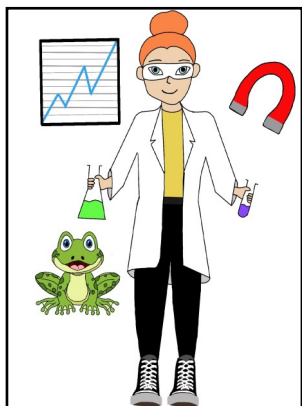




# Knowledge Organiser

|                    |   |                 |                |              |          |
|--------------------|---|-----------------|----------------|--------------|----------|
| <b>Year Group:</b> | 4 | <b>Subject:</b> | Science– Sound | <b>Term:</b> | Spring 2 |
|--------------------|---|-----------------|----------------|--------------|----------|

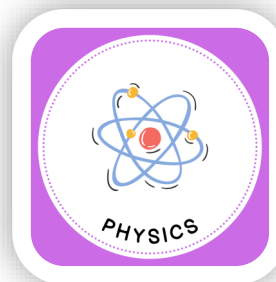
## Enquiry Question

How is sound created?

## What should I already know?

- Hearing is one of my five senses.
- Sounds can be combined using musical instruments.
- What the word vibration means,

## Concept



## Substantive Knowledge (key facts)

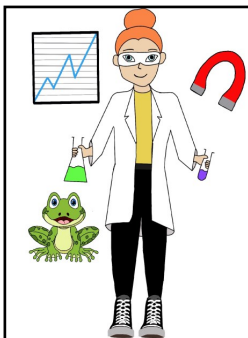
- Sounds are made when objects vibrate - shake back and forth creating soundwaves which travel to the ears.
- Pitch is the highness or lowness of a sound which is caused by the frequency of vibrations.
- The higher the rate of vibrations, the higher the pitch. These have tight, short frequency waves.
- Lower pitch sounds have a lower rate of vibrations. They are looser, spaced-out waves.
- Volume is the loudness of a sound which depends on the amount of energy that the vibrations contain.

## Scientific skills I am practising

- I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
- I can record findings using bar charts keys, tables and labelled diagrams.
- I can ask relevant questions and use different types of scientific enquiry to answer them, including comparative and fair tests.
- I can record findings and present data using simple scientific language, explanations, diagrams, pictures, keys, bar charts and tables.

## Sequence of learning

|    |                                                                                         |
|----|-----------------------------------------------------------------------------------------|
| 1) | identify how sounds are made, associating some of them with something vibrating.        |
| 2) | Recognise that vibrations from sounds travel through a medium to the ear.               |
| 3) | Recognise that sounds get fainter as the distance from the sound source                 |
| 4) | Find patterns between the pitch of a sound and features of the object that produced it. |
| 5) | Find patterns between the volume of a sound and the strength of the vibrations          |



| Knowledge Organiser |   |          |                |       |          |
|---------------------|---|----------|----------------|-------|----------|
| Year Group:         | 4 | Subject: | Science– Sound | Term: | Spring 2 |

| Key vocabulary                                                                                                             |                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Tier 2                                                                                                                     | Tier 3                                                                                            |
| Pitch—the quality of a sound governed by the rate of vibrations producing it; the degree of highness or lowness of a tone. | Vibrations—an instance of <a href="#">vibrating</a> .                                             |
| Wave—by which sound is propagated in an elastic medium such as air.                                                        | Soundproof—preventing, or constructed of material that prevents, the passage of sound.            |
| Vacuum—a space entirely devoid of matter.                                                                                  | Amplitude—the maximum extent of a vibration                                                       |
| Frequency—the rate per second of a vibration constituting a wave                                                           | Soundwaves—the pattern of disturbance caused by the movement of energy traveling through a medium |
|                                                                                                                            | Ear drum—the membrane of the middle ear, which vibrates in response to sound waves                |