

# A whale of a story



## Background knowledge

In air, sound travels more than 332 meters every second (about 750 miles per hour). In water, it travels five times faster, at about 1,500 meters every second. Whales use their vocal cords to make sounds. They also have a very good sense of hearing. The sounds that they make travel for thousands of kilometers through the oceans and can be heard by other whales far away.

## Science activity

The figures in the table on the right show how many meters sound travels every second in different materials. Use the information in the table to decide which of the statements below are true and which are false. Place a check mark (✓) beside the statements that you think are true.

| Material       | Speed of sound (meters per second) |
|----------------|------------------------------------|
| Cold air       | 332                                |
| Warm air       | 352                                |
| Fresh water    | 1,482                              |
| Chlorine water | 1,542                              |
| Steel          | 5,102                              |
| Granite rock   | 6,002                              |

Whales in the ocean hear sounds more quickly than goldfish in a lake.



It is easier to hear sounds in water than in vacuum.

Railway workers hear the horns of an approaching express train before they hear the vibrations it makes in the steel rails.



You hear sounds more quickly in gases than in liquids.



It is possible to hear sounds through rocks.

## Science investigation

⚠ Take extra care - ask an adult to supervise you.

Using two balloons, one filled with water and the other with air, design and conduct an experiment to see if you can hear better through air or water. Make sure the balloons are the same size.

