

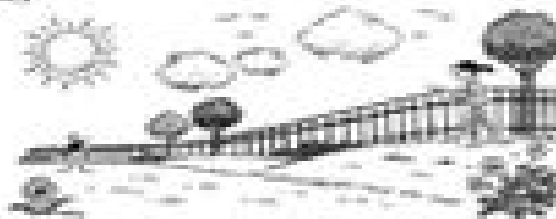
## Sound can be speedy



### Background knowledge

Sound waves, or the vibrations made by sound, can travel through solids, liquids, and gases. Usually, the vibrations travel faster and farther in solids and liquids than through air. This is because the particles that transmit the vibrations are closer together. Approaching trains can be heard from far away because the vibrations travel quickly through the solid metal railroad tracks. Whales can be heard calling over very large distances in the sea because the water transmits sound faster and farther than air.

### Science activity



Mary and her brother were playing in a field that had an iron railing running alongside it. When it was time to go home, Mary called to her brother from the opposite side of the field, but he did not hear her. She decided to tap the iron rail to attract his attention. Explain why this was a good idea.

### Science investigation

**Take extra care** – ask an adult to supervise you.

Make a rattle – make with two empty snap caps and some string. Hammer a hole into the closed ends of the caps. Pull a string or wire through the openings and tie sections to the ends so they cannot come out through the holes.

Place a rope along the edges of the open end of the caps for safety.

Take one cap while your friend listens to the other. Pull the string or wire taut. Who can hear or the hear you? Place your caps under water and listen to the other while your friend speaks. Do you hear anything? Design and conduct some of your own experiments.

