A whale of a story

Background knowledge
In air, sound travels more than 300 metres every second (about 750 miles per hour). In water, it travels five times faster, at about 1,500 metres 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 kilometres 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 metres 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 (metres per second)
Cold air	330
Warm air	350
Fresh water	1,402
Ocean water	1,540
Steel	5,060
Granite rock	6,000

- ☐ Whales in the ocean hear sounds more quickly than goldfish in a lake.
- ☐ It is easier to hear sounds in winter than in summer.
- ☐ Railway workers hear the hum 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.