

TEACHER'S GUIDE



Scout (Kindergarten) Vol. 16 No. 6

In This Guide

In this guide, you will find language arts, science, and social studies lessons for the articles in this issue of YOUNG EXPLORER SCOUT.

Young Explorer Magazine

YOUNG EXPLORER classroom magazines for kindergarten and grade 1 develop young readers' literacy skills through engaging informational text. Great storytelling and stunning photographs teach students about our planet and the people, plants, and animals that live on it. Encourage your students to read and to explore our world with YOUNG EXPLORER magazines.

Scout

The Scout edition is written for kindergarten students. Some articles with characteristics of emergent text will be easier for students to read. You may find that other articles are better suited for teacher read-alouds.

Visit YOUNG EXPLORER's website, NatGeo.org/explorermag-resources, to find additional resources for extending your students' learning.

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LANGUAGE ARTS

Objective

- Students will use a combination of drawing and writing to tell about events in the order in which they occurred. They will provide a reaction to what happened.

Resources

- Language Arts Master (page 4)

Summary

Giant sequoias are evergreen trees. They grow from tiny seeds into some of the biggest trees on Earth. They need soil, water, light, and air to live and grow.

WORD WORK

Sight Words: *from, this, is, it, big, are, they, in, a, too, and, help, will, get, new, the, have, one, can, you*

High-Frequency Words: *tree, grow*

BUILD VOCABULARY AND CONCEPTS

- cone
- seed
- seedling
- young
- adult

The words above are used in the article and may be new to students. Pronounce the words for students. Invite them to share what they think each word might mean. Then work together as a class to find examples of each word in the article's photos.

Once students have a good understanding of each word, divide the class into two teams. Have one member of each team sit at the front of the class, facing away from the board. Write one vocabulary word on the board. You may also want to post a picture to illustrate the word's meaning.

Taking turns, give each team five chances to give simple clues about the mystery word. Have the student volunteers guess which word they are describing. If a team says the actual word, the other team gets the point. The first team to reach five points wins.

READ AND DISCUSS

Read the article "From Seed to Tree" aloud to students as they follow along. You may want to read the entire article first, and then reread the article, taking time to stop and discuss each two-page spread.

Pages 2-3 Point to the large tree in the middle of the photo. Ask: **What words could you use to describe this tree?** (*big, tall, wide, etc.*) Read the title aloud to students. **What does the title tell you about the tree?** (*It came from a seed.*)

Say: **Let's find out more about this tree.** Then read the text on page 3. Ask: **What did we learn about the tree?** (*It is the biggest tree in the world. It grew from something very small.*) Ask: **What small thing do you think it grew from?** (a seed) **How do you know?** (*The title said it did.*)

Pages 4-5 Read pages 4 and 5. Ask: **Where did the seeds in the picture come from?** (*They grew in a cone.*) **What does a seed need to grow?** (*soil and water*) **What does the seed grow into?** (*a seedling*) **What does the seedling need to grow?** (*air, water, and light*)

Pages 6-7 Read pages 6-7. Ask: **What does the seedling grow into?** (*a young tree*) **How does the young tree change?** (*It gets bigger and taller.*) **What does the young tree grow into?** (*an adult tree*) **What happens next?** (*The adult tree grows new cones and seeds. The seeds will grow new trees.*)

Pages 8-9 Review the diagram of the giant sequoia's life cycle on page 8. Ask students to tell about the tree's life cycle using their own words. Read aloud the text on page 9. As a class, count the rings on the tree trunk. Ask: **How many rings are there?** (16) Guide students to understand that 16 years is very early in the life of a giant sequoia. Giant sequoias can live for thousands of years.

TALK AND WRITE

Students can respond to the article by talking and writing. Use the following prompts to guide them. You might also want to use the Language Arts Master for this article.

- **Talk about something new you learned about trees.**
- **Draw or write about how seeds grow into trees.**

Objective

- Students will learn that trees need soil, water, light, and air to live and grow..

Resources

- Parts of a Tree poster (Teacher's Edition)
- Science Master (page 5)

Science Background

Giant sequoias are evergreen trees that grow along the western slope of the Sierra Nevada in central California. A mature giant sequoia produces about 1,500 cones each year. Inside each cone is about 200 seeds. Most seeds die. But the seeds that sprout can grow into trees that are about 300 feet tall. These trees can live very long lives. Many living sequoias are between 2,000 to 3,000 years old.

ENGAGE

Engage students in a discussion about trees. All students have seen trees. Most have probably never seen a giant sequoia. Ask students who have seen one to describe the tree they saw. Have on hand photos of giant sequoias for students to examine. Ask students to compare and contrast giant sequoias with trees that grow in their community.

EXPLORE

Take the class into the hall or a large open space. Have students place 20, 12-inch rulers end-to-end on the floor. Point out that this is about the height of some houses (20 feet). Have students use a tape measure to measure a distance of 100 feet. Tell students some tall buildings are about this tall. Say: **Imagine three of those buildings standing on top of one other. That's about how tall a giant sequoia grows.** As a class, discuss what a giant sequoia might need to grow this tall.

EXPLAIN

Read the article to students.

After reading, have students explain and describe some things they learned about giant sequoias and what the trees need to live and grow. Students should note some of the following:

- A giant sequoia grows from a seed. The seed needs soil to grow in. It needs water, too.
- The seed grows into a seedling. The seedling grows in the soil. It needs air, water, and light, too.
- The seedling grows into a young tree. The young tree grows into an adult tree. The tree grows in soil. It also needs air, water, and light to live and grow.

As a class, discuss how plants grow. Ask students where the air, water, and light come from. (*the atmosphere, precipitation, and the sun*) Guide students to understand that the tree will need these things for as long as it continues to live and grow.

ELABORATE

Share the Parts of a Tree poster with students. Identify the tree parts labeled on the diagram. Then examine the different tree seeds at the bottom of the poster. Guide students to understand that most trees grow from seeds. But different kinds of trees grow from different kinds of seeds. The seeds they see here are all covered in different types of cases. Ask students which case looks most like that of a giant sequoia. (cone/evergreen tree) Discuss what an evergreen tree is like. Compare evergreen trees to other types of trees.

Have students look at More to Explore on the back page of the magazine. Read aloud "A Dandelion From Bud to Seed." Guide students as they discuss how the flower changes. Discuss how fluff helps the flower's seeds find new places to grow.

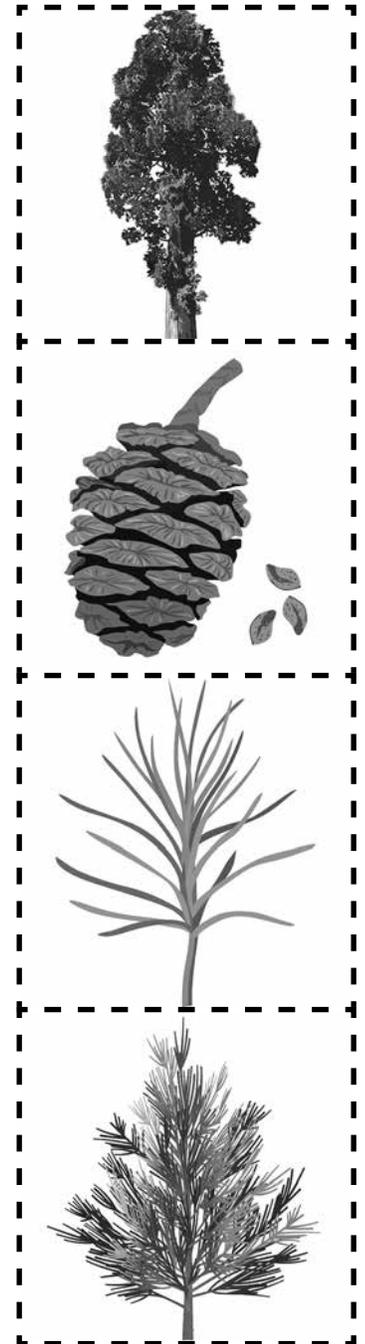
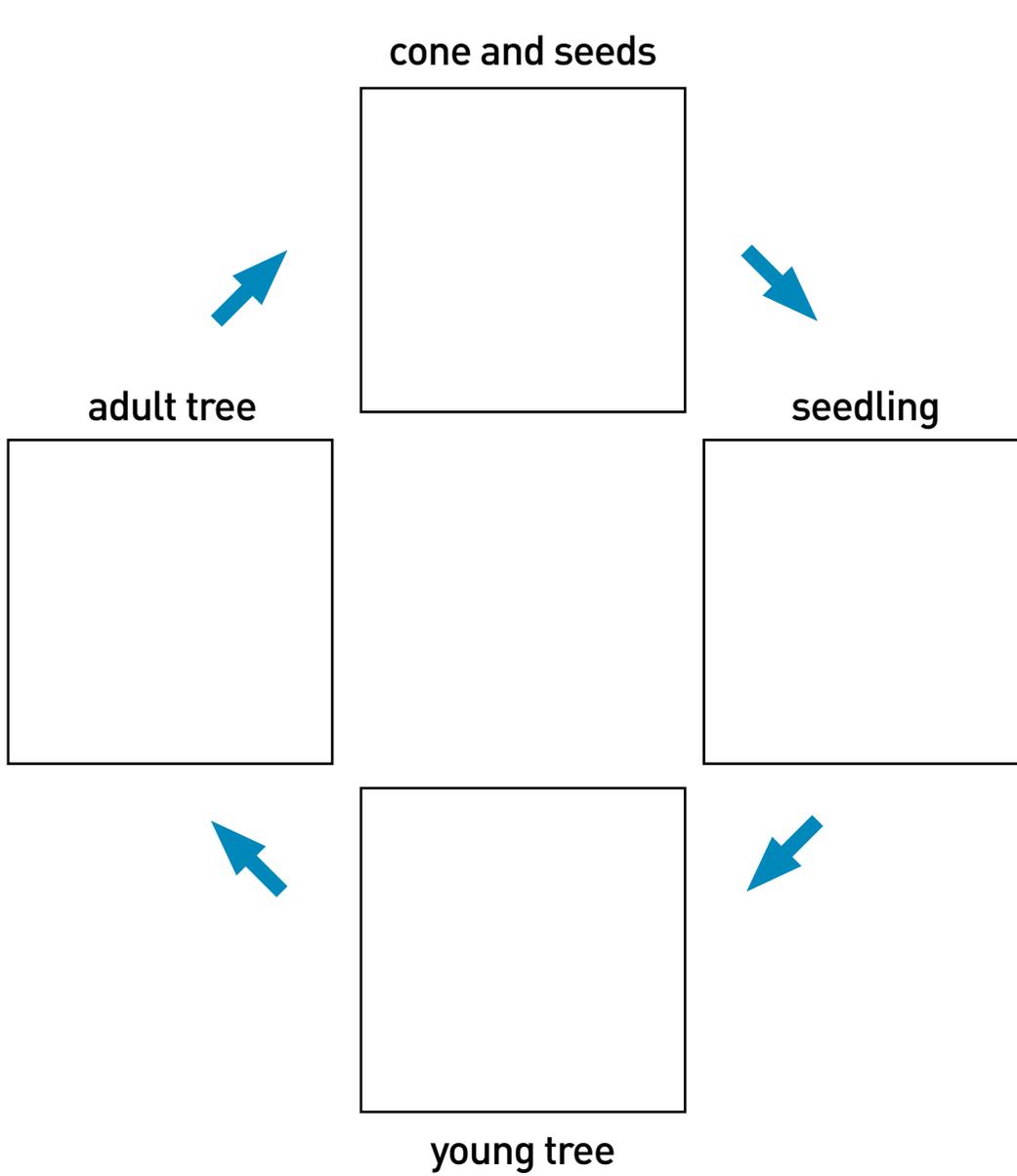
EVALUATE

Assess students' understanding with the Science Master for this article. You might also use the following prompts.

- **What does a tree need to live and grow?**
- **What parts of a tree help it survive and grow?**

LANGUAGE ARTS: The Life Cycle of a Tree

Cut out the drawings. Glue each drawing in the correct box.

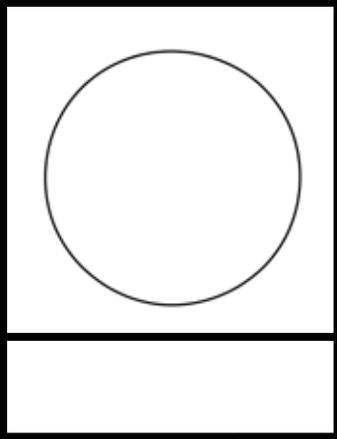
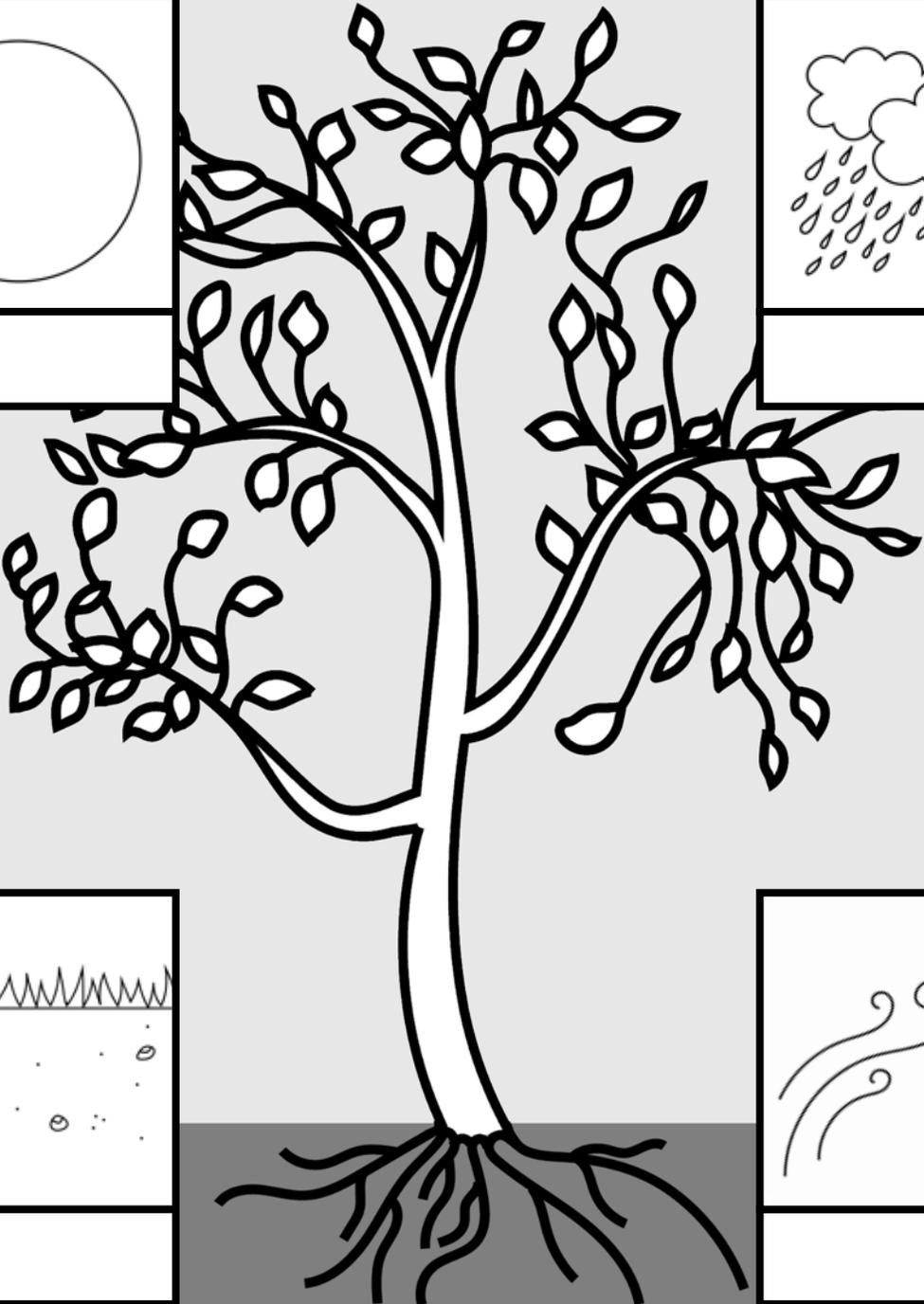
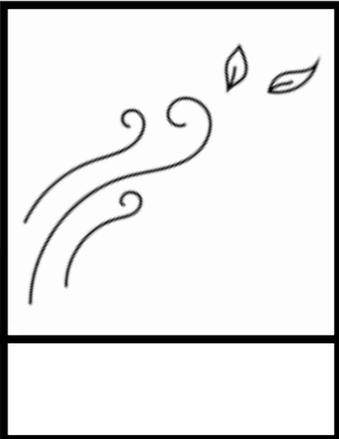
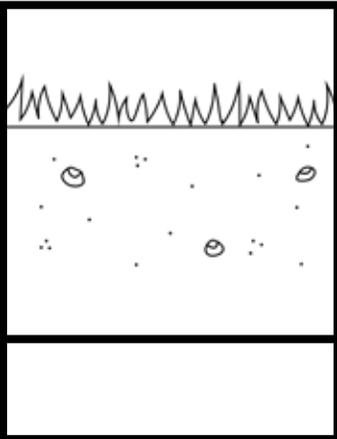


Write a word. Tell how the tree grows.

The tree grows

SCIENCE: What Do Trees Need to Live?

Write the words. Tell what trees need to live.

soil	light	water	air
			
			

LANGUAGE ARTS

Objectives

- With prompting and support, students will identify reasons an author gives to support points in a text.
- Students will distinguish between similarly spelled words by identifying sounds of the letters that differ.

Resources

- Language Arts Master (page 8)

Summary

Joel Sartore is a photographer on a mission. He takes photos of animals in zoos. He shares his photos so people will care about the animals and help protect them from becoming extinct.

WORD WORK

Sight Words: *my, is, I, it, at, find, there, the, help, they, to, me, we, up, with, a, and, make, want, see, so, my, look*

High-Frequency Words: *animals, photos*

BUILD VOCABULARY AND CONCEPTS

- photos
- animals
- zoos
- keepers
- camera
- lights

The words above are used in the article and may be new to students. Use the following routine to introduce the words to students. Go through the routine, one word at a time. Pronounce the word. Ask students if they know the word. They can respond with a thumbs up or a thumbs down. Define each word, using student-friendly language. Post the word on a word wall. Tell students they will be adding information about each word, such as drawings, photos, descriptions, and definitions, as they learn more.

After reading, you may want students to add information about each word to the word wall. Encourage students to tell what they know about the words and to use the words as they talk about their own experiences and the article

READ AND DISCUSS

Read the article “My Animal Photos” aloud to students as they follow along. You may want to read the entire article first, and then reread the article, taking time to stop and discuss each two-page spread.

Pages 10-11 Have students look at the picture. Ask: **What do you see in this photo?** (*a man, a camera, and a bird*) Read the title and text aloud. Ask: **What is the man’s name?** (*Joel*) **Based on the title, what do you think Joel will do with the camera?** (*take a photo of the bird*) Let students know they will learn more about Joel and why he takes photos of animals.

Pages 12-13 Ask: **Why does Joel go to zoos?** (*He finds many kinds of animals there.*) **Look at the photos. What kinds of animals did he find at the zoo for these photos?** (*leopard cub, caiman, camel, and ducklings*) **How do the keepers help him?** (*They bring animals to him.*)

Pages 14-15 Ask: **On these two pages, what did you find out about how Joel takes photos?** (*He sets up places to take the photos. He treats the animal with care. He uses a camera and lights when he takes photos.*)

Pages 16-17 Ask: **Why does Joel share his photos?** (*He wants people to see these animals.*) Discuss reasons why he might want that. (*He wants other people to know about the animals and care about them, too.*)

Point out the words *make* on page 16 and *take* on page 17. Say: **These two words look almost the same. Only their first letters are different.** Sound out the words as a class. Guide students to recognize that changing one letter creates a new word. Review the article with the class. Highlight one-syllable words that turn into new words when the first letter is changed. Write examples of the both words for students to see. As a class, sound out and compare the similarly spelled words. (See Answer Key)

TALK AND WRITE

Students can respond to the article by talking and writing. Use the following prompts to guide them. You might also want to use the Language Arts Master for this article.

- **Talk about something new you learned about animals.**
- **Tell why Joel Sartore thinks it is important to take photos of animals.**

Objectives

- Students will celebrate the amazing and diverse creatures we share this world with.
- Students will explain how people work together to teach others about animals.

Resources

- Photo Ark poster (Teacher's Edition)
- Science Master (page 9)

Science and Social Studies Background

Joel Sartore is a photographer for National Geographic. He specializes in taking photos of animals in captivity. To get the photos, he visits zoos and aquariums around the world. There are about 12,000 animals species in captivity. And Sartore wants to take photos of them all. After more than 10 years, he's about halfway there. To share his photos with others, Sartore created a project that he calls The Photo Ark. He hopes that after people see his photos they will want to learn more about the animals. And as they learn more, they will care enough to keep the endangered species from becoming extinct.

ENGAGE

Engage students in a discussion about animals. Ask:

What is your favorite animal? What makes this animal special? Guide students to recognize that animals are amazing and diverse creatures. Discuss reasons why animals are an important part of the world.

EXPLORE

Explore how photos reveal information about a subject. Show students photos of a variety of different animals commonly found in your community. Have them identify the animals they see. Then show them a photo of an animal they are unlikely to recognize. You may wish to select one of the species featured on the Photo Ark poster. Let students know that photographer Joel Sartore takes photos of animals like this. He wants to introduce people to animals they don't know about. Explain that he wants people to learn about these animals so they care about the animals and want to protect them.

EXPLAIN

Read the article to students.

After reading, have students explain how photographer Joel Sartore works with zookeepers to teach people about different types of animals. Have them describe how and why Joel takes the photographs.

- Joel goes to zoos because he can find lots of animals there.
- The keepers help by bringing animals to him.
- He sets up places to take photos.
- He treats the animals with care.
- He uses a camera and lights.
- He's ready for anything because the animals always surprise him. Some sleep, but others make a mess.
- Joel shares his photographs with people so they can see the animals, too.

Have students look at the photos of animals in the article. Read aloud the labels to identify each one. Then have students describe each animal, based on what they see in the photos.

ELABORATE

Explain to students that some of the animals Joel Sartore photographs are endangered. Discuss what this means. Let students know that Joel created a project called The Photo Ark so people can see and learn about the animals in his photos. Use the Photo Ark poster to show students more of Joel's photos. Have students describe each animal they see. To learn more about The Photo Ark, go to www.NatGeoPhotoArk.org.

EVALUATE

Assess students' understanding with the Science and Social Studies Master for this article. You might also use the following prompts.

- **How does Joel Sartore take photographs of animals?**
- **Describe two of the animals Joel took photos of for this article.**

LANGUAGE ARTS: Words with "at"

Write **at** in each blank to make a new word.

Draw a picture of each word.

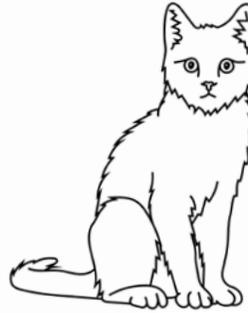
1. c a t

2. b

3. h

4. r

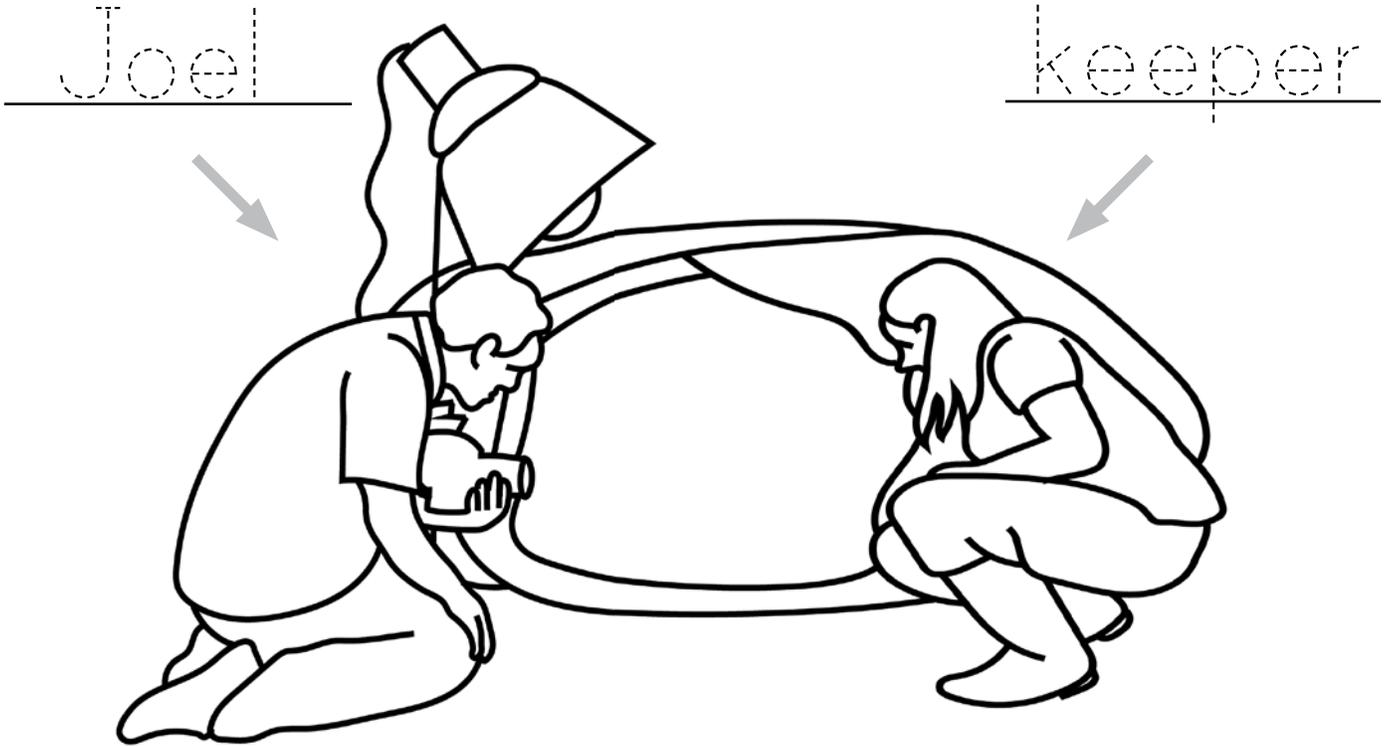
5. s



SCIENCE AND SOCIAL STUDIES: Helping Animals

Trace the words to tell who is working here.

Draw a picture of an animal in the tent.



Write the words on the line to finish each sentence.

takes	brings	see
-------	--------	-----

1. Joel _____ photos.

2. The keeper _____ animals to him.

3. They want people to _____ the animals.

Wind Power

LANGUAGE ARTS

Objectives

- With prompting and support, students will describe the connection between two ideas in a text.
- Students will read emergent-reader texts with purpose and understanding.

Resources

- Language Arts Master (page 12)

Summary

Wind is produced when the sun warms land and water. Heat from the Earth’s surface warms the air above it. The warm air rises, and cooler air rushes in. Wind is energy. Wind can move things.

WORD WORK

Sight Words: *is, on, the, see, can, do, with, and, up, too, we, not, in, it, a, makes*

High-Frequency Word: *wind*

BUILD VOCABULARY AND CONCEPTS

- wind
- sun
- air
- land
- water

You may want students to work in pairs to expand their knowledge of the vocabulary words. Let students know that each pair will become an expert on one of the words. Assign a word to each pair. Have students draw a line down the middle of the page, or fold it in half. Ask pairs to label and fill in each half as shown in the example. After pairs have completed their work, ask them to share their word and their drawings with another pair or with the class. Some pairs may have the same word. If so, have the class discuss how each pair’s work is alike and different. Afterward, have students place their work on the classroom word wall.

Word
wind
Picture
(picture of wind)

READ AND DISCUSS

Read the article “Wind Power” aloud to students as they follow along. You may want to read the entire article first, and then reread the article, taking time to stop and discuss each two-page spread.

Pages 18-19 Read the title to students. Ask them what wind is and what it’s like. Then discuss the word *power*. Say: **Wind is invisible. You can’t see it. But you can see that wind has power. You can see what wind can do.** Ask students to examine the photos on pages 18-19. Ask: **What does wind have the power to do in these photos?** (*blow dandelion seeds, blow leaves off trees, make the dog’s ears move, and keep the hang gliders in the sky*) If your classroom has a window, ask students to look outside. Have them describe what wind has the power to do right now where you live.

Pages 20-21 Ask: **What can we learn about wind on these pages?** (*how wind starts; how we can see wind move things*) Ask students if they’ve ever flown a kite. If so, ask them to describe how the kite moved in the wind. Ask students to name other things they can see wind move.

Pages 22-23 Read aloud the text on these pages. Point out that it takes power to push things or make things spin. Say: **When wind pushes a sailboat, the sailboat moves. When wind blows on a windmill, the windmill spins.** Ask: **What would happen to the sailboat if the wind stopped?** (*The sailboat would stop moving.*) **What would happen to the windmill if the wind stopped?** (*The windmill would stop spinning.*) As a class, make a list of other things wind can do. Guide students to understand that each of these actions would stop if air stopped moving and there was no wind.

TALK AND WRITE

Students can respond to the article by talking and writing. Use the following prompts to guide them. You might also want to use the Language Arts Master for this article.

- **Talk about something new you learned about wind.**
- **Make a pinwheel. Blow on it. Talk about how air can make things move.**

Wind Power

SCIENCE

Objective

- Students will understand how heat from the sun causes air to move, creating wind.

Resources

- Science Master (page 13)

Science Background

Wind is moving air. It is a part of weather. You can't see wind. But during certain types of weather, you definitely know that wind is there. Wind starts when the sun heats Earth's surface. Because landscapes vary, Earth's surface is heated unevenly. Heat from the Earth's surface warms the air above it. Hot air is less dense, so it rises. Cool air is more dense, so it sinks. This creates differences in atmospheric pressure. Air constantly moves from high-pressure areas to low-pressure areas. The bigger the difference in air pressure is, the stronger the winds will blow.

ENGAGE

To engage students, spend some time gathering pictures of things that move because of wind. Post the pictures around the room and give students time to examine them. Challenge students to describe what all of the photos have in common. If necessary, guide them to recognize that each photo shows something blowing in the wind.

EXPLORE

Before reading the article, explore the concept of moving air with the class. Ask students to place their hands in front of their mouths and blow. Ask: **What do you see?** (*nothing*) **What do you feel?** (*moving air*) Let students know that you are going to read an article about wind, which is the movement of air outside. As they read, they will find out how wind is created.

EXPLAIN

Read the article to students.

After reading, ask: **What is wind?** (*moving air*) **Where does wind start?** (*with the sun*) Have students refer to the diagram on page 20 as you ask the following questions about the process in which wind is created.

- **What does heat from the sun do?** (*It warms the land and water.*)
- **What happens next?** (*Air above the land and water warms up.*)
- **What happens when air warms up?** (*It rises.*)
- **And what happens when warm air rises?** (*Cooler air rushes in.*)

After reviewing the diagram, have students examine the article's photos. Point out that you cannot see wind in any of the photos. But you can see what happens because of wind. Have students explain to a partner how each photo shows that wind has power and can move things.

ELABORATE

Remind students that cool air rushes in as warm air rises. But then explain that as the warm air rises, it cools off and falls back down. Tell students that this causes air to keep moving. That is why wind is constantly changing.

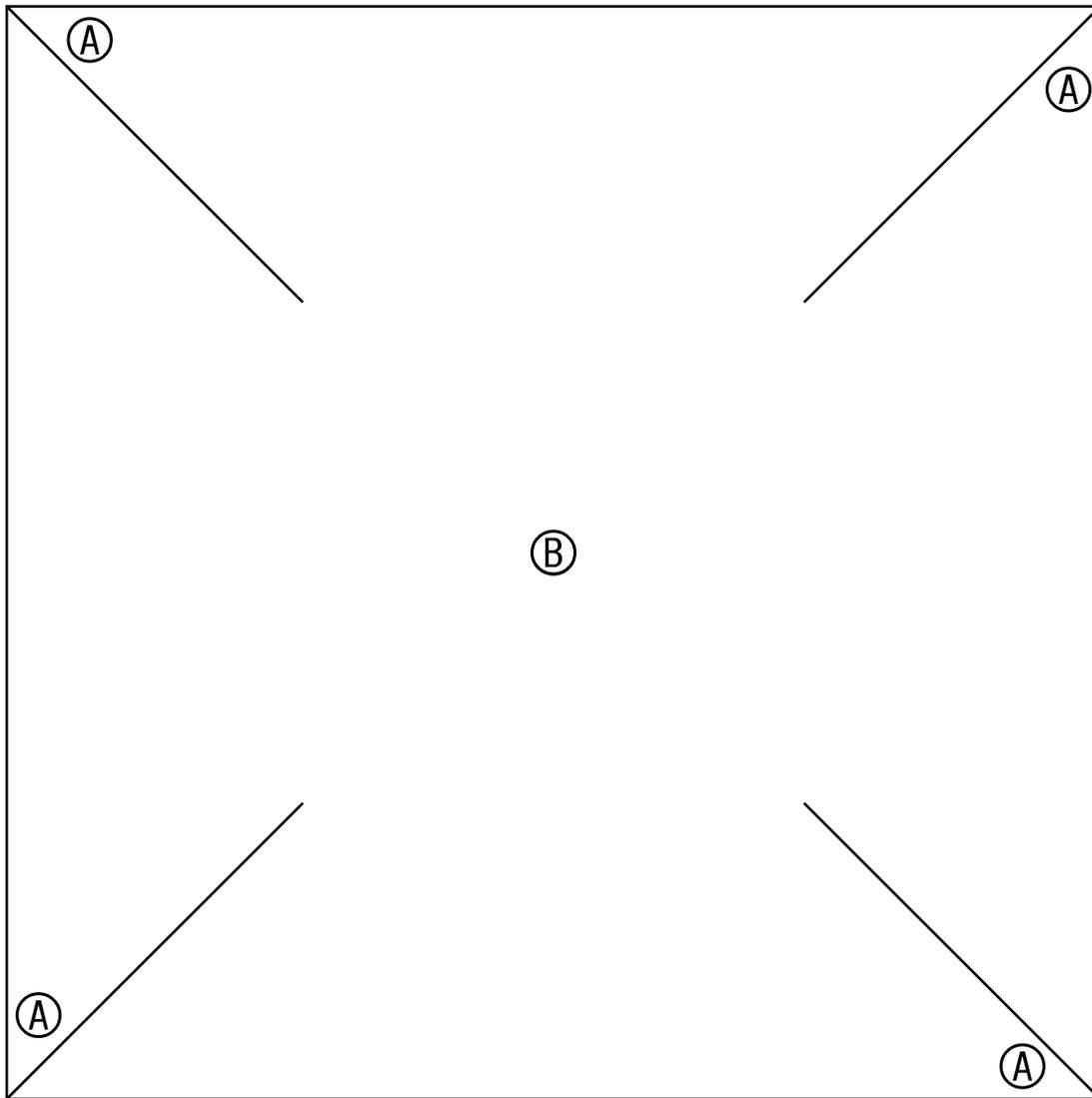
EVALUATE

Assess students' understanding with the Science Master for this article. You might also use the following prompts.

- **How does wind form?**
- **What does wind have the power to do?**

LANGUAGE ARTS: Make a Pinwheel

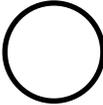
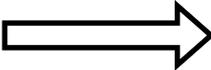
Follow the directions. Then talk about how air can make things move.

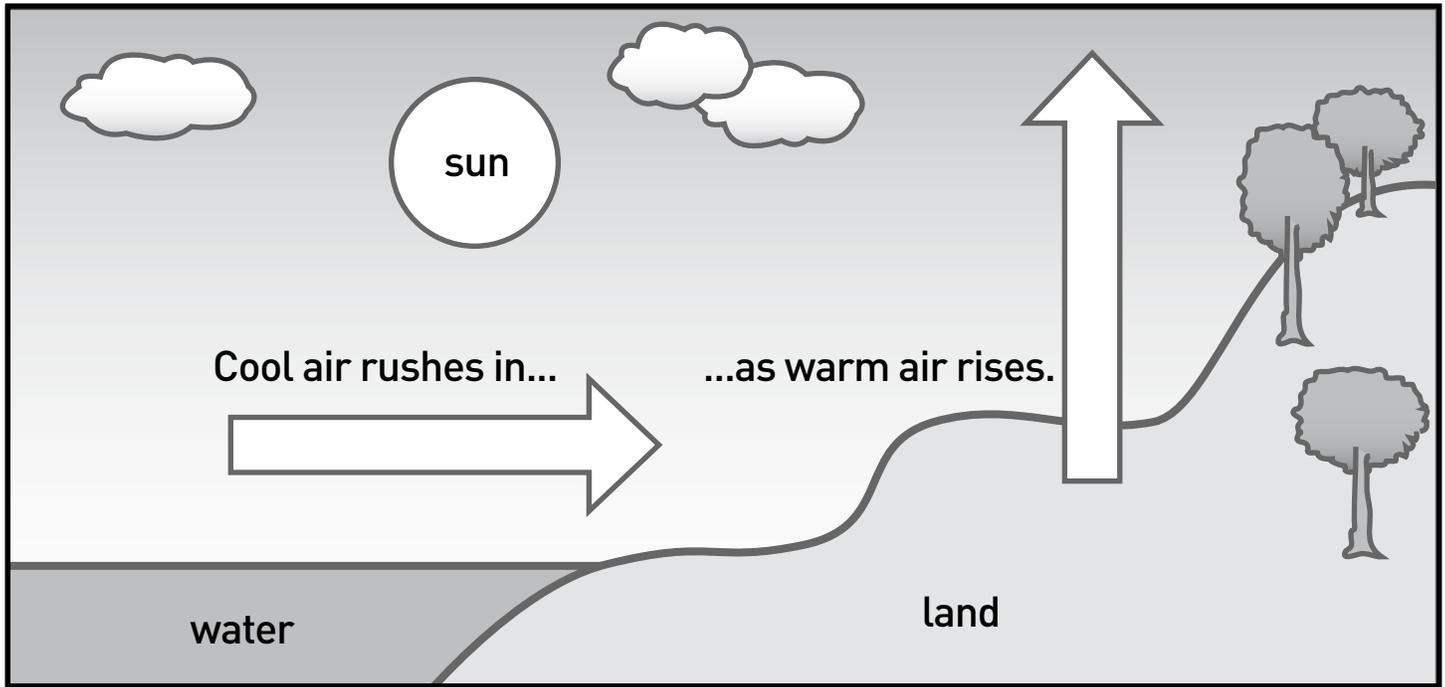
**What you need:**

- crayons
- scissors
- a push pin
- a pencil with an eraser

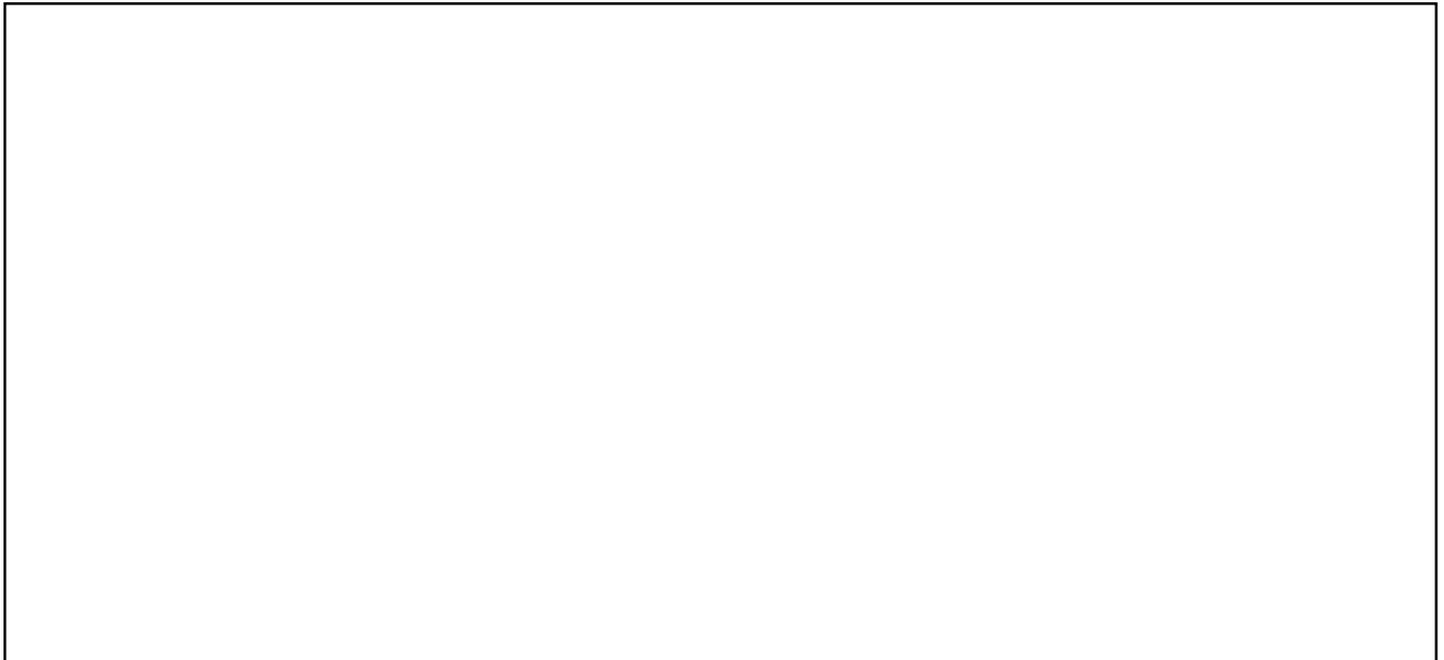
1. Cut out the square. Color both sides of it.
2. Cut the other lines.
3. Fold each **A** to **B**.
4. Push the pin through **B**. Get all four corners!
5. Push the pin into the eraser—not too tight!
6. Blow! What happens?

SCIENCE: What Makes Air Move?

Color the  yellow. Color the  blue. Color the  orange.



Draw what wind can do.



ANSWER KEY

From Seed to Tree

Language Arts: The Life Cycle of a Tree, page 4

Students should cut out the four illustrations and place them in the correct locations on the diagram. They should write one word that tells how a tree grows. Possibilities from the article include *tall*, *wide*, and *big*.

Science: What Do Trees Need to Live?, page 5

- top left: light
- top right: water
- lower left: soil
- lower right: air

My Animal Photos

Activity, page 6

Examples of one-syllable words from “My Animal Photos” that turn into new words when the first letter is changed:

Page 11 - **my**: me; **name**: game, same, tame; **of**: if; **it**: at;

is: as; **job**: bob, cob, gob, lob, mob, nob, rob, sob

Page 12 - **take**: bake, cake, fake, lake, make, rake, sake,

wake; **zoo**: goo, moo; **find**: bind, kind, mind; wind

Page 14 - **set**: bet, get, jet, let, met, pet, vet, wet;

care: bare, fare, hare, mare, pare

Page 17 - **see**: bee, fee, see, tee; **look**: book, cook, took

Language Arts: Words with “at”, page 8

Students should fill in “at” to make the words below. In the box on the right side of the sheet, students should draw a picture of each word.

1. cat
2. bat
3. hat
4. rat
5. sat

Science and Social Studies: Helping Animals, page 9

On the top half of the worksheet, students should trace the words “Joel” and “keeper.” They should draw a picture of an animal in the tent.

On the bottom half of the worksheet, students should complete the sentences as follows:

1. Joel *takes* photos.
2. The keeper *brings* animals to him.
3. They want people to *see* the animals.

Wind Power

Science: Make a Pinwheel, page 12

Students should follow the directions to make a pinwheel. They should recognize that the pinwheel moves when they blow on it. They should discuss how moving air can make things move.

Science: What Makes Air Move?, page 13

On the top half of the worksheet, students should color the circle yellow, the arrow pointing right blue, and the arrow pointing up orange.

On the bottom half of the worksheet, students should draw a picture showing something made possible because the wind blows, such as flying a kite or sailing a sailboat.