



The Insulation Challenge

There are many different reasons why we may need to reduce the volume of sound.

Sound engineers need rooms that don't let in sounds from outside for recording. Hotels need to block loud noises from outside, like trains and traffic, so their guests can sleep. The method for reducing sound in buildings is called acoustic insulation. Acoustic insulators use materials like foam and wool to line rooms to block sound.

1.

The question

What can we use to soundproof?

2.

The equipment

- A small speaker, mobile phone or MP3 player
- A selection of different materials to put inside your box
- A box big enough to put your speaker, mobile phone or MP3 player in

3.

Create a fair test

- Choose your favourite song and play it at full volume on your speaker, mobile phone or MP3 player.
- Put your speaker, mobile phone or MP3 player into your box.
- Put different materials into your box with your speaker, mobile phone or MP3 player and close the lid. You could try more than one material at once.
- Record which material or combination of materials reduces the sound the most.

4.

Sharing results

Tick your chosen method

- | | | |
|------------------------------------|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> Graph | <input type="checkbox"/> Presentation | <input type="checkbox"/> Photographs |
| <input type="checkbox"/> Pie Chart | <input type="checkbox"/> Report | |

Did you know?

The quietest place on Earth is an anechoic chamber, a room designed to completely absorb sound, in Minnesota, USA. No one can spend more than 45 minutes in there before they feel incredibly uncomfortable.

