Wednesday 16th December
LO: To explain how sound can be muffled.

Oct 29-14:12

Sound Proofing

Sound is a vibration - it needs something to pass on these vibrations (unlike light which can pass through a vacuum). Some materials allow sound to pass through them very easily, especially hard rigid ones like metals. Other materials, especially soft ones like cotton wool, absorb sound.

Ears are delicate and need to be looked after. They can easily be damaged in various ways: by very loud sounds especially if over a long time; by poking things in them; through old age or some disease. Most pop stars wear ear plugs.

Did You Know?

Rabbits and dogs hear well because they have large ears which collect up sounds very well. We can hear better if we give ourselves 'bigger ears' by cupping our hands over our ears or by using a funnel to listen through.

Oct 29-14:18

Loudness of sound is measured in decibels. Listening to sounds of 90 decibels (like the sound of a train) or more can damage your ears if you do it often. Jet aircraft, thunder and music on i-phones at mid-volume are all above this level.

Astronauts communicated with each other on the moon using radio waves. There is no air to pass on the sound vibrations in the normal way.

Foam rubber blocks are often used for sound-proofing because they contain many empty spaces in them, so sound does not pass through them easily. Household items such as egg boxes and popcorn are quite good for soundproofing also!

Oct 29-14:18

Starter

Sound cannot travel through solids because they are too hard. F

Sound travels as vibrations. T

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

The bigger the vibration, the louder the sound. T

The faster the vibration, the lower the sound. F

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

Decide which of these statements are true and which are false.

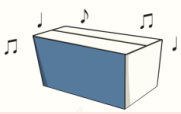
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Oct 29-14:18

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.



Oct 29-14:29

Friday 18th December

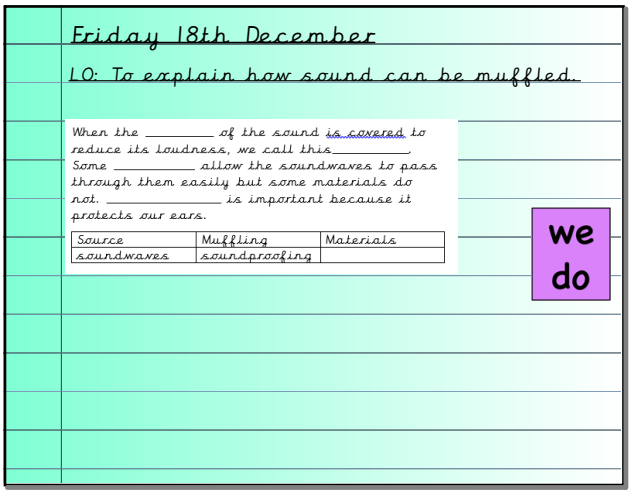
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LO: To explain how sound can be muffled

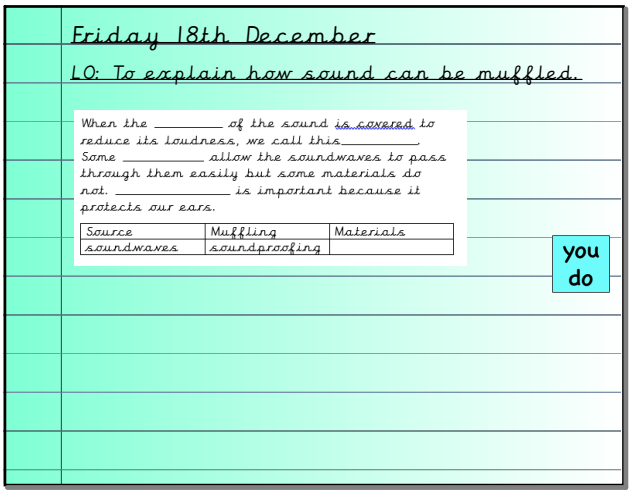
When the source of the sound is covered to reduce its loudness, we call this muffling. Some materials allow the soundwaves to pass through them easily but some materials do not. Soundproofing is important because it protects our ears.

Source ✓	Muffling	Materials ✓
soundwaves	soundproofing ✓	

Sep 23-14:37



Sep 23-14:37



Sep 23-14:37



Dec 2-14:23