



# Animals of the Sonoran Desert Habitat

## 3

### ✔ **Lesson Objectives**

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#### **Core Content Objectives**

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Students will:

- ✓ Explain what a habitat is
- ✓ Explain why living things live in habitats to which they are particularly suited
- ✓ Identify the characteristics of the desert habitat
- ✓ Explain how desert animals have adapted to the desert habitat
- ✓ Classify animals on the basis of the types of foods that they eat (herbivore, carnivore, omnivore)

#### **Language Arts Objectives**

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The following language arts objectives are addressed in this lesson. Objectives aligning with the Common Core State Standards are noted with the corresponding standard in parentheses. Refer to the Alignment Chart for additional standards addressed in all lessons in this domain.

Students will:

- ✓ Describe an illustration of a saguaro cactus and use pictures and detail in “Animals of the Sonoran Desert Habitat” to describe the read-aloud’s key ideas (RI.1.7)
- ✓ Compare and contrast the Arctic and the Sonoran Desert habitats (RI.1.9)
- ✓ With assistance, categorize and organize information about herbivores, carnivores, and omnivores (W.1.8)
- ✓ Ask and answer *where* questions orally, requiring literal recall and understanding of the details or facts from “Animals of the Sonoran Desert Habitat” (SL.1.2)

- ✓ Describe the Sonoran Desert habitat in “Animals of the Sonoran Desert Habitat” with relevant details, expressing ideas and feelings clearly (SL.1.4)
- ✓ Sort words and ideas into the categories of *herbivore*, *carnivore*, and *omnivore* to gain a sense of the concepts the categories represent (L.1.5a)
- ✓ Define the words *herbivore*, *carnivore*, and *omnivore* by category and by one or more key attributes (L.1.5b)
- ✓ Prior to listening to “Animals of the Sonoran Desert Habitat,” orally identify what they know and have learned about habitats and adaptation
- ✓ Prior to listening to “Animals of the Sonoran Desert Habitat,” orally predict whether animals that live in the desert are similar to animals that live in the Arctic
- ✓ Identify new meanings for the word *fan* and apply them accurately

### Core Vocabulary

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**camouflage, v.** To blend in or hide in the natural surroundings

*Example:* The green color of leaf insects helps to camouflage them, or hide them, in the forest.

*Variation(s):* camouflages, camouflaged, camouflaging

**carnivore, n.** An animal that consumes other animals

*Example:* A polar bear is a carnivore that eats seal and fish.

*Variation(s):* carnivores

**herbivores, n.** Animals that eat only plants or plant products

*Example:* My pet rabbits are herbivores and eat only plants.

*Variation(s):* herbivore

**nocturnal, adj.** Active at night

*Example:* Bats are nocturnal animals that come out at night to hunt.

*Variation(s):* none

**omnivore, n.** An animal that eats both plants and other animals

*Example:* A grizzly bear is an omnivore that eats fish as well as berries.

*Variation(s):* omnivores

**scavengers, n.** Animals that eat meat and waste left by other animals

*Example:* Those rats are quite the scavengers; they ate all the leftovers in the alley.

*Variation(s):* scavenger

<b><i>At a Glance</i></b>	<b>Exercise</b>	<b>Materials</b>	<b>Minutes</b>
<b><i>Introducing the Read-Aloud</i></b>	<b>What Have We Already Learned?</b>		10
	<b>Making Predictions About the Read-Aloud</b>		
	<b>Where Are We?</b>		
	<b>Purpose for Listening</b>		
<b><i>Presenting the Read-Aloud</i></b>	<b>Animals of the Sonoran Desert Habitat</b>		15
<b><i>Discussing the Read-Aloud</i></b>	<b>Comprehension Questions</b>		10
	<b>Word Work: Camouflage</b>		5
 <b>Complete Remainder of the Lesson Later in the Day</b>			
<b><i>Extensions</i></b>	<b>Herbivore, Carnivore, Omnivore</b>	Instructional Master 3B-1; three blank sheets of paper per student; scissors; glue or tape	20
	<b>Multiple Meaning Word Activity: Fan</b>	Poster 2M (Fan)	



# Animals of the Sonoran Desert Habitat

3A

## Introducing the Read-Aloud

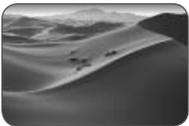
10 minutes

### What Have We Already Learned?

Ask students to define the word *habitat*. Students should explain that a habitat is a place that has food, water, and shelter for the animals and plants that live there. Ask students to characterize the weather and temperature of the Arctic tundra and Arctic Ocean. (very cold in the winter; colder than most other places on Earth even during summer; and often windy so that it feels even colder) Ask students to define the word *adapt*. Remind students that many of the adaptations made by the animals living in both the Arctic tundra and the Arctic Ocean are changes that have come about to help the animals stay warm when it gets very cold. (thick fur, blubber, etc.)

### Making Predictions About the Read-Aloud

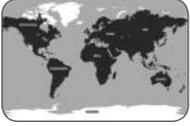
Now remind students that at the end of the last read-aloud, Rattenborough mentioned that he would be taking them to a warmer place. Explain to students that today they will be learning about a habitat called the desert and about some of the animals that live in that habitat. Tell students that there are deserts all over the world.



#### ← Show image 3A-1: The desert

Tell students that this is a picture of a desert. Ask them to describe what they see in the illustration and how it looks different from the pictures they have seen of the Arctic. Explain that the temperature found in a desert is almost exactly opposite of that found in the Arctic: the Arctic is very cold, whereas deserts are usually very hot; the Arctic is wet and muddy in the summer, whereas the desert is very dry and sandy.

Now ask students if they think the same animals that live in the Arctic live in the desert. Why or why not? Then have students predict how the animals that live in the desert might be different from the animals that live in the Arctic.



### Where Are We?

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- ◀ **Show image 3A-2: World map with the southwest of the United States and the northwest of Mexico highlighted**

Tell students that deserts are located in many different regions of the world, but today they are going to hear about a particular desert that is located in the northwestern part of Mexico and the southwestern part of the United States—in parts of the states of Arizona and California. (Point to this area on the map.) Tell students that the particular desert located here is called the Sonoran Desert.

### Purpose for Listening

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Tell students to listen to find out more about the Sonoran Desert and how animals have adapted to living there.



## Animals of the Sonoran Desert Habitat

### ← Show image 3A-3: Rattenborough in desert

After nearly freezing and almost becoming a polar bear snack in the Arctic, I thought we should go someplace where my whiskers and tail could thaw out and warm up, so I've brought you to the desert. There are many deserts all over the world. You know you're in a desert when it doesn't rain very much. Many deserts can also be very hot. Because it's so hot and dry, only certain types of plants and animals can live there.



### ← Show image 3A-4: The Sonoran Desert

Welcome to the Sonoran Desert in the southwestern part of the United States and the northwestern part of Mexico. The temperature is quite hot during the day, and it doesn't rain very much. The heat and lack of rain make it hard for some plants and animals to live in the desert. They must all be specially adapted to live in the hot weather and survive with very little rain.

How do they do it? Some plants can save and store water inside their plant parts when it does rain. Other plants grow only in shady areas near mountains or rocks.

Because there are very few plants that can be used as shelter, the animals that have adapted to living in the desert often seek shelter underground and make their homes under the sand. Living underground helps them stay cool when it gets hot, and it keeps them hidden from other animals that may want to eat them for lunch!



### ← Show image 3A-5: Saguaro cactus<sup>1</sup>

Ouch! What did I walk into? Aha! Here is one plant that lives in the Sonoran Desert. The saguaro (sa-WAHR-oh) cactus is the world's largest cactus. Cacti don't have leaves; they have prickly spines instead, which is exactly why it hurt so much to touch this

<sup>1</sup> What do you see in this image?

2 The word *cacti* is the plural for *cactus*—one cactus, but many cacti.



3 [Point to the stem of the cactus as you talk about it.]



4 Here the word *fan* means an object that is used to move air to make people or things cooler. The word *fan* also can mean a person who likes or admires someone or something, such as a sports team, in an enthusiastic way.

one!<sup>2</sup> The incredible saguaro lives for up to two hundred years, and in that time can grow as high as a house and can weigh as much as several cars!

The most amazing thing about the saguaro is that it is a habitat in itself. That's right. Not only does it manage to live and thrive in the desert habitat, but just by being there, it provides food, water, and shelter to many different animals. Let me get my climbing gear out—and some gloves to protect me from these sharp spines—and I'll meet you at the top.

← **Show image 3A-6: Cacti**

You already know that it hardly ever rains in the desert, but when it does, the saguaro cactus saves and stores huge quantities of water in its roots and stems.<sup>3</sup> The cactus saves the extra water and uses it to survive during those times when it is very dry and does not rain.

← **Show image 3A-7: Cactus bloom**

In the spring, white flowers grow on the saguaro. At night, when the desert cools down, these flowers open to show sweet nectar, which butterflies, bats, and birds feed on before the flowers close the next day when it once again becomes very hot. In the summer, red fruit begins to grow on the saguaro. Many animals eat the fruit of the cactus.

← **Show image 3A-8: Gila woodpecker**

Here is an interesting bird called a Gila (*HEE-lah*) woodpecker. The Gila pecks holes into the soft cactus with its beak to make a nest for its eggs.

The Gila woodpecker is an **omnivore**. An omnivore is an animal that eats plants as well as other animals. Gilas feed on cactus fruit and berries as well as insects that have invaded the saguaro. Thankfully, I brought a sandwich, so I won't have to join these Gilas for a buggy lunch!

It really is way too hot for a regular rat like me to live here. I'm glad I brought my fan with me.<sup>4</sup> Interestingly enough, birds like

this Gila woodpecker can live in the desert habitat because their feathers help protect them from the hot desert sun by trapping cool air next to their skin. Still, most birds only go out to feed in the early morning or evening when it's cooler outside. From noon to late afternoon, many of these birds seek shelter in the holes that they have dug in a cactus or in other shady places.



← **Show image 3A-9: Elf owl**

Here's another bird that makes its home in the saguaro cactus: the elf owl. The elf owl, the world's smallest owl, is only five inches long—that's just a bit bigger than one of your hands. It moves into nests that have been abandoned by Gila woodpeckers.<sup>5</sup> The elf owl, like most owls, is **nocturnal**, which means that it rests during the day and wakes at night to hunt for food.

The elf owl is also a **carnivore**. A carnivore is an animal that eats only other animals—no plants. It uses its large eyes to hunt in the dark night for bugs that live in the desert. Most owls eat mice and, I'm sad to say, rats. But I think I'm safe from the elf owl because I'm bigger than it is!

5 When something is abandoned, that means that it has been left for good.



← **Show image 3A-10: Desert cottontail**

Oh look, here comes a desert cottontail rabbit, another animal that lives in the Sonoran Desert. The desert cottontail looks a little like the Arctic hare we saw in the tundra, but it has larger ears and longer back legs.<sup>6</sup>

Desert cottontail rabbits are **herbivores**. Herbivores are animals that eat only plants—no animals. The desert cottontail eats grass and even cacti.

Smaller animals like the desert cottontail always need to watch out for larger animals in the desert that might eat them. Many animals and plants are part of a cycle called the food chain. You will learn more about the food chain in the next read-aloud. Coyotes, for instance, like to eat rabbits. In fact, there's a coyote coming this way, so let's stay up here and watch it.

6 What are some ways the Arctic hare has adapted to the Arctic tundra? (has smaller ears; white fur to blend in; and larger, wider back feet)



← **Show image 3A-11: Coyote**

- 7 To camouflage something means to make it blend in with its surroundings. The color of the coyote's fur blends in with the color of the desert sand so that it is difficult for other animals to see the coyote in the desert background.
- 8 Scavengers are animals that eat meat and waste left by other animals.

Coyotes are found all over the United States, including the Sonoran Desert. As you can see, the coyote has a light, tan-colored coat to help reflect the sun's rays and to **camouflage** it.<sup>7</sup> Coyotes are carnivores like the elf owls. Coyotes have very good senses of smell, hearing, and vision, and they can run very fast, which means they are excellent hunters. They are also **scavengers**.<sup>8</sup> Coyotes live in dens, which they make by burrowing into the ground. I think this one has smelled something, because he's just run off.

Now, I'm getting down from this cactus before another coyote comes along to make me its dinner! It seems like rats are on the menu everywhere I go!

## **Discussing the Read-Aloud**

**15** minutes

### **Comprehension Questions**

**10** minutes

If students have difficulty responding to questions, reread pertinent passages of the read-aloud and/or refer to specific images. If students give one-word answers and/or fail to use read-aloud or domain vocabulary in their responses, acknowledge correct responses by expanding the students' responses using richer and more complex language. Ask students to answer in complete sentences by having them restate the question in their responses.

1. *Evaluative* Were your predictions about whether desert animals are similar to Arctic animals correct? Why or why not? (Answers may vary.)
2. *Inferential* Describe the weather and temperature of the Sonoran Desert. (dry, hot, not much rain)
3. *Inferential* Do many plants and animals live in the desert? (no) Why not? (It is hot and very dry.)
4. *Evaluative* If you were to give someone directions on how to prepare to spend time in the desert, what would you tell him or her to take for supplies? (Answers may vary, but may include: water, food, sunscreen, sunglasses, a hat, etc.)

5. *Evaluative* How are the Arctic and the Sonoran Desert different? How are they the same? (The weather and temperature are very different—the Arctic is very cold; the Sonoran Desert is very hot. Also, the ground in the Arctic is covered with lots of ice, and the desert is covered with sand. One way that the two habitats are similar is that the animals and plants that live in each habitat must adapt to the very difficult conditions of each habitat. So there are not many plants and animals in either the Arctic or the desert.)
6. *Inferential* How do animals find shelter in the desert? (underground, or in holes they make in plants like the saguaro cactus)
7. *Inferential* How is the saguaro cactus adapted to live in the desert? (When it rains, it saves and stores lots of water that it can use during dry weather when it is not raining at all.)
8. *Inferential* How are animals in the desert adapted to living there? (come out at night, make shelters underground, etc.)
9. *Literal* Which animal that you heard about is nocturnal; what does that mean? (elf owl; sleeps during the day and comes out at night)

[Please continue to model the *Question? Pair Share* process for students, as necessary, and scaffold students in their use of the process.]

10. *Evaluative Where? Pair Share:* Asking questions after a read-aloud is one way to see how much everyone has learned. Think of a question you can ask your neighbor about the read-aloud that starts with the word *where*. For example, you could ask, “Where does today’s read-aloud take place?” Turn to your neighbor and ask your *where* question. Listen to your neighbor’s response. Then your neighbor will ask a new *where* question, and you will get a chance to respond. I will call on several of you to share your questions with the class.
11. After hearing today’s read-aloud and questions and answers, do you have any remaining questions? [If time permits, you may wish to allow for individual, group, or class research of the text and/or other resources to answer these questions.]

## Word Work: Camouflage

5 minutes

1. In the read-aloud you heard, “[T]he coyote has a light, tan-colored coat to... *camouflage* it.”
2. Say the word *camouflage* with me.
3. To *camouflage* something means to hide it against its natural surroundings or background. Often the color of the object or animal is similar to the background, which makes it hard for other animals to see it.
4. The Arctic hare’s white coat serves to camouflage it in the snowy Arctic tundra.
5. What types of things could be camouflaged in green grass? [Ask two or three students. If necessary guide and/or rephrase their answers “A \_\_\_\_\_ could be camouflaged in the grass.” It may help to point out that because grass is green, objects that might be camouflaged by grass would probably be small, green objects.]
6. What’s the word we’ve been talking about?

Use a *Making Choices* activity for follow-up. Directions: I will describe an object to you. You should decide how you could camouflage that object. For example, if I say “a green leaf,” you would say, “I could camouflage a green leaf by placing it on green grass.” (Answers may vary for all.)

1. a white piece of paper (I could camouflage that by placing it on a white floor.)
2. a black cat (I could camouflage that by placing it in front of a blackboard.)
3. an Arctic hare (I could camouflage that by placing it on a snowy surface.)
4. a yellow pencil (I could camouflage that by placing it in a vase of yellow flowers.)



**Complete Remainder of the Lesson Later in the Day**



# Animals of the Sonoran Desert Habitat

3<sub>B</sub>

## Extensions

20 minutes

### Herbivore, Carnivore, Omnivore (Instructional Master 3B-1)

Remind students that animals that eat only plants are called herbivores. Animals that eat other animals are called carnivores. Animals that eat both plants and other animals are called omnivores.

Have students examine the pictures on the worksheet. As they do so, provide the following information and ask the following questions:

1. [Point to the image on the top left.] This is a wolverine. It eats other animals. Is the wolverine a carnivore, herbivore, or omnivore?
2. [Point to the image on the top right.] This is a caribou. It eats grasses. Is the caribou a carnivore, herbivore, or omnivore?
3. [Point to the image in the second row on the left.] This is an Arctic hare. It eats plants. Is the Arctic hare a carnivore, herbivore, or omnivore?
4. [Point to the image in the second row on the right.] This is an elf owl. It eats other animals, such as bugs and rats. Is the elf owl a carnivore, herbivore, or omnivore?
5. [Point to the image in the third row on the left.] This is a Gila woodpecker. It eats plants as well as other animals. Is the Gila woodpecker a carnivore, herbivore, or omnivore?
6. [Point to the image in the third row on the right.] This is a squirrel. It eats plants as well as other animals. Is the squirrel a carnivore, herbivore, or omnivore?

Next have students cut out the images of the animals and sort them according to the three categories—herbivore, carnivore, and omnivore. Once they have sorted all the animals, have them glue

or tape the herbivores on one sheet of paper, the carnivores on another sheet of paper, and the omnivores on a third sheet of paper.

Talk with students about which animals they grouped together and why. Be sure to use the vocabulary words *herbivore*, *carnivore*, and *omnivore* as you talk to students about the way they have classified the animals. Encourage students to use the following format to identify each animal and categorize it: “A \_\_\_\_\_ is a(n) herbivore/carnivore/omnivore that eats plants/animals/both plants and animals.”

## ↔ Multiple Meaning Word Activity

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### ***Associated Phrase: Fan***

1. [Show Poster 2M (Fan).] In the read-aloud you heard, “It really is way too hot for a regular rat like me to live here. I’m glad I brought my *fan* with me.” [Have students hold up one or two fingers to indicate which image on the poster shows this meaning.]
2. *Fan* can also mean something else. *Fan* also means a person who likes or admires someone or something, such as a sport or sports team. [Have students hold up one or two fingers to indicate which image on the poster shows this meaning.]
3. [Point to the fan that is cheering at a sporting event.] With your partner, talk about what you think of when you see this kind of fan. I will call on a few partners to share what they came up with. Try to answer in complete sentences. (When I see this kind of fan, I think of cheering, football, team, etc.)
4. [Point to the fan that is a machine or device used to move the air and make things cooler.] With your partner, talk about what you think of when you see this kind of fan. I will call on a few partners to share what they came up with. Try to answer in complete sentences. (When I see this kind of fan, I think of summer, hot air, wind, etc.)