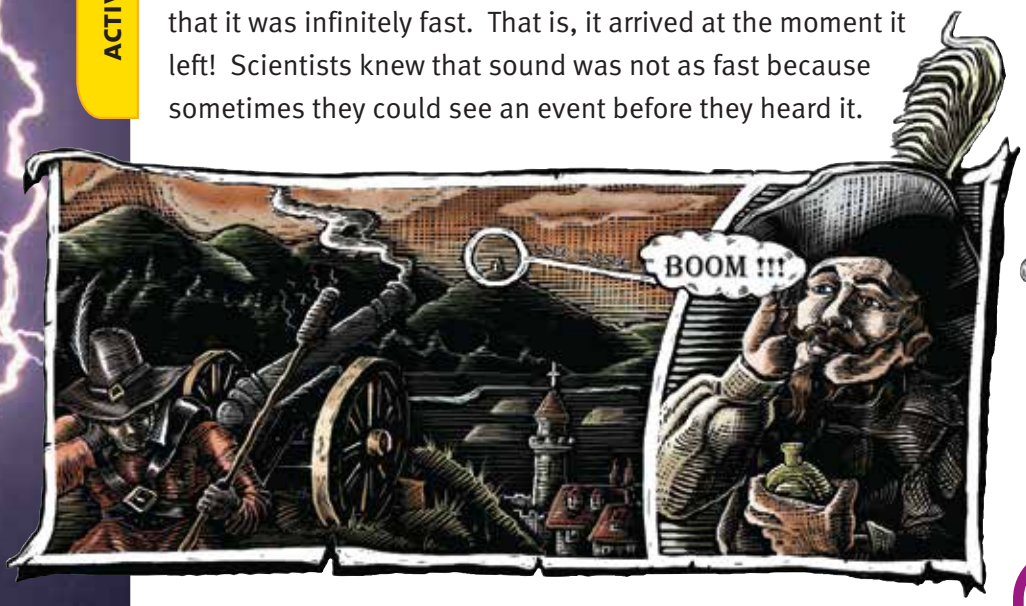
Light and Sound

You need: a stopwatch, a 100 metre tape or measuring wheel, 2 blocks of wood, a classmate

ACTIVITY

Light is so fast that until the seventeenth century, scientists believed that it was infinitely fast. That is, it arrived at the moment it left! Scientists knew that sound was not as fast because sometimes they could see an event before they heard it.



1. With a classmate, carry out your own experiment to measure the speed of sound. You need to stand a long way apart (at least 300 metres) but be able to see each other clearly. Measure the distance between you, using a tape or a measuring wheel. Your classmate slaps the two wooden blocks together. You start the stopwatch when you see the blocks clash and stop it when you hear the sound. Record the time. Carry out at least 10 trials, then average the times.

2. Use your measurements to estimate the speed of sound in metres per second.

3. How could you improve your experiment to get a more accurate result?

4. Use an encyclopaedia or the Internet to find out how scientists first measured the speed of light.