

Sound propagation experiments

Tests on the propagation of sound in solid, liquid, and gaseous bodies.

1 Sound propagation in solid bodies

1.1 List of materials

- a source of sound, for example, tuning fork or mobile phone
- different materials, for example, polystyrene, tin, cork, felt, glass, and cotton wool

1.2 Experiments

Hold different materials between the source of the sound and your ear, and note which materials conduct the sound particularly well or particularly badly.

2 Sound propagation in liquid bodies

2.1 List of materials

- a clock,
- a bucket and
- water

2.2 Experiments

Let a mechanical clock float in a bucket full of water, and watch what happens.

Tip: Put something over the clock in the water. Why?

3 Sound propagation in gaseous bodies

3.1 List of materials

- a stethoscope,
- a long rubber tube, and
- a funnel

3.2 Experiments

Extend a stethoscope with a long tube, and replace the chest piece with a normal funnel. Hold the funnel close to a source of sound (for example, a loudspeaker), and observe the sound propagation.

Prove that the sound is reproduced through the air and not through the tube material.