

CALL OF THE WILD



WARM UP

Discuss these questions with a partner.

1. Why do you think the wolf in the photo is howling?
2. What are some other ways that animals communicate with each other?

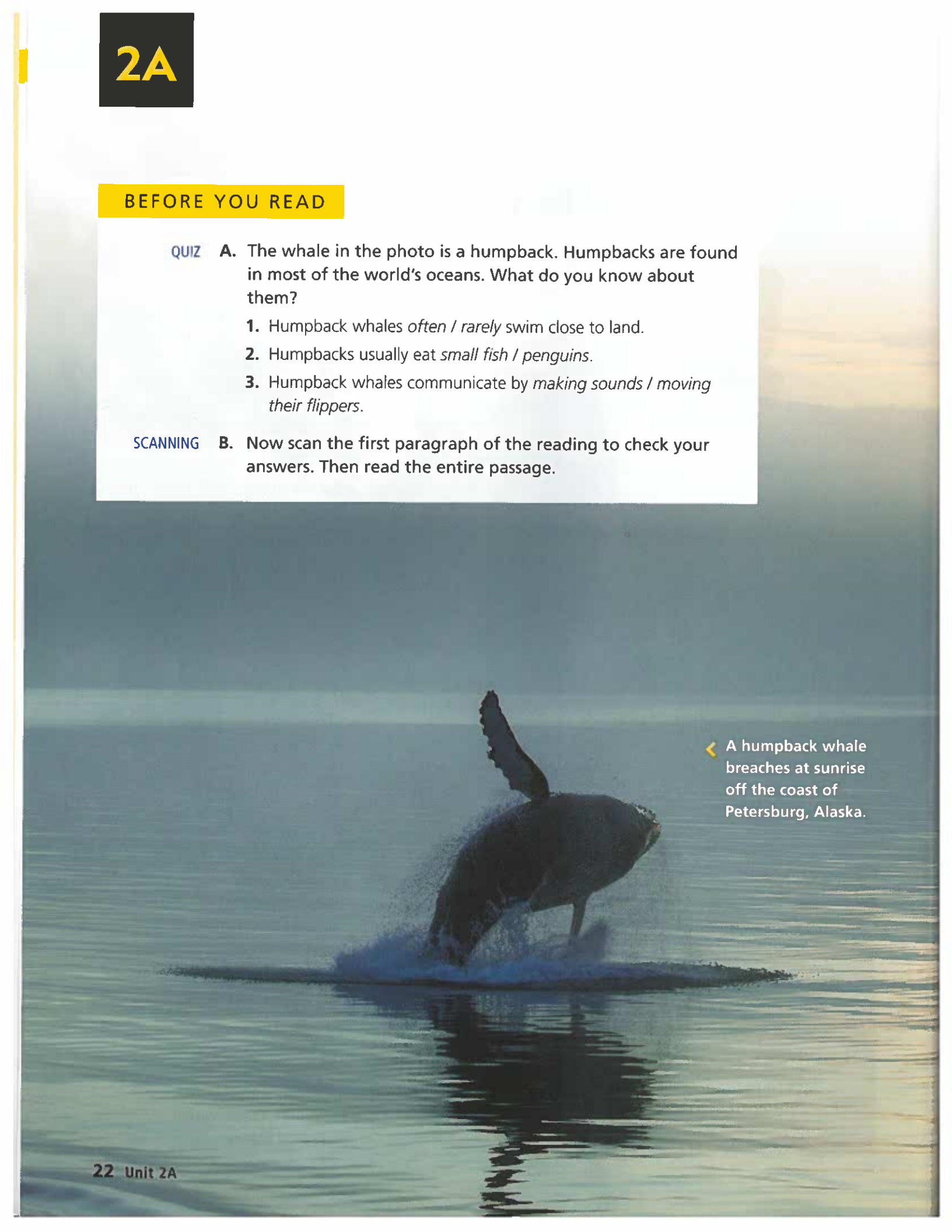
▲ A female tundra wolf in the Alaska Wildlife Conservation Center, United States

BEFORE YOU READ

QUIZ A. The whale in the photo is a humpback. Humpbacks are found in most of the world's oceans. What do you know about them?

1. Humpback whales *often / rarely* swim close to land.
2. Humpbacks usually eat *small fish / penguins*.
3. Humpback whales communicate by *making sounds / moving their flippers*.

SCANNING B. Now scan the first paragraph of the reading to check your answers. Then read the entire passage.

A photograph of a humpback whale breaching the water at sunrise. The whale is captured mid-leap, with its large, dark body arched out of the water. Its right flipper is extended upwards, and a splash of white water is visible around the whale's head. The background shows a calm sea under a soft, hazy sky with a hint of orange light from the rising sun. The whale's reflection is visible in the water below.

◀ A humpback whale breaches at sunrise off the coast of Petersburg, Alaska.

SONG OF THE HUMPBACK

A Herman Melville, the writer of the famous whale story *Moby Dick*, once wrote that humpback whales were “the most lighthearted¹ of all the whales.” A favorite of whale watchers everywhere, they often swim in ocean areas close to land and are active at the surface. They can often be seen breaching, or rising out of the water, and then coming down with a great splash. Humpbacks are intelligent animals, and can be seen working together to hunt schools of small fish. And, if you listen closely, you might even hear one singing.

Recording Gentle Giants

B Marine biologist² Jim Darling has studied the songs of humpback whales for more than 25 years. While **recording** whale songs on a boat near Hawaii, he invited author Douglas Chadwick to **experience** diving with a humpback. In the water, Chadwick heard the whale’s songs in a way he had never heard them before. “Suddenly, I no longer heard the whale’s voice in my ears,” he said. “I felt it inside my head and bones.”

¹ Someone or something that is **lighthearted** is cheerful and happy.

² A **marine biologist** is a scientist who studies ocean life.



^ A humpback whale calf. Young humpbacks do not stop growing until they are ten years old.



- C When swimming with the whale, Chadwick could see that it was **aware** of him, but not worried by his presence. The 13-meter-long giant looked him over³ **curiously**, but never harmed him. The whale then swam under the boat. It pointed its head down to the ocean floor and, with flippers⁴ extended out to its sides, began to sing. Up in the boat, Darling recorded the whale's song. Humpback whale songs can be long and **complex**, sometimes lasting for 30 minutes or more. They are perhaps the longest songs sung by any animal.

Why Do They Sing?

- D Darling says that only male humpbacks sing, but for **unknown** reasons. One idea is that they sing to attract females. However, when a group of scientists played recordings of whale songs in the ocean, female whales did not respond. Another idea is that male humpbacks use their songs to let other males know they are in the area.
- E Researchers have also found that humpback whale songs are different in different parts of the world, perhaps like whale national anthems.⁵ They may also be like hit tunes on the radio, changing over time—from one year to the next, or even over a **single breeding season**.
- F There is still so much the scientists don't know, and years of study lie ahead for whale researchers like Jim Darling. "Why do I do it?" he wonders aloud. "Human beings like puzzles. I want to know."
- G Another member of the research team, photographer Flip Nicklin, recalls a special moment he had while **interacting** with a humpback. While he was snorkeling some distance from the huge animal, it approached him until it was just a few meters away. It then gently carried Nicklin toward its eye with a flipper, as if examining him. **Apparently**, the desire to understand a different species goes both ways.

³ If you **look** something **over**, you examine it for a short period of time.

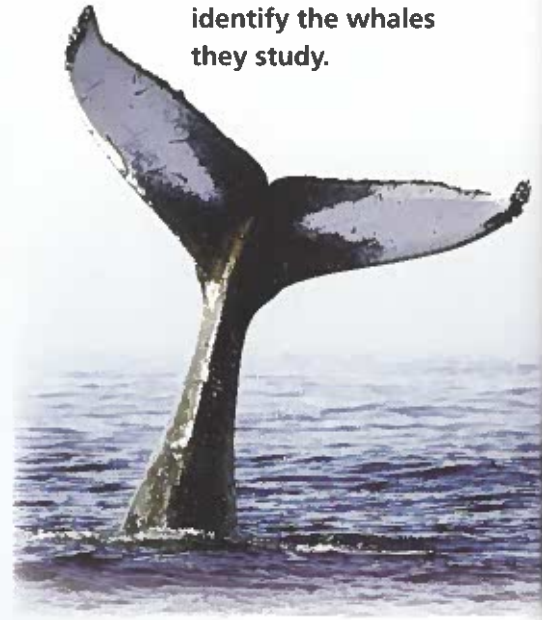
⁴ **Flippers** are the two flat body parts that stick out from the side of a whale, seal, etc.

⁵ A **national anthem** is a country's song, chosen to represent its people.

A. Choose the best answer for each question.

- GIST** 1. What is the reading mainly about?
- how humpbacks communicate with people
 - research into how and why humpbacks sing
 - the career of a man who is interested in humpbacks
- DETAIL** 2. When the scientists played whale songs in the ocean, ____.
- no female whales came
 - male whales became angry
 - male and female whales sang together
- DETAIL** 3. What is NOT true about humpback whales?
- Their songs are short and simple.
 - Only male humpback whales sing.
 - Their songs differ from place to place.
- DETAIL** 4. The passage compares humpback songs to *hit tunes on the radio* because ____.
- the whales' songs are beautiful
 - the whales sing songs very often
 - the whales change their songs often
- VOCABULARY** 5. In the last paragraph, what does *goes both ways* mean?
- moves in many directions
 - is similar for both
 - increases quickly in size

✓ **The tail of each humpback has a different shape and pattern. Researchers use these differences to identify the whales they study.**



IDENTIFYING PURPOSE

Review this reading skill in Unit 1B

B. Match each paragraph with its purpose.

- | | |
|------------------|--|
| 1. Paragraph C • | • a. to describe something researchers do not know about humpbacks |
| 2. Paragraph D • | • b. to explain a difference between humpbacks from different places |
| 3. Paragraph E • | • c. to tell the personal story of a humpback researcher |
| 4. Paragraph F • | • d. to give a reason why researchers continue to study humpbacks |

Understanding Pronoun Reference

A pronoun usually, but not always, refers to something earlier in the sentence or in a previous sentence. In the example below, the subject of the second sentence (*they*) refers to a noun in the first sentence (*humpback whales*).

Herman Melville ... wrote that humpback whales were "the most lighthearted of all the whales." A favorite of whale watchers everywhere, they swim in ocean areas ...

The context should help you understand what the pronoun is referring to.

REFERENCE A. What does each underlined word refer to? Circle a, b, or c.

1. Humpbacks are intelligent animals, and can be seen working together to hunt schools of small fish. And, if you listen closely, you might even hear one singing.
 a. a humpback whale b. a group of intelligent animals c. a school of small fish
2. Marine biologist Jim Darling has studied the songs of humpback whales for more than 25 years. While recording whale songs on a boat near Hawaii, he invited author Douglas Chadwick to experience diving with a humpback.
 a. Jim Darling b. Douglas Chadwick c. the author
3. Humpback whale songs can be long and complex, sometimes lasting for 30 minutes or more. They are perhaps the longest songs sung by any animal.
 a. the researchers b. humpback songs c. male humpbacks

REFERENCE B. What does each **pronoun** from the reading refer to?

1. I felt **it** inside my head and bones. (paragraph B) _____
2. The 13-meter-long giant looked **him** over ... (paragraph C) _____
3. **It** pointed its head down ... (paragraph C) _____
4. **It** then gently carried Nicklin ... (paragraph G) _____

CRITICAL THINKING Identifying Reasons

Discuss the questions with a partner and note your ideas.

- ▶ What possible reasons does the author give for the humpback whales' singing?

- ▶ What other possible reasons can you think of?

COMPLETION A. Complete the sentences using the words in the box. One word is extra.

apparently aware experience (n) interact record single

1. Whales generally come up to breathe every 15 minutes, but some can hold their breath for up to an hour on a(n) _____ dive.
2. Some people are not _____ that many of the whales they see on whale-watching tours are later killed in areas where whaling is still allowed.
3. _____, there are some whale species that do not seem to migrate at all. They spend the entire year in one place.
4. Many of those who have swum with whales have described the _____ as life-changing.
5. Scientists who study whales use special technology to _____ the sounds they make underwater.

DEFINITIONS B. Read the information. Then complete the definitions using the words in red.

Like humpbacks, blue whales sing **complex** songs. And like humpbacks, they are endangered. Fortunately, there are now laws that protect them. Today, although their exact number is **unknown**, the blue whale population is growing. Scientists are **curious** to know more about blue whale behavior, so they have placed cameras on them. Through these cameras, it is possible to watch the whales as they swim, eat, and **interact** with each other. Scientists have discovered that during breeding **season**, the females migrate to food-rich areas to have their babies.

1. If something is _____, it has many parts and is difficult to understand.
2. A(n) _____ refers to a particular period of time during the year.
3. If something is _____, you have no information about it.
4. When people or animals _____, they spend time together and communicate.
5. Someone who is _____ about something wants to learn or know more about it.

WORD PARTS C. The prefix *inter-* means "between" or "together," as in the word **interact**. Complete the sentences using the words in the box.

action national view

1. She was offered an **inter**_____ for a job as a member of a whale research team.
2. Saving endangered whales is going to require **inter**_____ cooperation.
3. Many studies focus on the **inter**_____ between male and female humpbacks.

BEFORE YOU READ

- PREVIEWING** A. Read the paragraph below. What is special about the great horned owl and the lyrebird?

Many species of birds communicate using different calls. The great horned owl, for example, can make a great variety of sounds, each with a different purpose. Other birds are able to mimic sounds they hear. The lyrebird, for example, is not only able to copy the calls of other birds, but also to reproduce man-made noises like car alarms and chainsaws.

- SKIMMING** B. Skim the reading passage. Answer the questions.

Review this reading skill in Unit 1A

What bird is the passage about? _____

What is special about this bird's call? _____

◀ A great horned owl



THE 1,000-YEAR BIRD SONG



< A swamp sparrow in Delaware, United States, sings its traditional song.

- A Every summer, the calls of thousands of swamp sparrows can be heard across North America’s wetlands. These little brown birds know only a few songs, but they know them very well. In fact, their musical set list¹ probably hasn’t changed much for centuries.
- B Like **humans**, baby swamp sparrows learn to communicate by copying adults. From a young age, they learn to copy, or mimic, songs sung by their elders. “Swamp sparrows very rarely make mistakes when they learn their songs,” says biologist Robert Lachlan. In fact, their mimicry is so **accurate** that the music changes little between generations.
- C Just like children, the sparrows don’t remember every song they hear, Lachlan says. “They don’t just learn songs at random; they pick up commoner songs rather than rarer songs.” In other words, they learn songs they hear most often. It’s an example of a strategy that scientists call *conformist bias*.² Until recently, this learning ability was thought to be special only to humans.
- D Between 2008 and 2009, Lachlan’s research team recorded the calls of 615 male swamp sparrows across the northeastern United States. The researchers used computer software to break each song into a collection of notes, or syllables. They then measured the differences between the tunes.
- E The research revealed that only 2 percent of male sparrows sang a different song from the **standard** tune. The **combination** of accurate mimicry and conformist bias allows the birds to **create** traditions that last for centuries. “With those two ingredients together, you end up with traditions that are really stable,” says Lachlan. “The song-types that you hear in the marshes³ of North America today may well have been there 1,000 years ago.”
- F Lachlan’s study is among the first to measure the longevity of song traditions within a bird species. Another **aspect** scientists are now exploring is the **impact** of habitat loss on songbirds. Man-made barriers—such as cities, roads, and plantations—can break up a bird population into a number of isolated groups. These barriers may prevent **cultural** interaction between songbird populations, such as the **exchange** of song types.
- G The findings are really exciting, says scientist Andrew Farnsworth. He hopes that future research will **evolve** from these studies. For example, scientists may be able to identify how other animals are able to preserve their cultural traditions. “Seeing the potential for it in other organisms⁴ is super cool,” says Farnsworth.

1 A **set list** is the list of songs a musician will play during a performance.

2 **Conformist bias** is the way humans or animals tend to follow common behavior.

3 **Marshes** are wet, muddy areas of land.

4 **Organisms** are animals or plants, especially ones that are very small.

READING COMPREHENSION

A. Choose the best answer for each question.

GIST

1. What would be the best alternative title for the passage?

- a. The Amazing Lifespan of Swamp Sparrows
- b. How Swamp Sparrows Evolved in North America
- c. The Swamp Sparrows' Traditional Set List

VOCABULARY

2. In paragraph B, the word *elders* means ____.

- a. older swamp sparrows
- b. adult humans
- c. birds of another species

DETAIL

3. In Lachlan's study, about how many swamp sparrows did NOT sing traditional songs?

- a. 12
- b. 600
- c. 615

INFERENCE

4. Hundreds of years ago, the songs of swamp sparrows were probably ____.

- a. completely different from today's songs
- b. slightly different from today's songs
- c. exactly the same as today's songs

INFERENCE

5. Which of the following is an example of *conformist bias*?

- a. A student memorizes dates for a history exam.
- b. A pet learns to do a trick because its owner rewards it regularly.
- c. A new slang word becomes popular with a group of teenagers.



^ Swamp sparrows can be identified by their brown wings, gray faces, and a dark line close to the eye.

EVALUATING STATEMENTS

B. Are the following statements true or false according to the reading passage, or is the information not given? Circle T (true), F (false), or NG (not given).

- 1. Swamp sparrows learn to sing when they are young. T F NG
- 2. Conformist bias was only recently noticed in animals. T F NG
- 3. The swamp sparrow research was carried out all over the United States. T F NG
- 4. Each sparrow song consists of more than ten notes, or syllables. T F NG
- 5. Scientists are studying how habitat loss might affect bird songs. T F NG

Scanning for Details

Scanning a text can help you to quickly find specific information, such as a name, a date, a place, a number, or a reason. Decide what exactly you need to look for, and then quickly look only for that information. Do not read every word.

SCANNING

A. Read the questions below. For each question, decide what information you need to look for. Then scan Reading B quickly to find the answers.

1. Where do swamp sparrows live?

(name / place / date / number / reason) **Answer:** _____

2. Who are the two scientists mentioned in the passage?

(name / place / date / number / reason) **Answer:** _____

3. When did the research team carry out the swamp sparrow study?

(name / place / date / number / reason) **Answer:** _____

4. How many male swamp sparrows were recorded?

(name / place / date / number / reason) **Answer:** _____

5. Why did the researchers use computer software?

(name / place / date / number / reason) **Answer:** _____

SCANNING

B. Scan the reading passage again and underline each piece of information below. Note the paragraph in which the information appears.

1. examples of man-made barriers paragraph _____

2. the main findings of the swamp sparrow study paragraph _____

3. an example of future research that may evolve from the study paragraph _____

4. how both children and swamp sparrows learn to communicate paragraph _____

CRITICAL THINKING Applying Concepts

Look again at the definition of *conformist bias* in the footnotes for Reading B. What are some examples of conformist bias in human society? Discuss with a partner and note your ideas.

COMPLETION A. Complete the information using the correct form of the words in the box.

aspect evolve exchange human standard



^ A yellow-naped Amazon parrot

Parrots and ¹_____ learn to vocalize similarly: Both listen and then repeat back what they hear. Now scientists have found another ²_____ of their behavior that is similar. Parrots do not speak a single, ³_____ language; they speak in regional dialects.

A team from New Mexico State University has studied the vocal ⁴_____ among Amazon parrots living in Costa Rica. All the birds use a specific call to communicate. However, the call varies by region. When one bird hears the local dialect of another, it changes its own call to match the new tune.

Only a few animals have ⁵_____ to communicate in this way. "Learning how to sound like others is very important to parrots," says researcher Timothy Wright. "When you sound like another, that means you are a member of their group."

DEFINITIONS B. Match the two parts of each definition.

- | | | |
|---|---|--|
| 1. If you create something, | • | • a. two or more things are joined together. |
| 2. If something is a combination , | • | • b. you make something new. |
| 3. If something is cultural , | • | • c. it causes a change. |
| 4. If something has an impact , | • | • d. it is correct. |
| 5. If information is accurate , | • | • e. it relates to the ideas or customs of a particular society. |

WORD FORMS C. Many nouns, such as **combination**, are formed from verbs by adding the suffix **-tion**.

1. Complete the chart below. Use a dictionary to help.

Verb		Noun
_____	→	combination
create	→	_____
evolve	→	_____

2. Complete these sentences using the correct form of the words above.
- To communicate, bees use a(n) _____ of body movements and chemical signals.
 - The development of language has played an important role in human _____.
 - Like bees, ants can _____ chemicals called "pheromones."
 - As a language _____, the meaning of certain words can change.

THE LION'S ROAR

VIDEO

< A lioness roars as her cubs play in Kenya's Maasai Mara National Reserve.



BEFORE YOU WATCH

PREVIEWING A. Read the information. The words and phrases in **bold** appear in the video. Match each word with its definition.

The lion is known for its power and strength, as well as its famously fierce roar. In fact, a lion's roar can be as loud as 114 decibels—about as loud as **thunder**. These sounds are made by both lions and lionesses, though lionesses do not roar as often, or as loudly. Male lions—especially the **dominant** lion in the pride (the lion family group)—roar to warn others to leave their **territory**. They also roar to communicate their location to their family; this is called *social roaring*.

- | | | | |
|--------------|---|---|--|
| 1. thunder | • | • | a. the loud sound you hear after lightning |
| 2. dominant | • | • | b. an area of land belonging to a particular person or group |
| 3. territory | • | • | c. more important or powerful than most or all others |

QUIZ B. What do you know about lions? Discuss the questions below with a partner.

1. Which is bigger, a lion or a tiger?
2. What is the name given to a group of lions?
3. Which usually hunts for food—the male or the female lion?
4. In which two continents do lions live today?

WHILE YOU WATCH

GIST A. Watch the video. Check your ideas in Before You Watch B.

COMPLETION B. Watch the video again. Complete the sentences by circling the correct options.

1. Lions are able to roar *as soon as they are born / when they are one year old*.
2. There are usually more adult *males / females* in a pride of lions.
3. American lions and cave lions became extinct around *1,000 / 10,000* years ago.
4. *African / Asiatic* lions are the most endangered lion species today.

CRITICAL THINKING Synthesizing Information

- Consider what you have learned about animal communication in this unit. What do you remember about each animal listed below? Discuss with a partner.

humpback whale	lyrebird	swamp sparrow	parrot	lion
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- Imagine you are a scientist who studies animal communication. Which animal would you most like to study? What would you like to find out about it? Why? Note your ideas below. Then discuss with a partner.

VOCABULARY REVIEW

Do you remember the meanings of these words? Check (✓) the ones you know. Look back at the unit and review any words you're not sure of.

Reading A

- | | | | | |
|--------------------------------------|---------------------------------|-----------------------------------|------------------------------------|-------------------------------------|
| <input type="checkbox"/> apparently* | <input type="checkbox"/> aware* | <input type="checkbox"/> complex* | <input type="checkbox"/> curiously | <input type="checkbox"/> experience |
| <input type="checkbox"/> interact* | <input type="checkbox"/> record | <input type="checkbox"/> season | <input type="checkbox"/> single | <input type="checkbox"/> unknown |

Reading B

- | | | | | |
|------------------------------------|-----------------------------------|--------------------------------------|----------------------------------|------------------------------------|
| <input type="checkbox"/> accurate* | <input type="checkbox"/> aspect* | <input type="checkbox"/> combination | <input type="checkbox"/> create* | <input type="checkbox"/> cultural* |
| <input type="checkbox"/> evolve* | <input type="checkbox"/> exchange | <input type="checkbox"/> human | <input type="checkbox"/> impact* | <input type="checkbox"/> standard |

* Academic Word List