

TEACHER'S GUIDE



Voyager (Grade 1) Vol. 17 No. 2

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 VOYAGER.

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 explore our world with YOUNG EXPLORER magazines.

Voyager

The Voyager edition is written for first grade readers. All articles in the Voyager edition have been measured using the Lexile® Framework for Reading. Some articles will be easier to read than others, though all articles will be within the 190-400L range.

Visit YOUNG EXPLORER's website, [NatGeo.org/explorermag-resources](https://www.natgeo.org/explorermag-resources), to find additional resources for extending your students' learning.

Your Subscription Includes:

- Magazines
- Classroom Posters
- Projectable Magazine
- Teacher's Guide
- Interactive Edition (additional subscription required)

National Geographic Learning Framework

INTRODUCTION

BACKGROUND

Since 1888, the National Geographic Society has funded scientists and explorers and shared their findings with the world. To support educators who use our resources, we have created a Learning Framework, which lays out what we believe students should learn from their experiences with the Society.

PURPOSE

The Learning Framework was designed to convey the Society's core beliefs and values. It is built around a set of attitudes, skills, and knowledge that embody the explorer mindset.

To determine the learning outcomes within the Learning Framework, we dug deep into national standards in key subject areas. We also sought advice from subject matter and child development experts, along with the combined expertise of NG instructional designers, researchers, and content developers. To learn more, go to: <https://www.nationalgeographic.org/education/learningframework/>

IMPLEMENTATION

Each article in this magazine has a knowledge-based link to the Learning Framework. Students will use the skills and attitudes as they do the activity on the back cover. The activity relates to the article "Night Hunt."

MINDSET OF AN EXPLORER

KEY FOCUS AREAS



Attitudes

National Geographic kids are:

CURIIOUS about how the world works, seeking out new and challenging experiences throughout their lives.

RESPONSIBLE, with concern for the welfare of other people, cultural resources, and the natural world. NG kids are respectful, considering multiple perspectives, and honoring others regardless of differences.

EMPOWERED to make a difference. NG kids act on curiosity, respect, and responsibility. They are adventurous and persist in the face of challenges.



Skills

National Geographic kids can:

OBSERVE and document the world around them and make sense of those observations.

COMMUNICATE experiences and ideas effectively through language and media. They are storytellers!

COLLABORATE with others to achieve goals.

SOLVE PROBLEMS by generating, evaluating, and implementing solutions after identifying alternatives, weighing trade-offs, and making well-reasoned decisions.



Knowledge

National Geographic kids understand:

THE HUMAN JOURNEY is all about where we have been, where we live now (and why), and where we are going.

OUR CHANGING PLANET encompasses all that coexists on our planet—interconnected through systems that generate and nurture each other.

WILDLIFE AND WILD PLACES inhabit our planet—from the butterflies in our back yards to the lions in Africa.

Objectives

- Students will recognize the features of a sentence: first word, capitalization, ending punctuation.
- Students will ask and answer questions about key details in a text.

Standards Supported

- **CCSS Foundational Skills:** Demonstrate understanding of the organization and basic features of print. Recognize the distinguishing features of a sentence. (1-1a)
- **CCSS Reading Informational Text:** Ask and answer questions about key details in a text. (1-1)

Resources

- Language Arts Master (page 5)

Summary

You can see your shadow on a sunny day. Your body and other things block the sunlight and make shadows. Your shadow is the same shape as you. It does what you do and goes where you go. You need light to make a shadow. Your shadow goes away at night, when it is dark.

WORD WORK

Sight Words: *when, as, then*

BUILD VOCABULARY AND CONCEPTS

- sun
- shadow
- size
- shape
- shine

Introduce the vocabulary words to students by displaying them in the classroom on a word wall or on a board. Start by talking with students about shadows. Ask them if they know what a shadow is. Do a picture walk through the article “Your Shadow” and point out the shadows in the pictures. Let students know that you can see shadows like these when the sun shines brightly. As you are looking at the pictures of the different shadows, point out that each shadow has a different size and shape. To further define *shape*, find different objects in the classroom that have

simple shapes. Ask students to name those shapes, such as a ball is round, a block is square, a book is a rectangle.

READ AND DISCUSS

Before reading, familiarize students with some of the conventions of print, particularly the features of a sentence: the first word has a capital letter, and the sentence ends with a period or question mark. Ask students to follow along as you read “Your Shadow” aloud. 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 Read the title and the text aloud to students. After reading say: **What are some details we learned about your shadow?** (*It is only one color, but not one size. It can be seen on sunny days, but it hides at night.*) Continue by asking: **Do you have any comments or questions about a shadow after looking at the picture?** Students might have comments or questions about the color and size of the shadow.

Pages 4–5 Read the text. Ask: **On what kind of day does a shadow come out?** (*on a sunny day*) **What does it look like and where does it appear?** (*It is a dark shape that is near your feet.*) **When is a shadow made?** (*A shadow is made when your body blocks light that shines on you.*) **Look at the pictures. What are some other things that block light and have shadows?** (*dog, bike, tree, bird, ball*)

Pages 6–7 Read the text. Say and ask: **The text says your shadow is a copycat. What is a copycat?** (*Students might say that a copycat is someone who repeats or does exactly what you do. A copycat copies your movements.*) **In what way is your shadow a copycat?** (*It is the same shape as you, and it does what you do and goes where you go.*) **What do you need to make a shadow?** (*light*) **When does your shadow go away?** (*when the sun sets at night and it gets dark outside*)

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 your shadow.**
- **Draw or write something you learned about shadows.**

SCIENCE

Objectives

- Students will learn that some objects, including a person's body, block all light and create shadows.

Standard Supported

- **NGSS PS4.B: Electromagnetic Radiation:** Some materials allow light to pass through them, others allow only some light through and others block all the light and create a dark shadow on any surface beyond them, where light cannot reach. (1-PS4-3)

Resources

- Dark Shadows poster (Teacher's Edition)
- Science Master (page 6)

Science Background

Shadows are formed when objects block light. Both living and nonliving objects can block light and form shadows. Shadows change when the angle of light changes. As the position of the sun shifts throughout the day, the size and position of shadows will also change. In the early morning and the late afternoon, shadows are long, but they are in different positions due to the angle of the sun. In midday, when the sun is overhead, shadows are short or may not be seen at all.

ENGAGE

Engage students by asking if they have ever seen their shadow. Ask them to describe what it looked like. You might also ask if they have made shadow figures or puppets with their hands.

EXPLORE

On a sunny day, if you have access to a window or can take students outside, you can explore shadows. See how many shadows students can see, and have them note what objects are making the shadows. Ask them to make observations about the size, shape, and length of the shadows. You might want to mention where the sun is in the sky and what time of day it is. Then later in the day, you could conduct the same observations with students, noting how the shadows have changed. This is a good activity for a science notebook. Students can draw what they see during each observation and discuss how and why the shadows changed.

EXPLAIN

After reading, have students turn and talk with a partner to tell what they learned about shadows. Then ask students to share what they learned with the whole class.

- You can see shadows on a sunny day.
- Shadows are only one color, but they are different sizes.
- Your shadow is near your feet.
- Your body blocks light that shines on you and makes a shadow on the ground.
- Other objects block light and make shadows, too.
- Your shadow is the same shape as you, and it does what you do and goes where you go.
- At night your shadow goes away when the sun sets. It is dark, and you need light to make a shadow.

Explain to students that your body can block light from all light sources, not just the sun. Your body is opaque, which means that light does not pass through it. You might want to experiment with this using other light sources.

ELABORATE

You can use the Dark Shadows poster to display examples of how to use your hands to block the light and make shadows of different animal shapes. Work with students to help them create the shapes with their hands. Students may also have other ideas for animal shapes they can make with their hands.

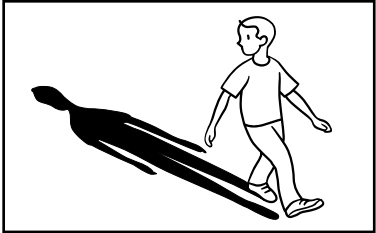
EVALUATE

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

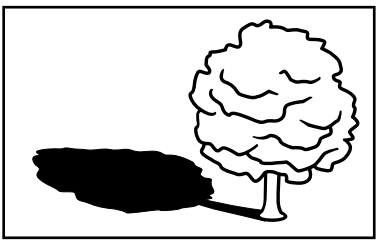
- **What does a shadow look like?**
- **When can you see your shadow? When does it go away?**

LANGUAGE ARTS: What's Wrong With the Sentences?

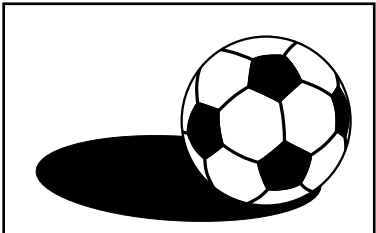
Fix each sentence. Make sure the words are in the right order. Use a capital letter to start each sentence. End each sentence with a period.



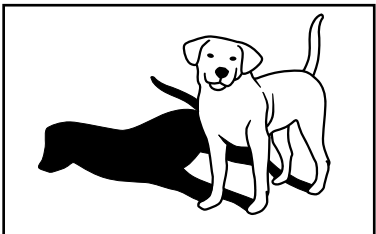
blocks light. My body



a tree blocks light



a shadow. The ball makes


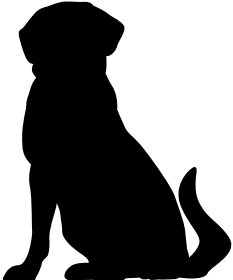
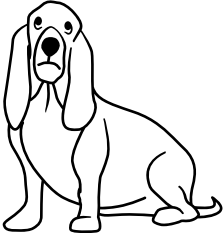
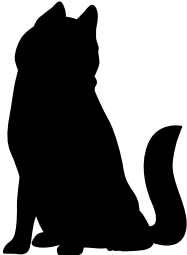
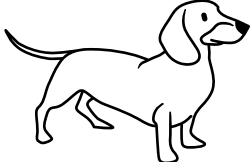
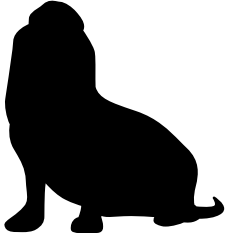
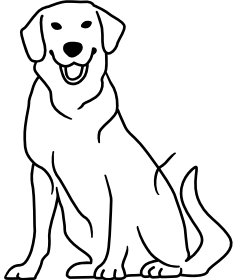
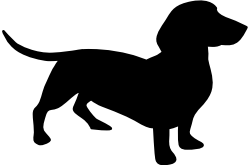


the makes dog a shadow.

SCIENCE: Match Up

Draw a line to match each dog to its shadow.

Write a sentence about shadows.

	•	•	
	•	•	
	•	•	
	•	•	

Objective

- Students will identify the main topic and retell key details of a text.

Standard Supported

- **CCSS Reading Informational Text:** Identify the main topic and retell key details of a text. (1-2)

Resources

- Language Arts Master (page 9)

Summary

The pattern of day and night happens over and over again. Earth spins in a circle. When Earth faces away from the sun, it is night. Night is dark. When Earth faces the sun, it is day. Daylight comes from the sun. In the morning, the sun seems to rise in one part of the sky. Throughout the day, the sun seems to move across the sky, until it sets in the evening.

WORD WORK

Sight Words: *after, over, again, when, from*

BUILD VOCABULARY AND CONCEPTS

- day
- night
- pattern
- Earth
- morning
- noon
- evening

The words above are used in the article “Day and Night.” Students may be familiar with these words. Pronounce the words for students. Have pictures available that will help students understand the meaning of the words, and use student-friendly definitions.

Post the words, along with pictures, on a classroom word wall. Refer to the word wall throughout discussion of the article, and remind students to use these words as they talk about the article with each other and with the class.

READ AND DISCUSS

Read the article “Day and Night” 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 8–9 Read the title and text on pages 8 and 9. Help students identify that the title lets us know that the topic of this article is about day and night. Say and ask: **These pages tell us about day and night. What did we learn about day and night?** (*Day comes after night, and night comes after day. This is a pattern that happens over and over again.*)

Pages 10–11 Read the text. Ask: **What did we learn about Earth?** (*It spins in a circle.*) **What happens when the part of Earth you are on faces away from the sun?** (*It is night. Night is dark.*) **When is it light?** (*It is light during the day.*) **Where does daylight come from?** (*the sun*) **What happens when the part of Earth you are on faces the sun?** (*It is day.*)

Pages 12–13 Ask students to follow the sun in each frame as you read the text. After you finish reading, say: **Turn to a partner and retell where the sun is at different times of the day.** Remind students to look at where the sun is and to notice how light or dark each picture is. They can also use the labels of *morning, noon, evening, and night*, as they retell how the sun appears to rise, move throughout the sky, and set during the day and into the night.

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 what you learned about day and night.**
- **Draw or write something you learned about day and night.**

Objective

- Students will learn that the sun appears to rise in one part of the sky, moves across the sky, and sets.

Standard Supported

- **NGSS ESS1.A: The Universe and Its Stars:** Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (1-ESS1-1)

Resources

- Science Master (page 10)

Science Background

The sun is the brightest object in the daytime sky. The relative location of sunrise is in the east, and sunset is in the west. At night the sky is dark, and you can't see the sun. The stars and moon are sometimes seen in the nighttime sky. The pattern of day and night repeats. However, the length of day and night varies as the seasons change. It also varies from place to place. Areas close to the North and South Poles have differences in the length of day and night that are extreme during different times of the year. For example, in summer in Alaska, daylight may last for more than 20 hours. Then, in winter, the reverse happens, and the sky is dark for most of the day.

ENGAGE

Initiate a discussion about day and night. Create a two-column chart. Label one column "Day" and the other column "Night." Ask students to have a collaborative discussion about day and night. You can ask these questions to get the conversation started. In the chart, write down the information students share about day and night.

- **What is it like outside during the day?**
- **What is it like outside at night?**
- **What can you see in the sky during the day?**
- **What can you see in the sky at night?**
- **What are some things you can do during the day?**
- **What are some things you can do at night?**

EXPLORE

After engaging in discussion about day and night, you might ask students to become daytime explorers. If you

can, take students outside to see if they can find more things people and animals do during the day to add to the "Day" column of the chart. Give students a set amount of time to observe. Walk around a defined area in search of new information. For example, students may notice some of the following:

a person walking a dog, animals and insects searching for food, cars going by without nighttime headlights on, people riding bikes, people wearing sunglasses, people gardening, people playing basketball or other sports outside, young children playing in a park

EXPLAIN

Ask students to explain day and night by reviewing the article. Have them work with a partner, taking turns telling what each two-page spread of the article explains. They can use the pictures to help them remember what they learned about day and night.

- The pattern of day and night repeats.
- Earth spins. When our part of Earth faces away from the sun, it is night.
- When our part of Earth faces the sun, it is day. Daylight comes from the sun.
- In the morning, the sun rises. It looks low in the sky.
- At noon, the sun looks high in the sky.
- In the evening, the sun sets. It looks low in the sky.
- At night, the sky is dark.

ELABORATE

You can demonstrate day and night using a flashlight and a globe. Let student know that the light from the flashlight represents the sun, and the globe represents Earth.

- In a darkened room, shine the flashlight onto one side of a globe. Ask students which side is in the light/day and which side is in darkness/night.
- Slowly spin the globe to show that as Earth spins it is day and night in different places.

EVALUATE

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

- **What is it like in the day?**
- **What is it like at night?**

LANGUAGE ARTS: Complete the Sentences

Write a word from the box to complete each sentence.

day	Earth	night	pattern
-----	-------	-------	---------

1. It is light in the _____.
2. It is dark at _____.
3. _____ spins in a circle.
4. A _____ is something that happens over and over.
5. I sleep at _____.
6. I go to school during the _____.
7. _____ is the planet we live on.

SCIENCE: The Sun in the Sky

Label the time of day. Write a word from the box on each line.

Cut out the pictures. Put them in order.



morning

noon

evening

night

Objective

- Students will use the illustrations and details in a text to describe its key ideas.

Standard Supported

- **CCSS Reading Informational Text:** Use the illustrations and details in a text to describe its key ideas. (1-7)

Resources

- Language Arts Master (page 13)

Summary

A red fox uses its senses to hunt for an illusive mouse at night. The fox listens, looks, and smells as it follows the mouse. Along the way, the fox encounters an owl, a raccoon, and a skunk. When night is almost over, the fox finds a place to sleep during the day. The fox will use its senses to hunt for food again, when night falls.

WORD WORK

Sight Words: *fly/flies, over, when*

BUILD VOCABULARY AND CONCEPTS

- red fox
- senses
- hunt
- den

Students may know some of these words. Have pictures available that show the red fox and its den. Make sure students also understand the word *hunt*. Talk with students about why certain animals, such as the red fox, need to hunt and what they might hunt for. Explain that many wild animals have to hunt, or search, for their food, which could be plants, other animals, or both. Place the words and pictures on a word wall.

Let students know you will be talking about the senses the red fox uses to hunt for food. Talk about the five senses. Discuss that we use our eyes to see, our ears to hear, our tongues to taste, our noses to smell, and our hands to touch/feel. Talk with students about the way the red fox might use its senses to search for food. Place the word *senses* and pictures that represent the five senses (eyes, ears, mouth/tongue, nose, hand) on a word wall.

READ AND DISCUSS

Read the article “Night Hunt” 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 14–15 Read the title and text. Ask: **What did we learn about the red fox?** (*It is a night animal. It is active at night and uses its senses to hunt in the dark.*) **What did we say the senses are?** (*hearing, seeing, smelling, tasting, touching/feeling*)

Pages 16–17 Read the text. Ask: **What do the pictures on these pages show?** (*a fox, an owl, and a mouse*) **What details does the text tell us about these animals?** (*The fox and the owl hear the mouse, but the mouse runs away quickly.*) **Why are the fox and the owl interested in catching the mouse?** (*The mouse would be food for them.*)

Pages 18–19 Read the text. Ask: **What other sense does the fox use to hunt?** (*seeing*) **The fox sees the mouse run near the river. What else does the fox see there?** (*a raccoon hunting for food in the river*) **Has the raccoon found food? If so, what did it find?** (*yes, a shell*)

Pages 20–21 Read the text. Ask: **What other sense does the fox use to hunt?** (*smelling*) **The fox smells the mouse hiding in a hole in the ground. What does the picture show the fox doing?** (*sniffing and digging at the ground to find the mouse*) **What other animal do we see in the picture? What will happen if it sees the fox?** (*a skunk; it will use its smelly spray*) **What should the fox do before the skunk sees it?** (*run away*)

Pages 22–23 Read the text. Ask: **When does the fox sleep?** (*during the day*) **What does the small picture of the fox at the bottom of page 23 show?** (*the fox sleeping*) **Look at the bottom corner of the page to the right of the sleeping fox. What do you see?** (*the clever little mouse who has, at least for this night, escaped the fox*)

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 what you learned about the red fox.**
- **Draw or write something you learned about how the red fox uses its senses.**

Objective

- Students will learn that the red fox uses its senses at night to hunt for food.

Standard Supported

- **NGSS LSI.A: Structure and Function:** All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. (1-LS1-1)

Resources

- Out at Night poster (Teacher's Edition)
- Science Master (page 14)

Science Background

There are many different animals that are active at night and sleep during the day. Animals that are active at night are called nocturnal. Nocturnal animals include foxes, owls, raccoons, coyotes, wolves, moths, crickets, and fireflies. Some nocturnal animals have good night vision, which allows them to easily spot prey. However, there are other nocturnal animals that do not see well at night. Animals that do not have good night vision use other senses, such as hearing and smelling, to find food at night.

ENGAGE

You might create a list of animals and have students say “day” or “night” to indicate if these animals are out during the day or at night. Here is a list you could start with. Add to this list, as students learn more about night animals.

- birds
- bats
- squirrels
- skunks
- moths
- opossum

EXPLORE

With students, pick one or more of the night animals to research. Find out when they come out at night, what they eat, and where they sleep.

EXPLAIN

Have students discuss what they learned about the red fox and how it uses its senses to hunt for food at night. You can use these sentence frames to guide the collaborative conversation.

- The red fox is a _____ animal. (*night*)
- The red fox uses its _____ to hunt in the dark. (*senses*)
- It uses its ears to _____. (*listen*)
- It hears a _____. (*mouse*)
- A barn owl _____ the mouse, too. (*hears*)
- Both the red fox and the barn owl are _____ for food. (*hunting*)
- The red fox uses its eyes to _____. (*see*)
- It sees the mouse and a _____. (*raccoon*)
- The raccoon is biting a _____. (*shell*)
- The raccoon is _____ for food, too. (*hunting*)
- The red fox uses its nose to _____. (*smell*)
- It smells the _____ hiding in a hole in the ground. (*mouse*)
- The _____ is a night animal that has a smelly spray. (*skunk*)
- When night is over, the red fox goes to its _____. (*den*)
- The red fox _____ during the day. (*sleeps*)

Students might also want to explain what they know about the other night animals mentioned in the story. It's likely they have encountered some of them. Many will be aware of the distinct smell of a skunk's spray. This might be a good time to talk about why and how the skunk uses its spray to fend off predators.

ELABORATE

You can use the Out At Night poster to show examples of animals that are active at night. As a class, you might want to research to find other nocturnal animals. You might want to explain to students that animals that are active at night are called nocturnal animals.

EVALUATE

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

- **What does the red fox do at night?**
- **What other animals are out at night?**

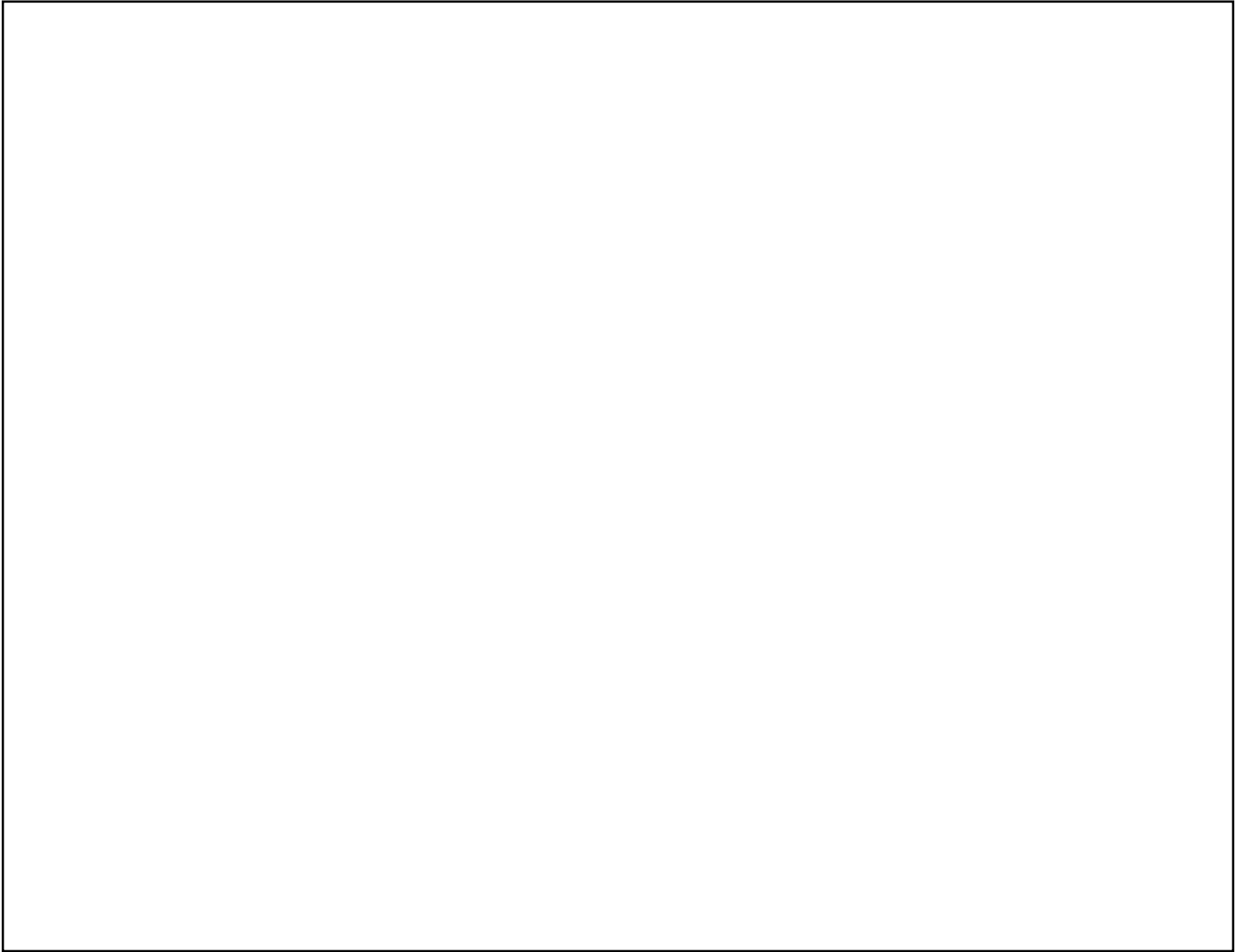
Name _____

Date _____

LANGUAGE ARTS: Red Fox at Night

Draw something the fox hears, sees, or smells at night.

Write about your drawing.

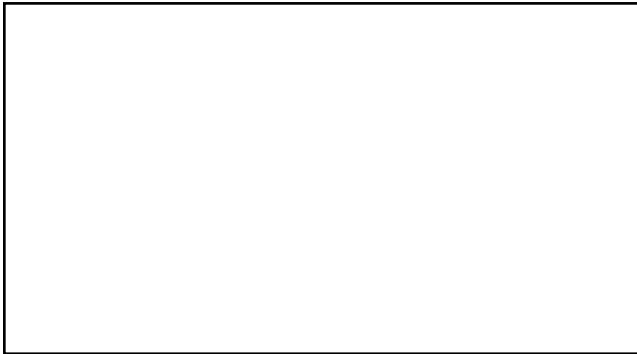


SCIENCE: Nocturnal Animal Facts

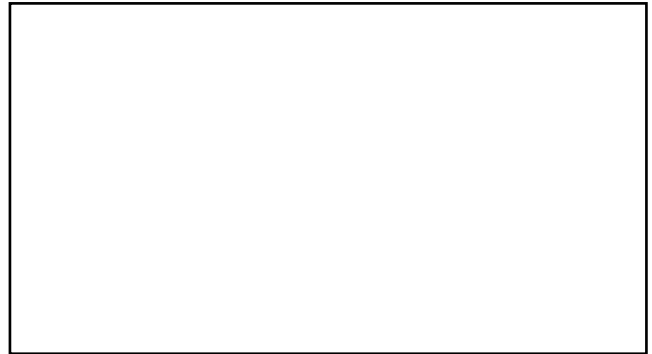
Tell about an animal that is active at night.

Name of animal: _____

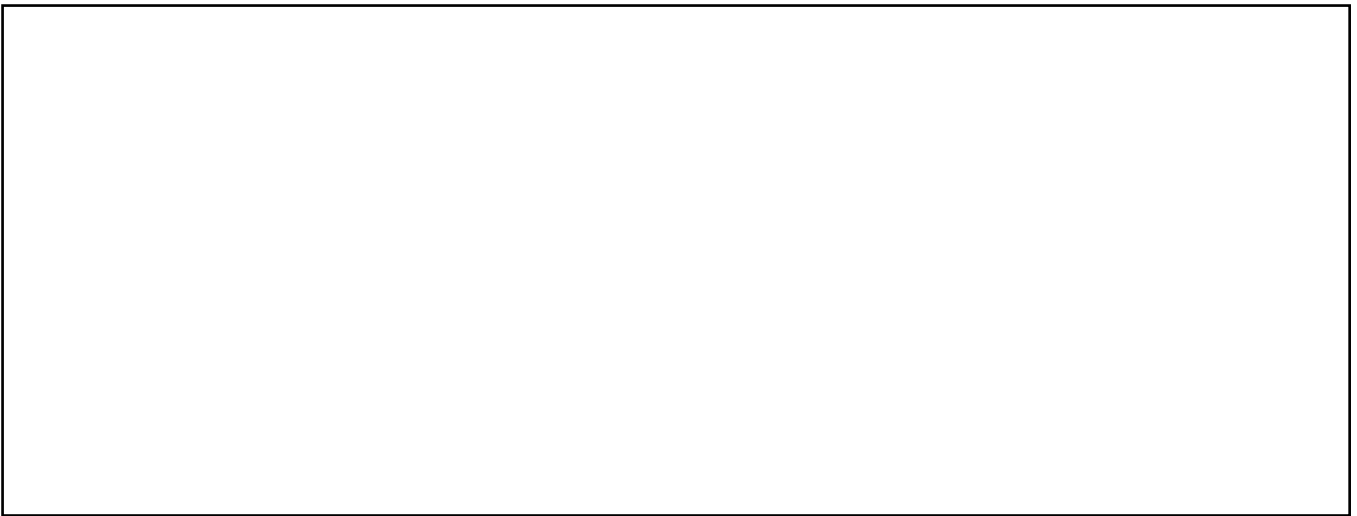
Picture of my animal



My animal's habitat



A sense my animal uses at night



Write a sentence about the animal.

ANSWER KEY

Your Shadow

Language Arts: What's Wrong With the Sentences, page 5

Student should rewrite each sentence correctly.

1. My body blocks light.
2. A tree blocks light.
3. The ball makes a shadow.
4. The dog makes a shadow.

Science: Match Up, page 6

Students should draw lines to match each dog to its shadow.

- first dog > second shadow
second dog > third shadow
third dog > fourth shadow
fourth dog > first shadow

Then students should write a sentence about shadows.

Day and Night

Language Arts: Complete the Sentences, page 9

Students should write words from the Word Box to complete the sentences.

1. It is light in the day.
2. It is dark at night.
3. Earth spins in a circle.
4. A pattern is something that happens over and over.
5. I sleep at night.
6. I go to school during the day.
7. Earth is the planet we live on.

Science: The Sun in the Sky, page 10

Students should write the correct label from the box on each line. They should also cut out the pictures and put them in order.

Night Hunt

Language Arts: Red Fox at Night, page 13

Students should draw something the fox hears, sees, or smells at night and then write about their drawing.

Science: Nocturnal Animal Facts, page 14

Students should draw a picture of a nocturnal animal, its habitat, and one sense it uses at night. Then students should write about the animal.