



DID YOU HEAR THAT?

by Erin K. Schonauer and Jamie C. Schonauer



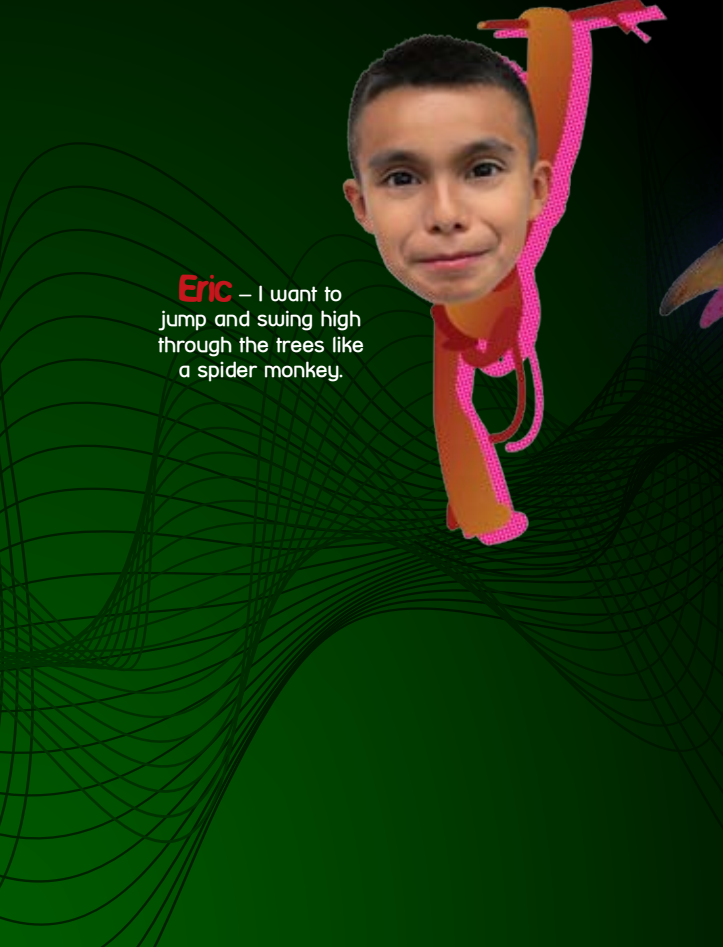
Diego – I want the super speed of a hawk. I will get to school faster and see things better and far away.



**IT'S DINNERTIME.
HUNGRY BATS
SWOOP THROUGH
THE MIDNIGHT SKY.
THE MENU: CRUNCHY
COCKROACHES, MEATY
MOSQUITOES, AND
CRISPY KATYDIDS.**

Amazingly, bats don't use their eyes to find food. Instead, these clever cave critters use their ears. Most bats rely on echoing sound waves to "see" in the dark. This is called **echolocation**.

Ready. Set. Echolocate! Bats use their larynx, or voice box, to produce high-frequency sounds. The sounds radiate from the bats' mouth (or in some species, such as Horseshoe bats, their nose). The ultrasonic sound waves pierce through the night sky at approximately 340 meters per second. They bounce off an object or prey and reflect back in echoes. Bats listen carefully to the returning echoes. They process them with their brain and instantly get a picture about what's ahead.



Eric – I want to jump and swing high through the trees like a spider monkey.

Echolocation allows bats to determine the size, texture, and distance of upcoming obstacles or prey. Some bats can locate objects more than 60 feet away. They can even detect something as thin as a human hair.


During their nightly flights, bats use several echolocation calls. Some use low-intensity calls, like whispers. These help bats capture prey lurking on the ground. Others use high-intensity calls, like shouting. Bats seeking food in vast spaces make these shrill calls.

Besides being strategic hunters, bats are efficient. A little brown bat can capture as many as 600 small insects in one hour. Plus, it can eat and echolocate simultaneously.


For bats, finding dinner in the dark is a cinch.



Deisy – I want to have wings like an eagle so I can fly very fast.



Charlie – I want to have sharp claws which will allow me to catch fish. I will be able to eat fish whenever I am hungry.



Emerson – I want to be able to run on water like a lizard. I will be the only person in the world who can beat humans running on water!

DOLPHINS DO IT, TOO

Bats are not the only animals who use echolocation. Dolphins do too. They use sound waves to locate things under water. This is called **sonar**. A dolphin's sonar system is tuned finer than a submarine's.

These extraordinary mammals produce a series of clicks. The clicks send sound waves blasting through the water 4½ times faster than in air. Dolphins use their head to hear. They focus the sound waves into a beam on their forehead. Dolphins don't have external ears like bats do. They receive the echoes through their lower jaw or, some research says, through their teeth.

With sonar, dolphins can locate "dinner" hidden deep below the ocean's floor. Then, they spin vertically on their snout to dig it up.

Remarkably, dolphins also use their sonar to help humans. For years, wild bottlenose dolphins have been helping local fishermen find fish in the murky coastal waters of Laguna, Brazil. Using their echolocation, the dolphins gather schools of mullet. Then they signal the fishermen by rolling on their side. On cue, the fishermen toss out their nets. Each fisherman catches over 40 pounds of fish per day, and the dolphins happily eat the fish that escape the nets. It's a perfect partnership.



Gabriel – I'd like to be a high jumper so I can climb trees really fast.



Yordy – I want to jump out of the water like killer whales. I want to make a big splash.

