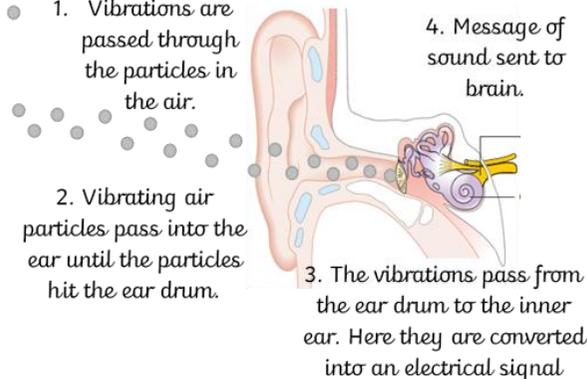
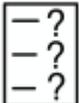


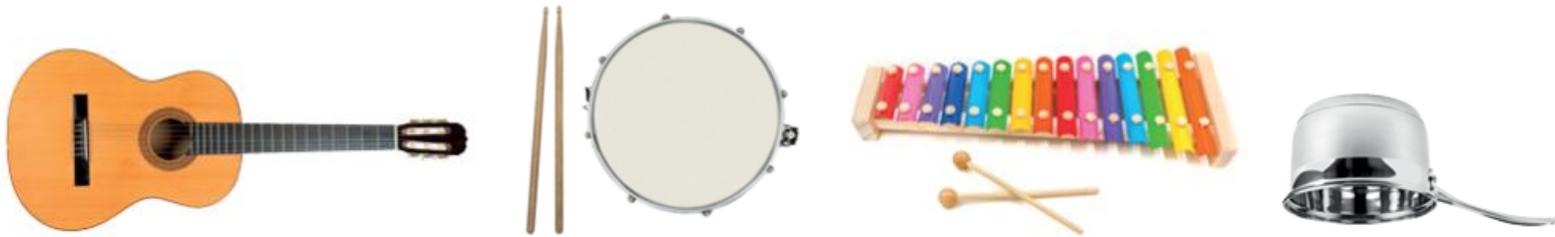
Vocabulary		
Volume	The amount of sound there is (called amplitude, measured in decibels)	
Vibrations	The movement of a sound. The quicker the vibration, the higher the pitch	
Sound waves	The way sound travels	
Ear drum	A part of the ear	
Amplified	When sound is made louder	
Absorbed	When sound is taken in by an object it passes through	
Vacuum	Where no air is present, for example in space	
Pitch	Whether a sound is high or low (called frequency, measured in hertz)	

Knowledge
<p>Sound is produced by vibrations. Everything that makes a sound vibrates, even if it is hard to see them. These vibrations travel through the air, we call them sound waves.</p> <p>Sound waves enter our outer ear and travel down the ear canal, they then hit our ear drums and make them vibrate.</p> <p>As you move further away from the sound source the noise gets quieter – especially if you are outdoors. This is because the sound waves spread out and the vibrations become smaller.</p> <p>The volume of the sound depends on the size of the vibration. The bigger the vibration, the louder the sound, the smaller the vibration the quieter the sound.</p> <p>Sometimes sound waves can also be absorbed by objects / materials along the way making the sound quieter.</p> <p>The further away we are from the object making noise, the quieter the sound is.</p> <p>Sound waves can travel at different speeds through different objects.</p> <p>Sound travels slower than light, which is why we often see lightning before we hear thunder.</p> <p>There must be air in order for there to be sound. Sound waves need air to travel through. If there is no air, this is called a vacuum. This also means there is no sound. For example, space is a vacuum.</p> <p>Our eardrums are easily damaged and we must protect them if we are going to be around loud sounds.</p>


Quizzing		Quiz at home																		
Ask your partner the questions below. Can they find the correct answer on the right-hand side?		Ask your adult to look at the KO.																		
What produces sound?	Air	 Quiz them using the vocabulary and knowledge section or the quiz questions.  <ul style="list-style-type: none"> • Can they beat your score? • Can they score more than 5? 10? • Compete with your adult in the elimination quiz. Take it in turn to ask each other questions. The first person to get a question wrong is out. 																		
Sound waves can travel through air, but not through a vacuum. True or False	Eardrum																			
What part of your ear vibrates when sound waves hit it?	False																			
If the vibration is bigger the sound gets quieter. True or False	Vibrations																			
Sound travels faster than -----.	It can be absorbed																			
What is needed for sound to travel?	True																			
How can sound become quieter whilst travelling?	Light																			
What does sound travel through in our ear to get to the ear drum?	Ear Canal																			
BIG Questions		Beat the adult																		
Do animals hear sounds differently to humans? Could humans ever hear sounds in space? How could we make a very quiet sound very loud without touching it? Why can we hear an echo in some places but not others? How do deaf people hear if they can't use their eardrums in the usual way?		Your teacher can give 10 facts in 1 minute about this topic. How many can you give to your partner? 																		
Word scramble	Creative Tasks	Challenge																		
Unscramble the key vocabulary from this topic below. You can create your own at the bottom. <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">sdnuor</td> <td style="width: 50%;"></td> </tr> <tr> <td>saewv</td> <td></td> </tr> <tr> <td>brtvniaios</td> <td></td> </tr> <tr> <td>mplaifedi</td> <td></td> </tr> <tr> <td>wvacum</td> <td></td> </tr> <tr> <td>vumleo</td> <td></td> </tr> <tr> <td>dsobearb</td> <td></td> </tr> <tr> <td>cthip</td> <td></td> </tr> <tr> <td>reda mdrue</td> <td></td> </tr> </table>	sdnuor		saewv		brtvniaios		mplaifedi		wvacum		vumleo		dsobearb		cthip		reda mdrue		Design a revision bookmark using the information on the KO.  Find a place to close your eyes. Draw a map of all the sounds you can hear. Label them as loud, quiet, near or far. Make a simple instrument using boxes, rubber bands or water. Stretch a piece of cling film over a bowl. Sprinkle rice on the top. Play different sounds near it and watch the rice jump. Record what you see either through drawings, writing or photographs.	You are designing a quiet reading room in your school. Outside, there is a playground where children are shouting and playing. Inside the reading room, the teacher wants the room to stay as quiet as possible. Think about what you know about sound. Decide what materials or objects you could use in the room to make it quieter. Explain why your choices will help block or absorb sound.
sdnuor																				
saewv																				
brtvniaios																				
mplaifedi																				
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Enquiry

How can the pitch of these objects be changed?

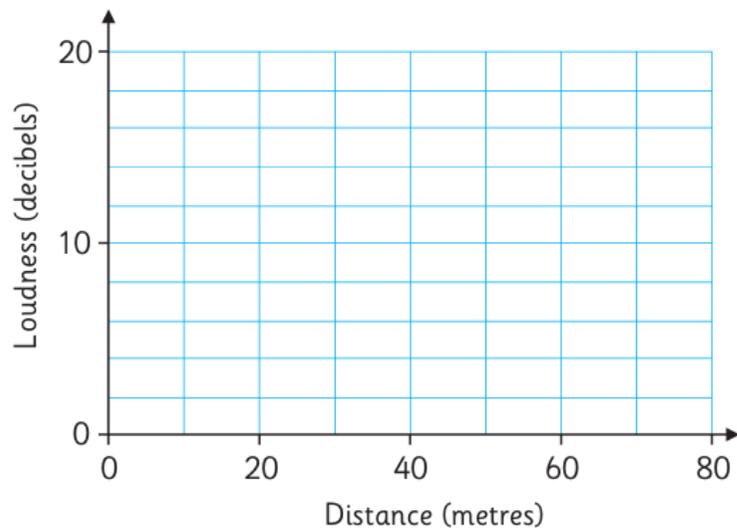


Graphs

Year 4 are investigating the loudness of a noise at different distances. She measures the loudness of the noise in decibels and the distance from the source of the noise in metres. Her results are shown in the table below.

Distance (metres)	20m	40m	60m	80m
Loudness (decibels)	20	14	10	8

Plot the points below and join them up using straight lines.



Diagrams

Label the diagram below using these key words

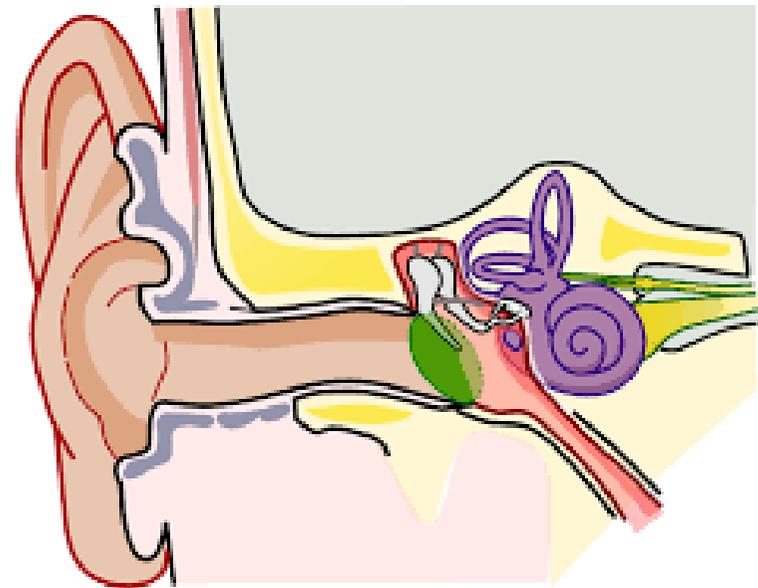
Ear drum

Inner Ear

Outer Ear

Ear Lobe

Ear Canal



Write the definition for each of the following words

Vocabulary

Volume		
Vibrations		
Sound waves		
Ear drum		
Amplified		
Absorbed		
Vacuum		
Pitch		

Write the vocabulary word for each definition

Vocabulary

	The amount of sound there is (called amplitude, measured in decibels)	
	The movement of a sound. The quicker the vibration, the higher the pitch	
	The way sound travels	
	A part of the ear	
	When sound is made louder	
	When sound is taken in by an object it passes through	
	Where no air is present, for example in space	
	Whether a sound is high or low (called frequency, measured in hertz)	

Knowledge

How is sound produced?

Sound waves

Volume

How does sound travel?

How do we hear?

Knowledge

Sound is produced Everything that makes a sound vibrates, even if it is hard to see them. These vibrations travel through the air, we call them sound waves.

Sound enter our outer ear and travel down the ear canal, they then hit our ear drums and make them vibrate.

As you move further away from the sound source the noise gets - especially if you are outdoors. This is because the sound waves spread out and the vibrations become smaller.

The of the sound depends on the size of the vibration. The bigger the vibration, the louder the sound, the smaller the vibration the quieter the sound.

Sometimes sound waves can also be by objects / materials along the way making the sound quieter.

The further away we are from the object making noise, the quieter the sound is.

Sound waves can travel at through different objects.

Sound travels than light, which is why we often see lightning before we hear thunder.

There must be air in order for there to be sound. Sound waves need air to travel through. If there is no air, this is called a This also means there is no sound. For example, space is a vacuum.

Our are easily damaged and we must protect them if we are going to be around loud sounds.

