

# Aim

- I can describe and explain sound sources.

## Success Criteria

- I can identify and describe sound sources around school.
- I can explain how sources of sound vibrate, creating sound.



# What is Sound?

What do you already know about sound and do you know anything about how sounds are made?

Complete your Sound Mind Map to show what you already know, and to ask questions about what you want to find out.

**Mind Map**

Draw or write about the things you already know about sound.

Sound

How are sounds made?

What makes sounds louder or quieter?

How do musical instruments work?

How do we hear sounds?

What makes sounds higher or lower?

How can sounds be made quieter?

Do you have any questions about sound? What would you like to find out? Write your thoughts below.

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Science | Year 4 | Sound | Good Vibrations | Lesson 1



# What is Sound?

Watch this clip to see how the different families of musical instrument create different sounds.



Click on this image to play the video in a new window



# What is Sound?

Did you come up with some words to explain how the musical instruments make sounds?

Look at the words below. Did you choose any of these words?

Vibrate

Vibration

Twang

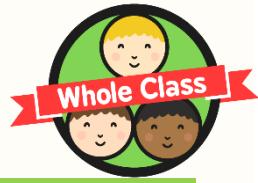
Blow

Bang

Scrape

Shake

Pluck



# Vibrations

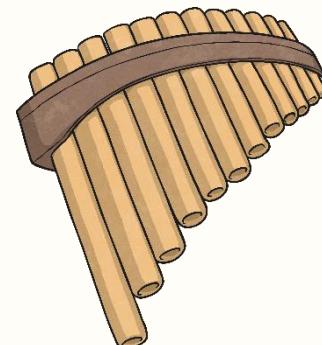
All the instruments are played in different ways, but they all have something in common. They all create sounds by vibrating.

The strings of the guitar and the gopichand vibrate when they are plucked.

The pan pipes and horn are filled with air, which vibrates when they are blown.

The balafon and the bongos make sounds when they are hit or banged, causing the blocks or the skin to vibrate.

But what is a vibration?





# Vibrations

We can see and feel vibrations whenever sounds are made.

Gently place your hand on your throat.

Say 'Ah!'

Can you feel the vibrations from your vocal cords?

Ahh



# Vibrations

Place a few grains of rice on a drum skin and gently bang the drum.

What do you observe?



The grains of rice bounce on the drum skin when it is hit.

This is because the drum skin vibrates, and the vibrations pass to the grains of rice, which also vibrate.





# Vibrations

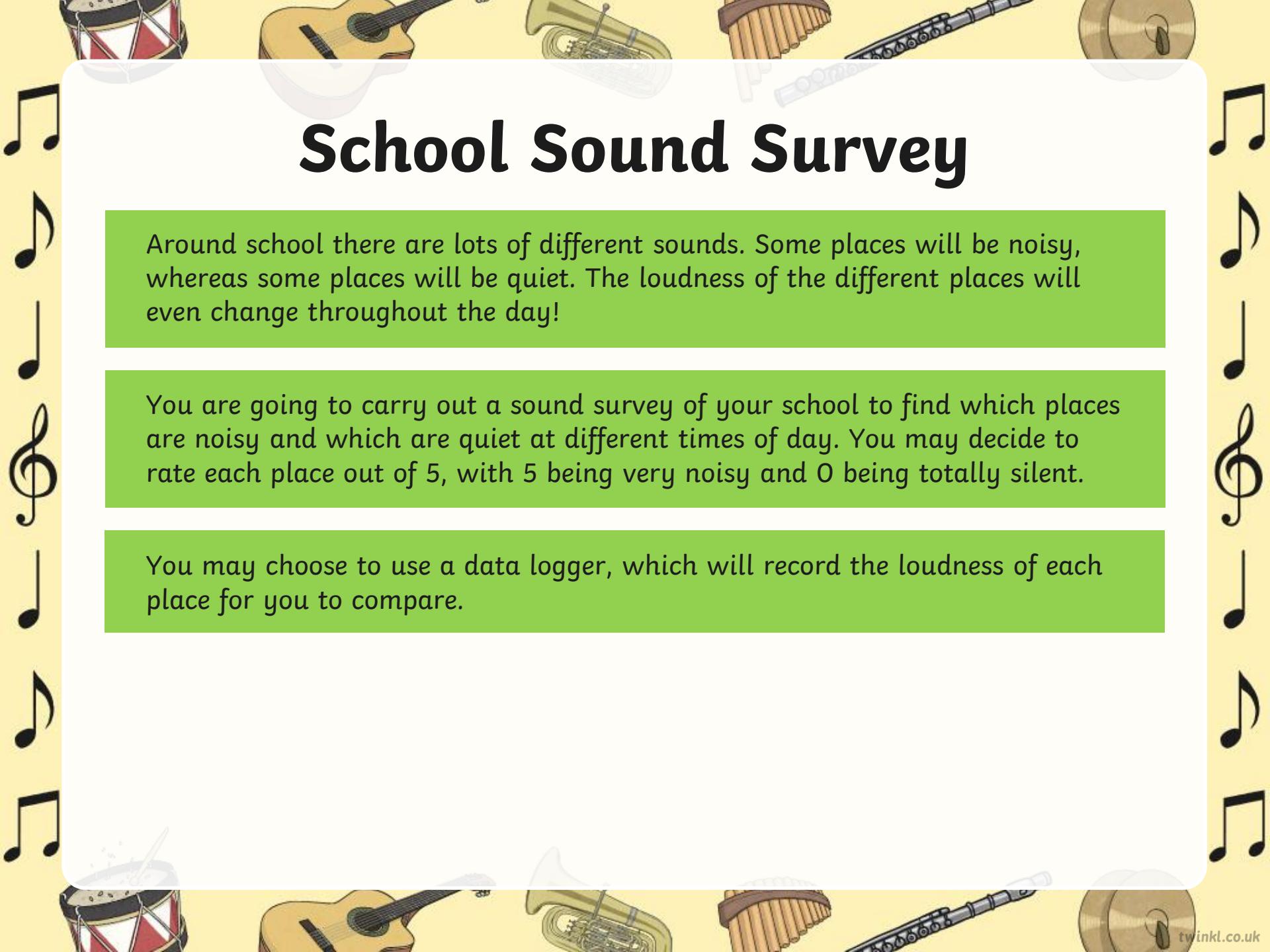
Gently hit a tuning fork and listen to the sound it makes. Lower the tuning fork into a bowl of water.

What do you observe?

You can see the ripples in the water when you place the tuning fork into it.



The tuning fork vibrates when it is hit, making the sound. These vibrations travel through the water, making the ripples as the water vibrates.



# School Sound Survey

Around school there are lots of different sounds. Some places will be noisy, whereas some places will be quiet. The loudness of the different places will even change throughout the day!

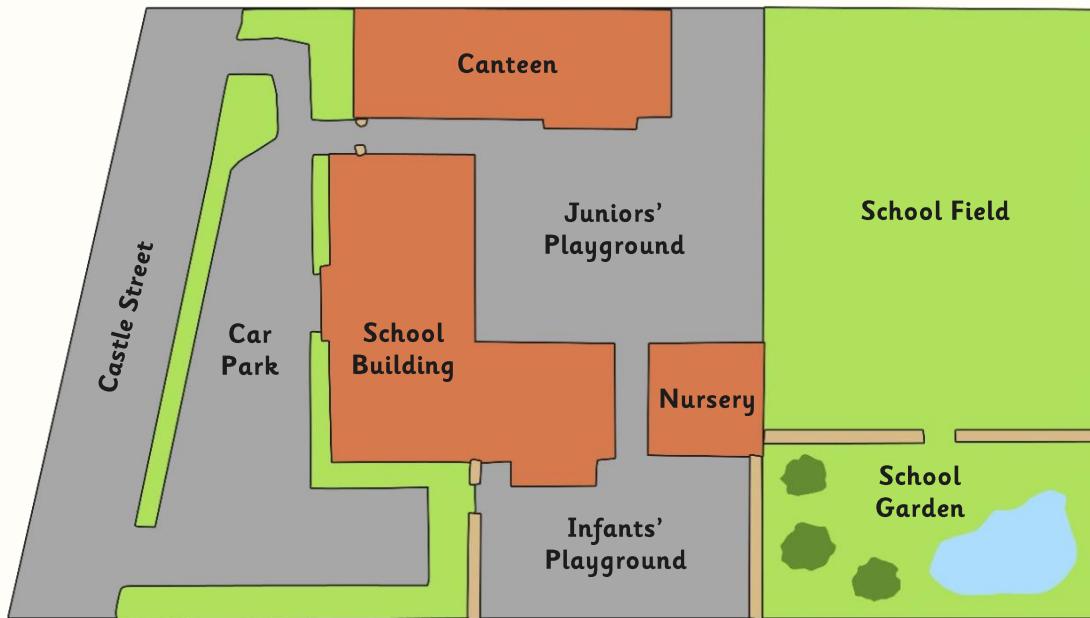
You are going to carry out a sound survey of your school to find which places are noisy and which are quiet at different times of day. You may decide to rate each place out of 5, with 5 being very noisy and 0 being totally silent.

You may choose to use a data logger, which will record the loudness of each place for you to compare.

# School Sound Survey

Use a map of the school to decide which places you are going to visit. Then visit each place with your group and either rate the noise level or use the data logger to measure the noise level.

Make a note of this on your school map.



# School Sound Survey

When you have completed your sound survey, you should all swap groups.

Try to work with different people as much as possible.

Take turns in your new groups to describe the noisiest place you visited, and what sounds you could hear in that place.



# Explaining Sounds

On your School Sound Survey Activity Sheet, make a list of the sounds you could hear in the noisiest place you visited around school. For each one, think about what was vibrating to make that sound.

Complete the table on your activity sheet.

What sounds could you hear?	What was

What was the noisiest place that you visited around your school? \_\_\_\_\_




School Sound Survey	
What sounds could you hear?	What was vibrating?
A bell ringing.	The metal of the bell.
What was the noisiest place that you visited around your school? _____	
 	
<p>Describe the sounds you could hear in the place you visited in your school, and explain what was vibrating there.</p>	
	
<p>Describe the sounds you could hear in the place you visited in your school, and explain what was vibrating there.</p>	
	

 School Sound Survey

Describe the sounds you could hear in the place you visited in your school, and explain what was vibrating to make each sound.

What sounds could you hear?	What was vibrating to make the sound?

Suggestions:

- People's vocal chords.
- The floor
- The air
- The table.