings and can grow into big trees.

Tiny larva laid in honeycombs may grow up to be bees!



Living things **respond to their environment** in many different ways.

A plant opens up its flowers on bright and sunny days.

Animals respond with movement. They can trot or jump or run.

They can curl up in a ball for warmth when the day is done.



Living things all **reproduce**, which means they multiply.

That means they make more of their kind to carry on after they die.

Both plants and animals reproduce. Each of them makes a “mini-me.”

Reproduction is necessary to keep things balanced evenly.

Living Things

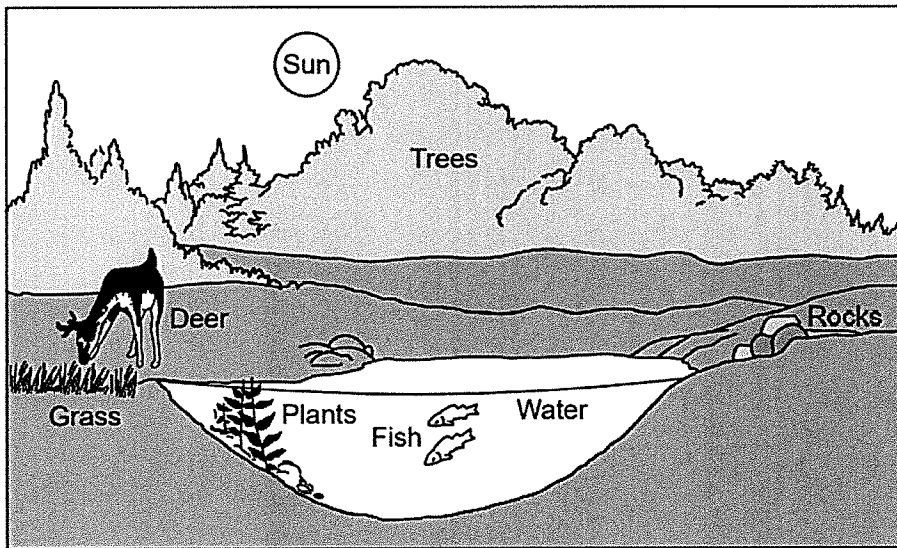
1. _____
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3. _____
4. _____
5. _____
6. _____
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8. _____

EXIT TICKET

Name: _____
BCCSG

Date: _____
Howard / Spelman

1. Which object is a **nonliving** thing that is made by humans?
A a fish
B a rock
C a green plant
D a metal container
2. Which life process is common to all living things?
A reproduction
B germination
C hunting for food
D pollinating flowers
3. The diagram below shows a pond near a forest.



(Not drawn to scale)

Which two objects labeled in the diagram are nonliving?

- A fish and plants
- B grass and deer
- C rocks and water
- D trees and Sun

Grade:

Tuesday

Date: May 11

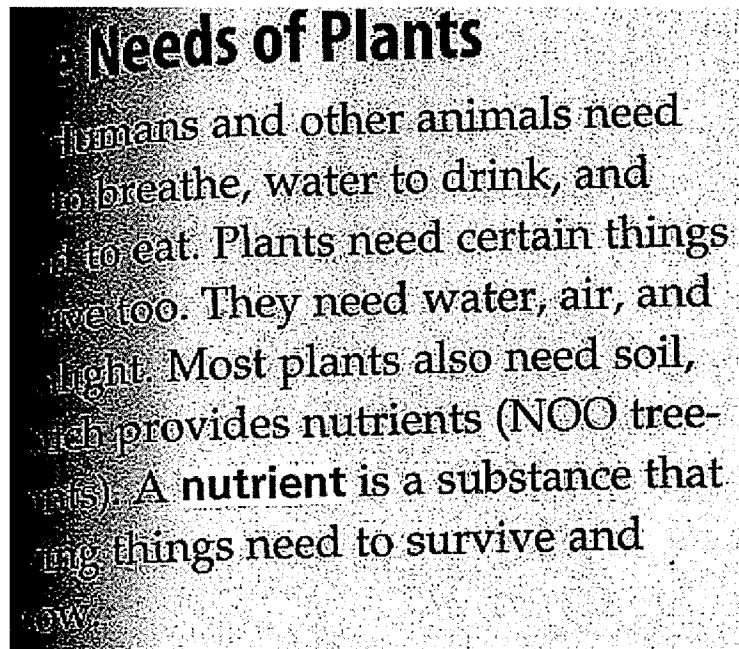
Learning Target: I can compare different structures of plants and explain how they help them grow, survive, and reproduce.

Plants Meet Their Needs

MAIN IDEA Plants use their parts to meet their basic needs.

Plants

Living things, or things that are alive, are found all over Earth. All of the living things on Earth can be separated into groups. Two groups of living things are plants and animals. A **plant** is a living thing that grows on land or in the water, cannot move from place to place, and usually has green leaves.



The Needs of Plants

Humans and other animals need to breathe, water to drink, and food to eat. Plants need certain things too. They need water, air, and light. Most plants also need soil, which provides nutrients (NOO tree-nts). A **nutrient** is a substance that living things need to survive and grow.

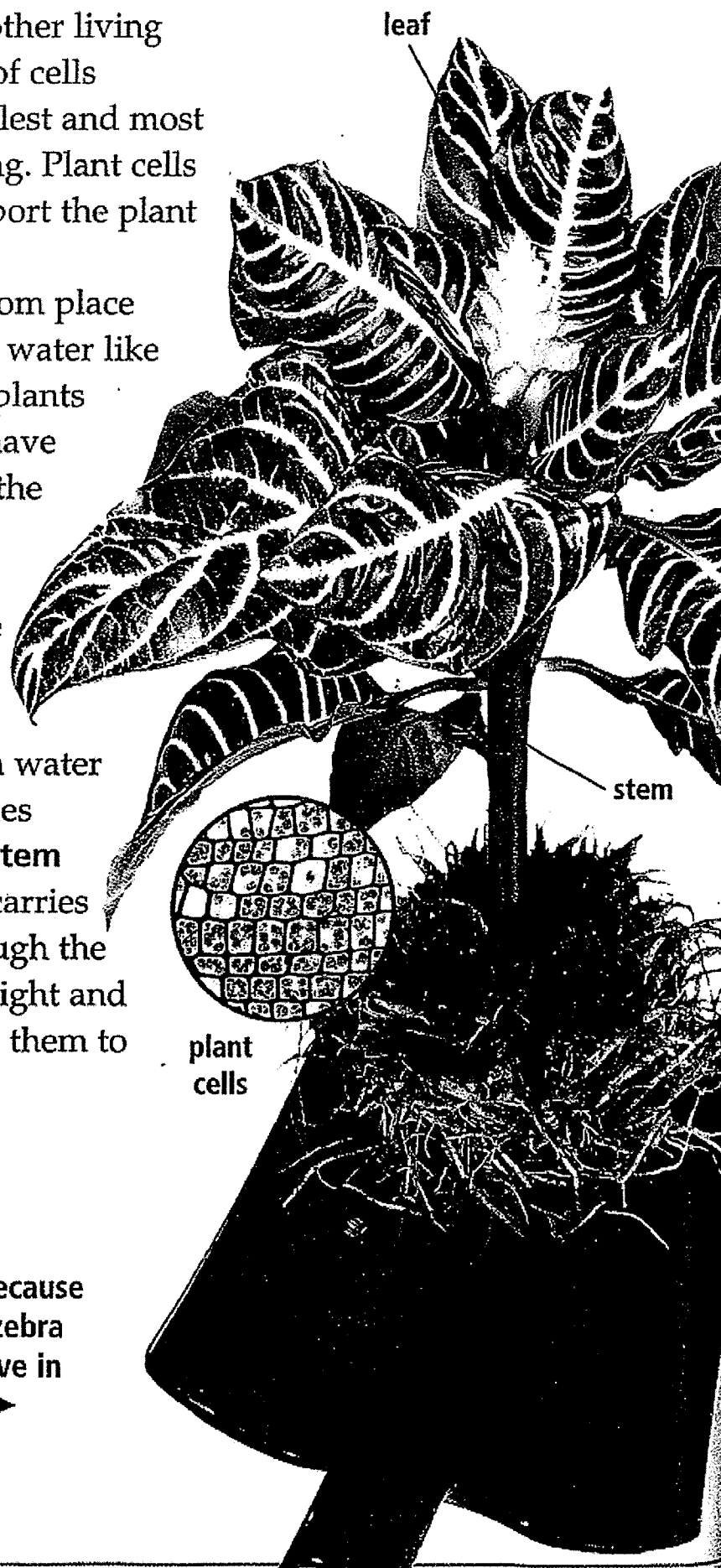
Parts of Plants

Like animals and all other living things, plants are made of cells (seh-lz). A **cell** is the smallest and most basic unit of a living thing. Plant cells have stiff walls that support the plant and give it shape.

Plants cannot move from place to place to find food and water like animals can. So how do plants meet their needs? They have parts that help them get the things they need to stay alive.

Almost all plants have three parts. Each part does a job that helps the plant live. A **root** takes in water and nutrients and provides support for the plant. A **stem** holds up the leaves and carries water and nutrients through the plant. A **leaf** collects sunlight and gases from the air. It uses them to make food for the plant.

The zebra plant is unusual because it has leaves patterned like zebra fur. What features does it have in common with other plants? ►



Roots

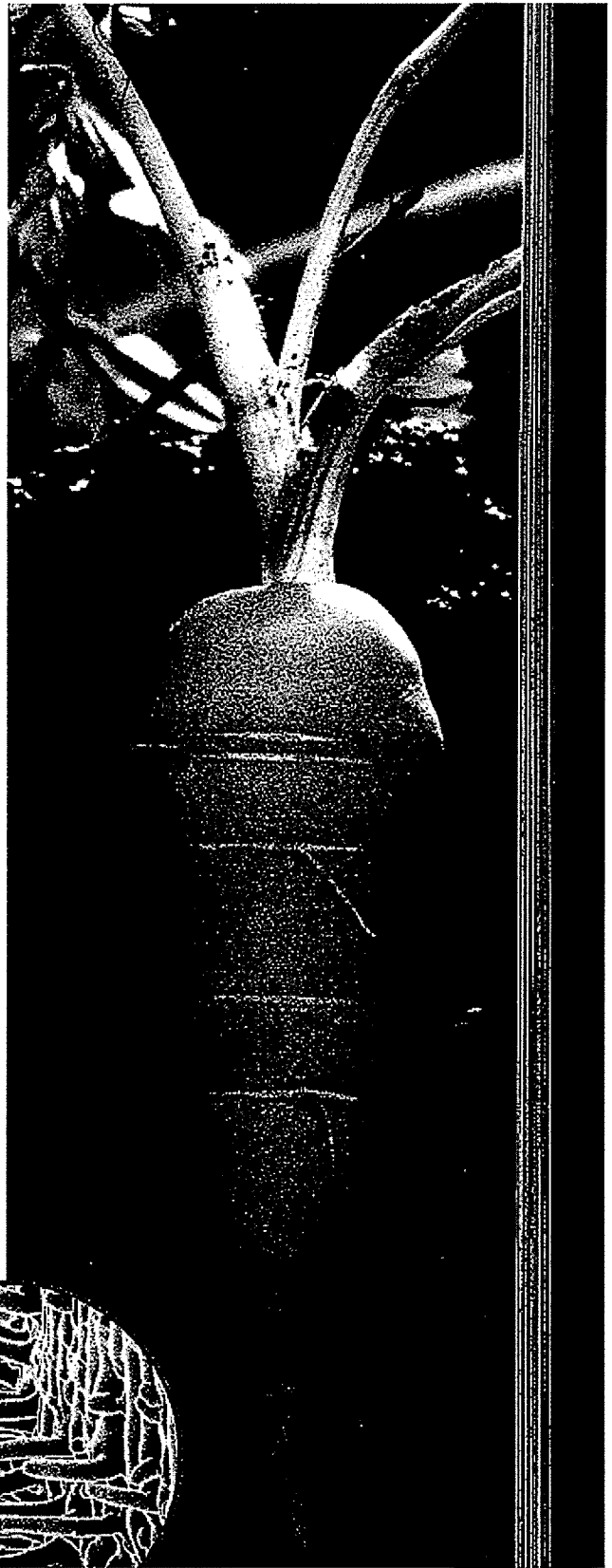
You usually don't see the roots of a plant. The roots of most plants grow underground. The most important job of roots is to take in water and nutrients from the soil. Roots have tiny hairlike parts that help them do this.

The roots of most plants also have another job. Roots are needed to hold the plant in place in the soil and to help it stand up. Tall trees have huge roots that help keep them from tipping over. Roots of grasses help hold them in place.

Sometimes, roots store food for the plant. The carrots you eat are actually roots. They contain many nutrients that they store for use by the whole carrot plant. Radishes, turnips, beets, and some other vegetables that people eat are also roots.

TEXT STRUCTURE If page A8 ended after the first paragraph, what would be a better head for that page?

Root hairs
viewed through
a microscope ►



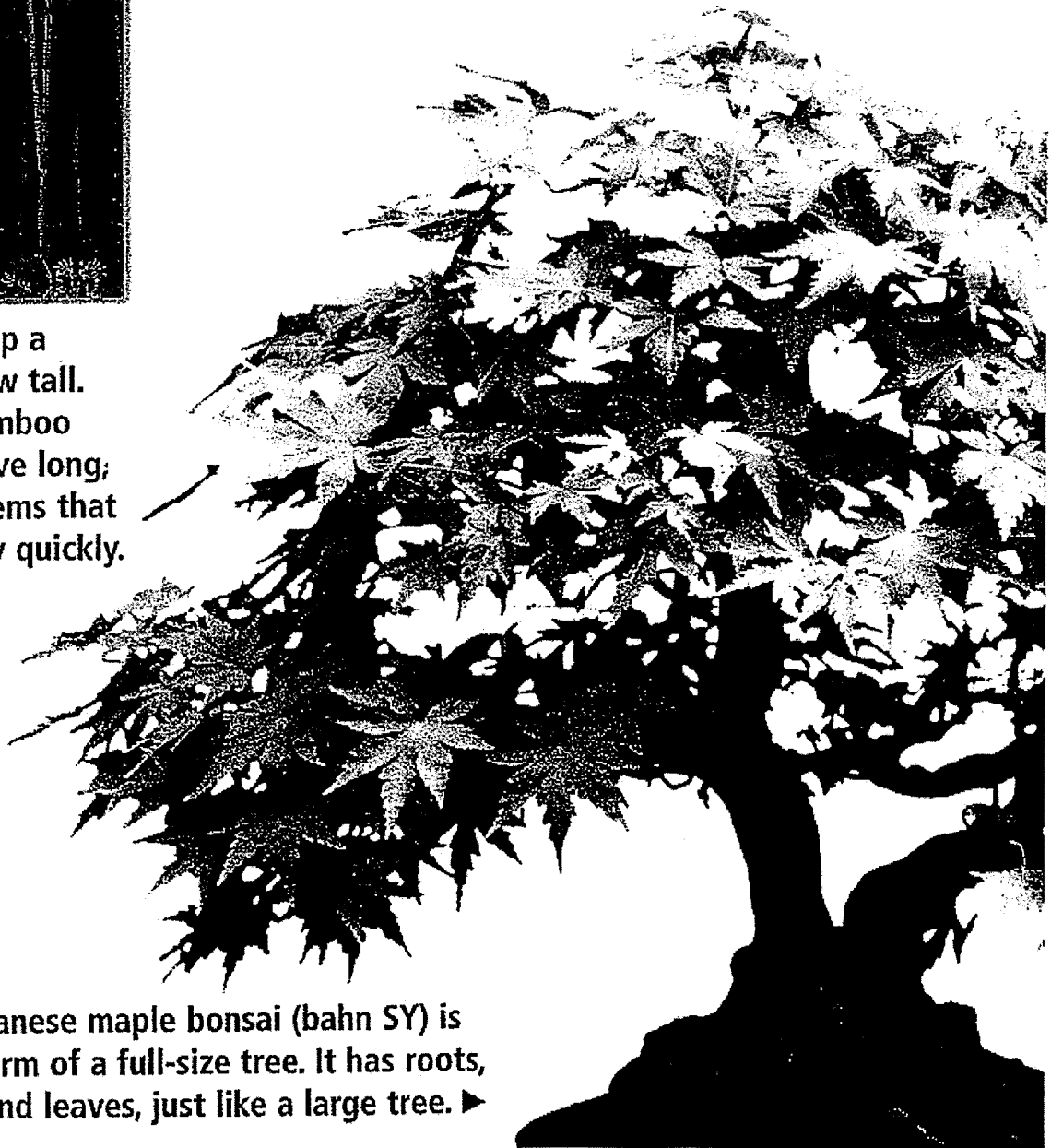
Stems

The stems of many plants are long and thin. They contain small tubes. These tubes carry water and nutrients throughout the plant. The stems hold up the leaves. This allows the leaves to collect sunlight.

Some stems, such as the stems of sugar cane, can store food. In a cactus plant, the stems store water. Tree trunks are also stems. Celery stalks and asparagus are examples of stems eaten by people.



▲ Stems help a plant grow tall. These bamboo plants have long, strong stems that grow very quickly.



This Japanese maple bonsai (bahn SY) is a tiny form of a full-size tree. It has roots, stems, and leaves, just like a large tree. ►

Leaves

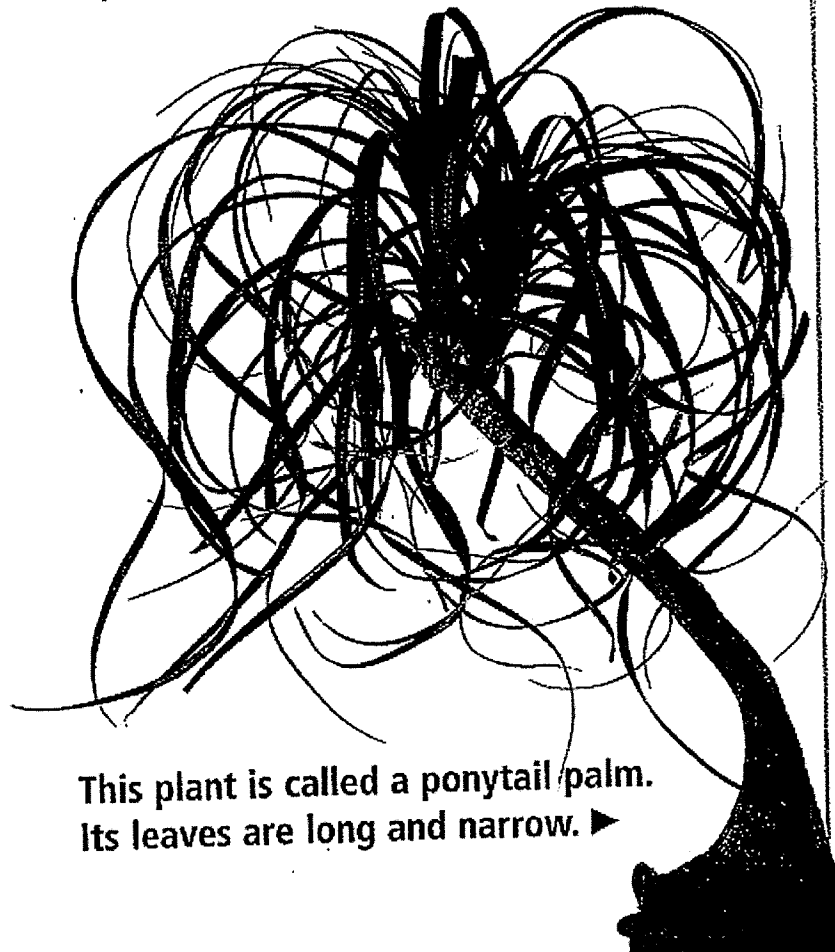
Leaves grow out of the stem of a plant. Most plants have many leaves. The leaf is the part of the plant that makes food. Leaves take in sunlight and air, and use them to make sugar. The sugar is food for the plant.

Leaves usually grow near the top of the plant so they can take in a lot of sunlight. Different types of plants usually have differently shaped leaves. The spines on a cactus are leaves. So are the needles of a pine tree. You might eat the leaves of some plants, such as lettuce, spinach, or cabbage.

TEXT STRUCTURE Look back at the last three heads in this lesson. What are the three parts of a plant?



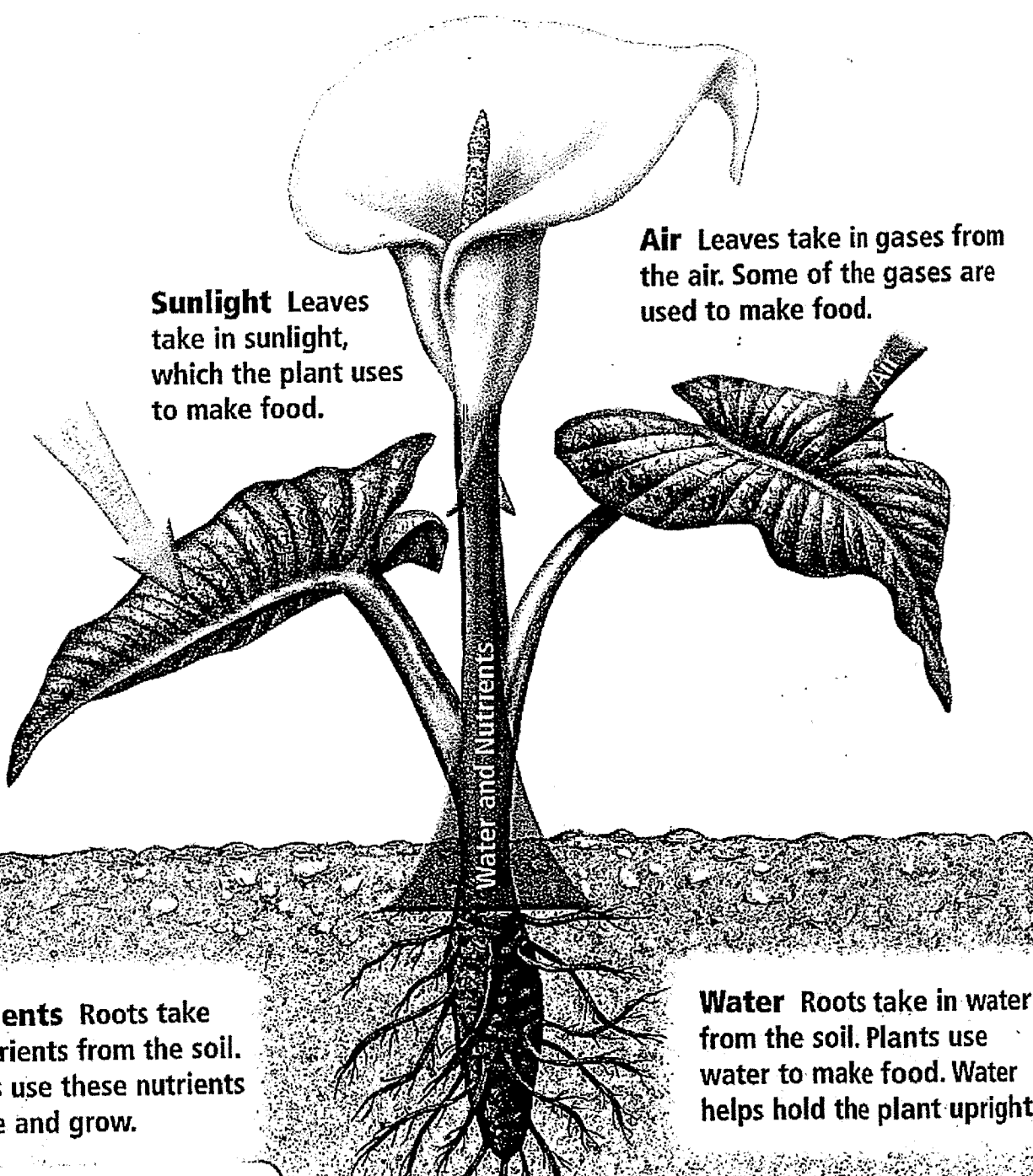
▲ This Japanese maple leaf is divided into sections called lobes.



This plant is called a ponytail palm. Its leaves are long and narrow. ▶

How Plants Meet Needs

The roots, stems, and leaves of a plant are all connected. They work together to help the plant meet its needs. To live and grow, a plant must meet its needs. Roots take in water and nutrients from soil. Stems carry the water and nutrients to the leaves and other parts of the plant. Leaves use sunlight, water, and air to make sugar.



Sunlight Leaves take in sunlight, which the plant uses to make food.

Air Leaves take in gases from the air. Some of the gases are used to make food.

Nutrients Roots take in nutrients from the soil. Plants use these nutrients to live and grow.

Water Roots take in water from the soil. Plants use water to make food. Water helps hold the plant upright.

EXIT TICKET

Name: _____
BCCSG

Date: _____
Howard / Spelman

1. . Which plant structure makes seeds?

- A stem
- B flower
- C roots
- D leaf

3 The diagram below shows a mature plant.



Which young plant is most likely an offspring of this mature plant?



Grade:

Wednesday

Date: May 12

Learning Target: I can describe plant parts that help it survive.

Ways to Meet Needs

MAIN IDEA Plants have parts that help them live in many different environments.

Getting and Storing Water

Plants grow in many kinds of environments (ehn VY ruh muhnts). An **environment** is everything that surrounds and affects a living thing. Different plants have parts that help them survive in their environment.

Some plants in shady environments grow high on tree trunks. This allows the plants to reach sunlight. But their roots cannot reach the soil. The roots are able to take water from the air. Other plants, like cactuses, can store water to use at a later time.

Learn by Reading

VOCABULARY

environment p. A24

reproduce p. A26

READING SKILL

Draw Conclusions

Identify some unusual features of a plant you read about. Draw a conclusion about that plant's environment.



Ways to Meet Needs

MAIN IDEA Plants have parts that help them live in many different environments.

Getting and Storing Water

Plants grow in many kinds of environments (ehn VY ruh muhnts). An **environment** is everything that surrounds and affects a living thing. Different plants have parts that help them survive in their environment.

Some plants in shady environments grow high on tree trunks. This allows the plants to reach sunlight. But their roots cannot reach the soil. The roots are able to take water from the air. Other plants, like cactuses, can store water to use at a later time.



◀ Orchids grow high on tree trunks. Their roots take in water from the air.

▲ A tank bromeliad stores up to 8 L (about 2 gal) of water between its leaves.

Spreading Seeds

Most plants reproduce (ree pruh DOOS) using seeds. To **reproduce** means to make new living things of the same kind. A seed is the first stage of a new plant. To grow into a new plant, a seed must fall where there is enough sunlight, soil, and water. If it grows too close to the plant that produced it, a seed may not survive. The parent plant may take up most of the sunlight, soil, and water in the area.

Many seeds have parts that help them travel away from the parent plant. Some seeds travel on the wind, some float in water, and some hook onto the fur of animals. Some seeds are inside tasty fruit. Animals eat the fruit, leaving the seeds behind.

DRAW CONCLUSIONS Draw conclusions about what may have prevented a seed from producing a healthy new plant.

▲ The shape of maple seeds causes them to twirl as they fall. The twirling helps the seeds travel farther away from the tree.

Burdock seeds hook onto the fur of passing animals. ▼



▲ Because coconut seeds float, they can drift on the ocean from island to island.



of Support

Trees that live in warm, wet environments grow in soil that is often shallow. Most of the nutrients in soil are near the surface. Trees that grow in shallow soil need wide, shallow roots for support and to take in nutrients. Some types of trees have strong, woody roots called prop roots. Prop roots grow above the soil from the tree's trunk. They support the trunk in the wet ground.

Large trees need a lot of support. Some large trees have long, flattened roots called buttress roots. Buttress roots grow on the surface of the ground and widen the base of the tree. The widened base helps to hold up the tree.

DRAW CONCLUSIONS Draw a conclusion about what the air is like around plants that grow on tree trunks.



▲ The buttress roots of a giant fig tree hold its huge trunk upright.

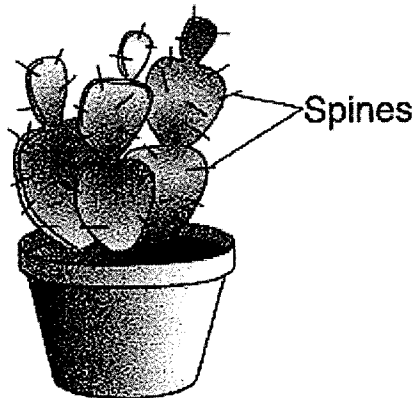
◀ Sturdy prop roots seem to hold these palm trees in midair.

EXIT TICKET

Name: _____
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Date: _____
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2 The diagram below shows a cactus plant with spines.



The spines help the cactus plant to survive by

- A making seeds
- B storing water
- C producing food from sunlight
- D protecting it from animals

Grade:

Thursday

Date: May 13

Learning Target: Explain that plants go through a life cycle (beginning of life, growth, and development, reproduction, and death).

I can describe the stages of the life cycle of a flowering plant,

Plant Life Cycles

MAIN IDEA Plants have life cycles, during which they grow, reproduce, and die.


Flowering Plants

Both plants and animals have life cycles (SY kuhlz). A **life cycle** is the series of changes that a living thing goes through during its lifetime. Different living things have different life cycles. Flowering plants, such as this apple tree, have similar life cycles.

A flower, or blossom, is the part of the plant that makes fruit (froot) and seeds. A **seed** is the first stage of most plants. For a plant to produce seeds, pollen (PAHL uhn) must first move from one part of a flower to another. Pollen is a powdery material found inside flowers. The wind, insects, and other animals can move pollen.

A **fruit** is the part of the plant that contains the seeds. The apple blossoms on this tree will produce many apples. The seeds inside the apples can grow into new apple trees.

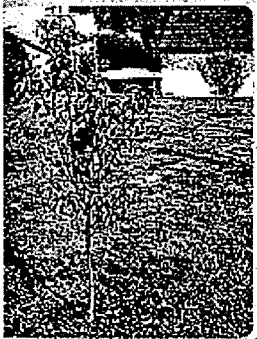
When a seed is planted in the soil it will sprout and develop into a seedling. As the seedling grows, it becomes a young tree, or sapling. When the sapling becomes an adult, the life cycle begins again. Most plants continue this cycle for many years until they die.

 **MAIN IDEA** What part of a flowering plant contains seeds?

Life Cycle of an Apple Tree



blossom



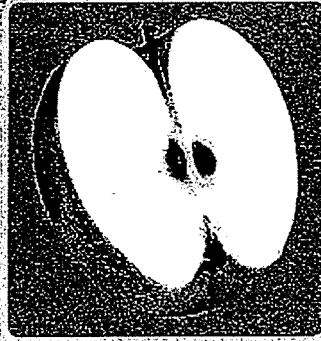
planting



fruit



seedling

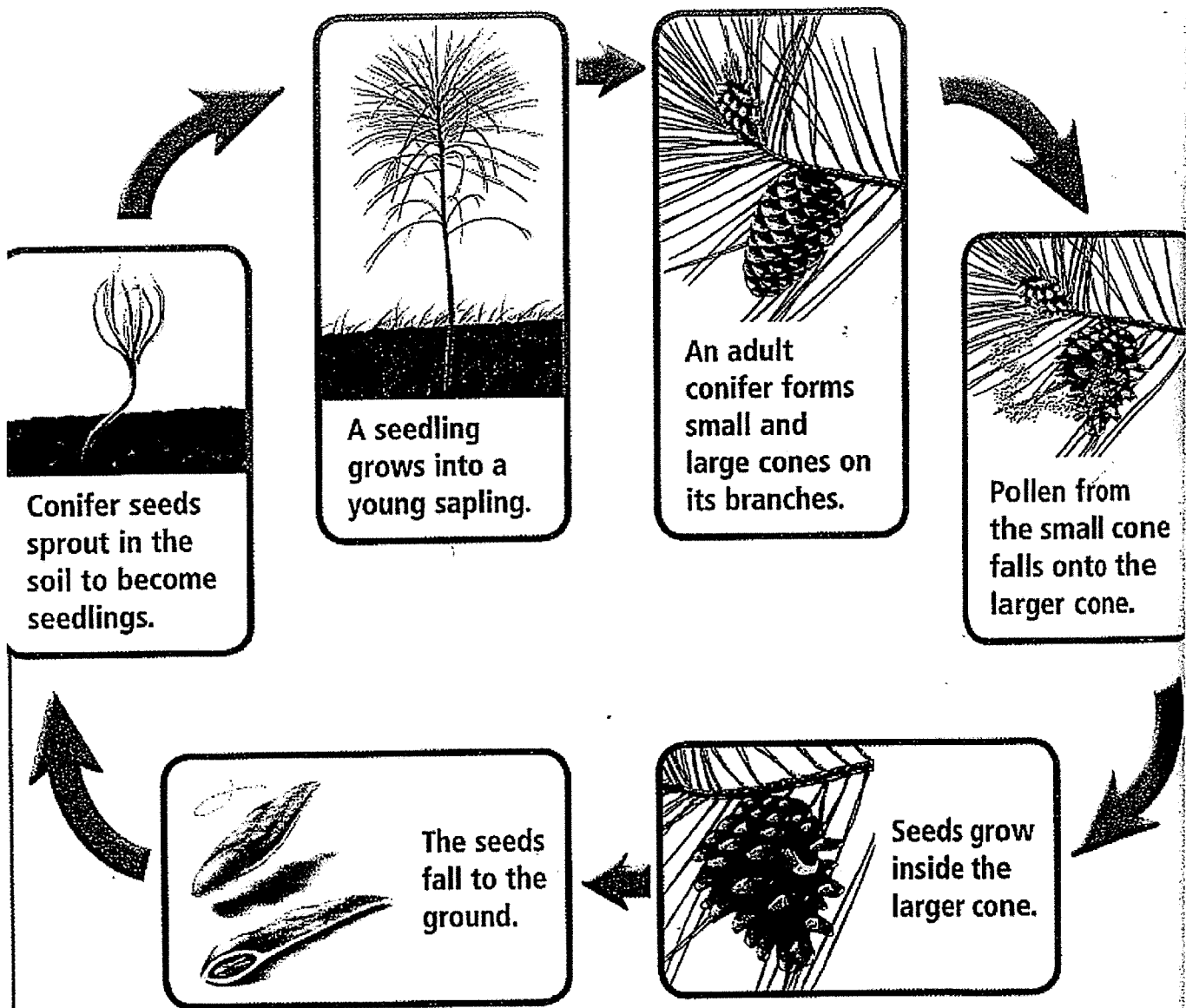


seed in fruit

Conifers

Not all plants have flowers. Some plants have cones instead of flowers. A **conifer** (KAHN uh fur) is a plant that makes seeds inside cones. Pine trees are conifers. Conifers use their cones to reproduce. The diagram below shows the stages in the life cycle of a conifer.

MAIN IDEA What is a conifer?



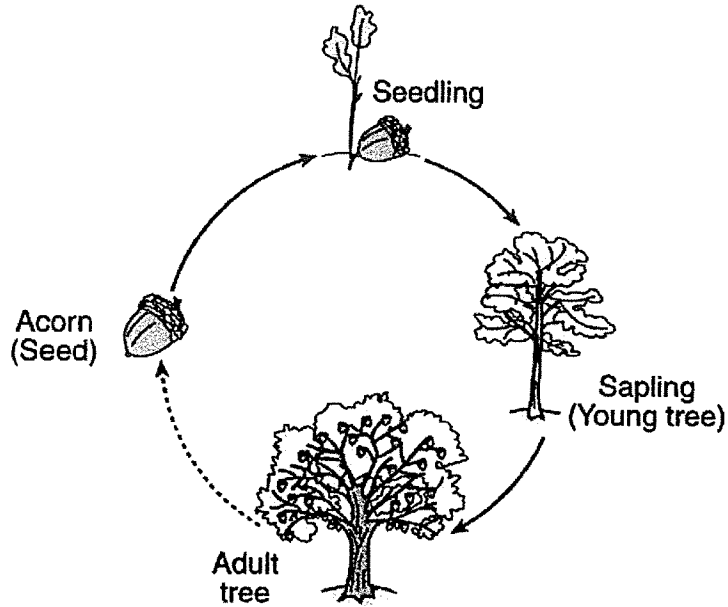
EXIT TICKET

Name: _____
BCCSG

Date: _____
Howard / Spelman

The diagram below shows the growth and development of an oak tree.

1.



(Not drawn to scale)

This diagram shows a

- A life span
- B life cycle
- C food chain
- D food supply

Grade: _____