

Decide whether these statements about sound are true or false!

Sound cannot travel through solids because they are too hard.

Sound travels as vibrations.

Sounds get quieter as you move further away because the sound energy of the vibrations disappears.

The bigger the vibration, the louder the sound.

The faster the vibration, the lower the sound.

High and low sounds are the same as loud and quiet sounds.

If you are not sure, look up the statement and find out! Remember the work you've done on your high/low, loud/quiet table will help as well as the work on your instruments and the string telephone will help.

Sometimes people need to absorb sound and not make it louder. Can you think of any reasons people would want sound absorbed? Think about you sitting at home relaxing – what would you not want to be able to hear?

Task:

Soundproofed Studio

This band practise and record their songs in a special room called a studio.

Unfortunately, they have had complaints from people who live near their studio, because their music is too loud. They would like to soundproof their studio so that the sound of the music is absorbed. They want you to investigate the best material to use to soundproof their studio. They want to use the material that absorbs the sound the most.

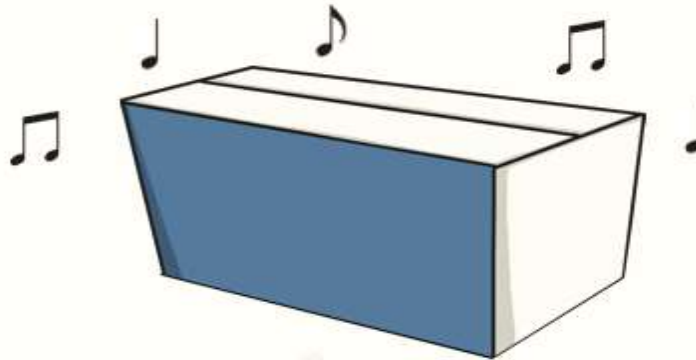


Soundproofed Studio



You will play some music and place the music player in a box. The box is like the studio!
Record how loud the sound is when the music is playing in the studio with no soundproofing. Then you need to try the different materials.

Choose a material and wrap the box in a single layer of the material. Measure the volume of the music now. Continue testing all the materials and measuring or listening to how loud the sound is with each one.



Tip: try to use a small box and a phone so you will have enough of a material to wrap around it!

You can make a table like this to record the materials you've tried:

Type of Material	Loudness of Sound

You decide how to measure the loudness of sound – maybe a scale of 1-5.

Extension: Write to the band and let them know your findings! Make up your own band name.

Dear _____

I have tested several different materials and my results show that the one you should use to soundproof your studio is _____

It was the best material because _____

Yours sincerely, _____