In This Guide
In this guide, you will find language arts and science lessons for the stories in the May 2016 edition 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.

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• Magazines   • Classroom Posters and Cards   • Projectable Magazine
• Interactive Whiteboard Lesson   • Teacher’s Guide   • App (additional subscription required)
Objectives

- Students will ask and answer questions about key details in a text.
- Students will write informative text that gives facts about a topic.

Resources

- Vocabulary Assessment Master (page 4)

Summary

The fennec fox lives in the sunny, hot desert, but it is able to stay cool. The fox’s big ears let heat leave the body. The fox’s feet have fur, which protects them from the hot sand. The fox seeks shady, cooler spots. Trees block sunlight and provide shade. The fox also has a den that is underground, where sunlight doesn’t shine. At night, when the desert is cooler, the fox comes out of its den to hunt for food.

BUILD VOCABULARY AND CONCEPTS

- cool
- den
- heat
- protect
- shade
- shadow
- sunlight

Introduce the vocabulary words to students by displaying them in the classroom on a word wall or on a board. Read each of these words aloud and say: Some of these words go together. Let’s see if we can find the words that have something in common with one another. Point to the word “heat” and ask if there is a word on the list that is related to heat. Guide students to understand that sunlight provides heat. Then ask: What about “cool”? Is there a word that relates to cool? Guide students in a discussion about shade and how it provides a cooler spot on a sunny day that looks like a shadow. Then say: We are going to read about a fox that lives in the hot desert. A den is a fox’s home. It is underground. It keeps a fox cool and protects the fox from the desert heat.

READ AND DISCUSS

A Fennec Fox Stays Cool in the Desert

Read the article to students as they follow along. You may want to read the entire article, or you may want to read each two-page spread and spend time discussing the concepts before moving on to the next two-page spread.

Before reading, ask students to listen and look for the vocabulary words as well as any other words that might be unfamiliar to them. Let students know they will be learning more about the fennec fox, a type of fox that lives in the desert.

Pages 2–3 Read the title and text to students. Ask: What did we learn about the desert on these pages? (It is sunny and hot.) What did we learn about the fox? (It looks for ways to stay cool in the desert.) Have students look at the picture and say: This is a picture of a fennec fox. What do you notice about it? (It has big ears.) Then say: Let’s read on to see if we can find out why its ears are so big.

Pages 4–5 Ask: What did we find out about the fox’s large ears? How do the ears help the fox stay cool? (Heat leaves the fox’s body through its ears.) Point to the inset picture on page 5 and say: Look closely at the fox’s feet. What did we find out about them? (They are furry and protect the fox’s feet from the hot sand.) Make sure students look closely at the picture to see that the fur is on the soles of the fox’s feet not just on top of its feet.

Pages 6–7 After reading the text on pages 6 and 7, ask: How else does the fox stay cool? (It looks for shade and goes in its den.) Ask students to point out the shade in the inset picture. Then have them to point to the den. Ask: What do you notice about the shade and the den? (The shade and the den are both dark. The sunlight isn’t shining there.)

Pages 8–9* After reading the text on pages 8 and 9, ask: What do we find out about the desert at night? (It is cooler because there is no sunlight.) What does the fox do at night? (It comes out of its den and hunts.)

WRITE AND ASSESS

You can assess students’ understanding of the vocabulary words with the Vocabulary Assessment Master for this article. You may also want to assess students’ understanding of the article by having them write to give facts about the fennec fox.

- Write one way the fox stays cool.
- Write why it is cooler in the fox’s den.

* Correction, page 9: The last sentence should read, “The fox also finds cool places out of the sun.” Please ask students to cross out the “s” in the word “cools.” We apologize for the error.
Objective
- Students will describe what a fennec fox does to cool off in a hot desert.

Resources
- Cool Ears poster (Teacher's Edition)
- Science Assessment Master (page 5)

Science Background
The fennec fox is the smallest of all foxes. It weighs only about 2–3 pounds, and the length of its body ranges from 9–16 inches. Fennec foxes are common in the Sahara and elsewhere in North Africa. The fennec fox is a nocturnal animal, often staying underground in its den during the day. This fox also has adaptations that help it survive in the desert. Its oversized ears radiate body heat, cooling the animal. The fox’s thick fur keeps it warm on cold nights and also protects it from the heat during the day. The fur on the soles of the fox’s feet not only protect them from the hot sand but also provide traction. A coat of sandy beige fur and a white underbelly help the fox blend into its desert environment.

EXPLORE
Explore what happens on a sunny day. Ask: How does a sidewalk or hot sand on a beach feel on your bare feet on a hot, sunny day? (Students should say that the sidewalk and sand feel hot.) How do we protect our feet? (Students might say we could put shoes or sandals on, or if we are at a beach, we could cool our feet in the water.) Let students know that the desert is a very sunny, hot place, and they will learn about how one animal, the fennec fox, stays cool in the desert where it lives.

EXPLAIN
Read the article to students.
After reading, have students explain and describe how the fennec fox’s body helps it stay cool in the desert. Students should note all of the following:
- The fox has large ears that let heat leave its body.
- The fox has furry feet that protect them from the hot sand.
- The fox looks for shade that provides a cooler spot.
- The fox goes in its den at midday, because the sun doesn’t shine there.
- The fox leaves its den at night when it’s cooler.

ELABORATE
Share the Cool Ears poster with students to learn about other animals that have big ears that keep them cool. Like the fennec fox, the African elephant and the jackrabbit have oversized ears that help the animals stay cool. You might want to research these animals with students to find out where they live and other ways these animals stay cool in their environment.

EVALUATE
Assess students’ understanding with the Science Assessment Master for this article. You might also ask them the following questions:
- How are the fox’s feet protected from the hot sand? (They have fur on them.)
- What happens when a tree blocks sunlight? (It provides shade.)
Write three facts about the fennec fox.
ASSESS SCIENCE: Staying Cool

Circle the body parts that help the fox stay cool.
Label the parts.
Objectives

• Students will use different text features to locate key facts or information in a text.
• Students will use the possessive pronouns them, they, and their.

Resources

• Vocabulary Assessment Master (page 8)

Summary

Bees need food to live. They drink the nectar and eat the pollen from flowers. The pollen sticks to the bees’ bodies. Flowers need bees to move pollen to the flowers’ stigma so the flowers can make seeds.

BUILD VOCABULARY AND CONCEPTS

• nectar
• pollen
• stigma

Introduce the vocabulary words to students by displaying them in the classroom on a word wall or on a board. Do a picture walk through the article “Honeybees” and point out how the pictures relate to the vocabulary words.

READ AND DISCUSS

Bees Need Flowers

Read the article to students as they follow along. You may want to read the entire article, or you may want to read each two-page spread and spend time discussing the concepts before moving on to the next two-page spread.

Before reading, ask students to listen and look for the vocabulary words as well as any other words that might be unfamiliar to them. Let students know they will be learning more about bees and flowers.

Pages 10–11 Read the title and text on page 11. Say: The bees we will be reading about are a particular type of bee called honeybees. As we read on we will find out why honeybees need flowers. We will also find out why flowers need honeybees. Ask: What do you see in the picture? (a honeybee that has landed on a flower)

Pages 12–13 Ask: Why do honeybees fly to bright flowers? (They are looking for food.) What kind of food do they find in flowers? (nectar)

WRITE AND ASSESS

You can assess students’ understanding of the vocabulary words with the Vocabulary Assessment Master for this article. You may also want to assess students’ understanding of the article by having them write about what they learned. Ask students to write or draw their answers to the following:

• Why do bees need flowers?
• Why do flowers need bees?
Honeybees

SCIENCE

Objective
- Students will learn that honeybees need flowers and flowers need honeybees.

Resources
- Science Assessment Master (page 9)
- Honeybees IWB Lesson (website) (optional)

Science Background
A honeybee hive has three different classes of bees. There is only one queen bee in the hive. Her job is to lay the eggs that will become the hive’s next generation of bees. The workers are females that look for food (nectar and pollen). They also do other things around the hive, such as clean and protect it. Male bees are called drones. They live in the hive only during the spring and summer. In the winter, the workers and the queen cluster together into a ball to stay warm. In winter, the bees and the larvae feed on stores of honey and pollen. Come spring, there will be a new generation of bees in the hive.

Engage
Find out what students already know about bees. Create a concept web like the one below. Add information to the web with things students know or think they know about bees. Say: We can return to our web after we read and add new information about bees.

Explore
Ask: What kind of food do you eat? Students will mention many kinds of food. Say: Animals need food to live and grow. Animals get food from plants or from other animals. Where do you think bees get their food? If students have looked at some of the pictures in the article, they may be able to infer that bees get their food from flowers. Say: As we read the article “Honeybees,” we will learn about honeybees and flowers and how honeybees need flowers and flowers need honeybees.

Explain
Read the article to students.

After reading, have students share what they learned about honeybees and flowers. Say: Let’s add more information to our web about bees. Then work with students to add information, such as the following sentences, to the web.

- Bees need flowers for food.
- Bees eat the nectar and pollen in flowers.
- Pollen sticks to bees’ bodies.
- Bees move pollen to the flowers’ stigma.
- This helps flowers make seeds.

Elaborate
You might want to research with students more information about honeybees. You can start with the information in Science Background and share with students that there are three different classes of honeybees in a hive: the queen, workers, and drones. Let them know that the bees they see pictured in the article are the bees that gather food for the hive. They are called workers.

Evaluate
Assess students’ understanding with the Science Assessment Master for this article. You might also ask them to do the following:

- What food do bees get from flowers? (nectar and pollen)
- Draw a bee getting food from a flower.
ASSESS VOCABULARY: Honeybees

Write the labels using words from the box.

<table>
<thead>
<tr>
<th>stigma</th>
<th>flower</th>
<th>pollen</th>
<th>bee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ASSESS SCIENCE: Honeybees

The bee is hungry. Draw where it can find food.

Write about how bees need flowers. Write about how flowers need bees.
Objective
• Students will learn that some words imitate natural sounds.

Resources
• Vocabulary Assessment Master [page 12]

Summary
Rain is coming. If you listen you can hear the sound it makes as it starts to fall and hits the ground—drip drop. Raindrops fall from clouds. As the raindrops fall hard and fast, they come down with the sound of pitter pat. Puddles form. The raindrops fall in the puddles, making a plop, plop, plop sound. Then the rain slows down. These few drops make the sound plip plop. When the sun returns, the birds sing chirp, chirp.

BUILD VOCABULARY AND CONCEPTS
• shower
• raindrops
• clouds
• puddle

Introduce the vocabulary words to students by displaying them in the classroom on a word wall or on a board. Create an image bank by finding several print or online photos or illustrations for each word. Present each word along with the images for that word, giving students a chance to anchor the meaning in their minds. Guide students in crafting a definition for each word.

READ AND DISCUSS
The Sounds of a Rain Shower
Read the article to students as they follow along. You may want to read the entire article, or you may want to read each two-page spread and spend time discussing the concepts before moving on to the next two-page spread.

Before reading, ask students to listen and look for the vocabulary words as well as any other words that might be unfamiliar to them.

WRITE AND ASSESS
You can assess students’ understanding of the vocabulary words with the Vocabulary Assessment Master for this article. You may also want to assess students’ understanding of the article by having them write about what they learned. Ask students to write or draw their answers to the following:

• Draw something you might see in a rain shower.
• What other sounds might you hear when it rains?
Science Background
Rain showers can happen suddenly. They offer a great opportunity for young scientists to study the natural world by using all of their senses to experience the world around them. Scientists use different ways to study the world, and your students can, too.

Objectives
• Students will identify that rain showers have a beginning and an end.
• Students will learn that scientists use different ways to study the world.

Resources
• Let’s Make a Rainstorm poster (Teacher’s Edition)
• Science Assessment Master [page 13]

Engage
Engage students by letting them know that they are going to act as scientists today. They are going to use their senses to experience something. Review with students the senses of seeing, hearing, touching, tasting, and smelling.

Explore
Ask students if they have ever been caught in a rain shower. Ask: Have you ever been outside when it suddenly started to rain? Let’s talk about what that was like as a scientist might, using our senses.

• What did you see?
• What did you hear?
• What did you feel?
• What did you smell?
• Maybe some raindrops fell in your mouth. What did they taste like?

Let students know that scientists observe the world around them, and they use different ways to study the world.

Explain
Read the article to students.

After reading, work with students to identify how a rain shower begins, continues on, and then ends. Ask: What happens at each part of a rain shower? How does it look and sound at each part? (The rain shower starts slowly and sounds like drip drop. Then raindrops fall harder and faster and puddles form. These sounds are pitter pat and plop. Then the rain slows down with a plip plop sound of the drops.)

Elaborate
Use the Let’s Make a Rainstorm poster to create a rainstorm using the whole class and sounds they make with their hands. This may take some time and practice. You may want to be the leader. Follow the directions on the poster.

Evaluate
Assess students’ understanding with the Science Assessment Master for this article. You might also ask them the following questions:

• Where do raindrops fall from? (clouds)
• What forms on the ground when rain falls hard and fast? (puddles)
ASSESS VOCABULARY: Drip Drop

Add the letters d, p, or c to the beginning of the words to make words from the story.

1. ___ lop
2. ___ rip
3. ___ hirp
4. ___ itter
ASSESS SCIENCE: Drip Drop

Write the numbers 1, 2, 3 to put the pictures in order.

☐ The sun comes out.

☐ The rain starts to fall.

☐ Raindrops fall hard and fast.
**Staying Cool**

**Assess Vocabulary, page 4**
Students should write three facts that they learned about the fennec fox.

**Assess Science, page 5**
Students should circle and label the fox’s ear(s) and feet.

**Honeybees**

**Assess Vocabulary, page 8**
Students should label the bee, flower, stigma, and pollen on the picture.

**Assess Science, page 9**
Students should draw a flower.
Students should write about how bees need flowers and how flowers need bees.

**Drip Drop**

**Assess Vocabulary, page 12**
Students should write the letters d, p, or c to complete the words.
1. plop
2. drip
3. chirp
4. pitter

**Assess Science, page 13**
Students should write the numbers to put the pictures in order.
The sun comes out. → 3
The rain starts to fall. → 1
Raindrops fall hard and fast. → 2