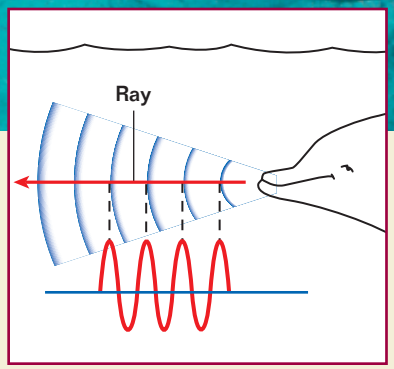
CHAPTER 12

Sound



Some marine mammals, such as dolphins, use sound waves to locate distant objects. In this process, called *echolocation,* a dolphin produces a rapid train of short sound pulses that travel through the water, bounce off distant objects, and reflect back to the dolphin. From these echoes, dolphins can determine the size, shape, speed, and distance of their potential prey.

WHAT TO EXPECT

In this chapter, you will study many physical aspects of sound, including the nature of sound waves, frequency, intensity, resonance, and harmonics.

Why it Matters

Some animals, including dolphins and bats, use sound waves to learn about their prey. Musical instruments create a variety of pleasing sounds through different harmonics.

CHAPTER PREVIEW