How Bats See

Main Idea

Read the text. Then answer the questions on the next page.

Text

1 Bats are busy at night, when it is far too dark to see a moth or a mosquito. That does not slow them down at all. Most bats find their way and catch their food in the dark by using sound, a skill called echolocation.



2 Echolocation works by making sounds and listening for the echoes. A bat sends out quick, sharp calls from its mouth or nose as it flies. The sound waves travel through the air until they strike an object, such as a tree or an insect. Then they bounce back as echoes. The bat catches the returning echoes with its large, sensitive ears.

3 Echoes give a bat a surprising amount of information. An echo that returns quickly means an object is close, while a slower echo means it is farther away. Echoes also reveal how big an object is, what shape it has, and which way it is moving. Some bats can detect an object as thin as a human hair.

4 A bat changes its calls as it closes in on its prey, the animal it is hunting. While it searches, it may call about ten times each second. Once it detects an insect, it calls faster and faster to follow every move. In the last moment before the catch, some bats make more than 150 calls a second. Scientists call this rapid burst a feeding buzz.

5 People cannot hear most bat calls without help. The calls are ultrasonic, which means they are too high in pitch for human ears. That is lucky for us, because many bat calls are extremely loud. Scientists who study bats carry devices called bat detectors, which turn the calls into sounds that people can hear.

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Go back to the text to find your proof. Underline it in the color shown.

A **Fill in the circle next to the best answer.**

1. **What is the topic of this text?**
   - ○ moths and mosquitoes
   - ○ animals with large ears
   - ○ how bats use echolocation
2. **Which sentence tells the main idea of the whole text?** | red |
   - ○ Most bats find their way and catch their food in the dark by using sound, a skill called echolocation.
   - ○ Some bats can detect an object as thin as a human hair.
   - ○ Scientists who study bats carry bat detectors.
3. **What is the main idea of paragraph 2?** | orange |
   - ○ A bat has large, sensitive ears.
   - ○ Echolocation works by making sounds and listening for the echoes.
   - ○ Trees and insects are objects.

B **Write your answer on the lines.**

4. **Write two details from paragraph 4 that tell more about its main idea.** | yellow |

5. **What is paragraph 5 mostly about?** | green |

6. **Which detail could the author add to paragraph 3?**
   - ○ Most bats sleep hanging upside down.
   - ○ Echoes can even tell a bat whether a surface is rough or smooth.
   - Mosquitoes lay their eggs in still water.

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