



# Sound and music

## Science

### As scientists we should already know:

- Recognise that they need light in order to see things and that dark is the absence of light
- Notice that light is reflected from surfaces
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- Recognise that shadows are formed when light from a light source is blocked by an opaque object
- Find patterns in the way that the size of shadows change

### As scientists we will:

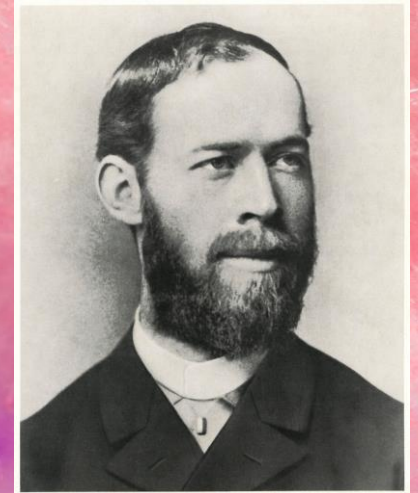
- Identify how sounds are made, associating some of them with something vibrating
- Recognise that vibrations from sounds travel through a medium to the ear
- Find patterns between the pitch of a sound and features of the object that produced it
- Find patterns between the volume of the sound and the strength of the vibrations that produced it
- Recognise that sounds get fainter as the distance from the sound source increases

### Vocabulary:

amplitude,  
decibel, energy,  
frequency,  
medium,  
power,  
soundwaves,  
vibrate,  
vibrations, air,  
source,  
transmit,  
travel, pitch,  
volume, high,  
low, quiet,  
loud, faint,  
eardrums,  
energy

## Be World Wise

When we learn all about  
Heinrich Hertz!



Outcome: applying  
our science  
knowledge to  
create an  
instrument



# Sound and music

## As design technologists we should already know:

- Design purposeful, functional, appealing products for themselves and other users based on design criteria
- Generate, develop, model and communicate their ideas through talking, drawing, templates, mockups and, where appropriate, information and communication technology.
- Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
- Explore and evaluate a range of existing products
- Evaluate their ideas and products against design criteria

## As design technologists we will:

- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
- Investigate and analyse a range of existing products
- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Be resilient

By finding different ways to create our own instruments and how we can make the pitch change

Be creative

Designing and making our own musical instruments

Outcome: design  
and make our  
create our own  
instrument

Vocabulary: Suitable,  
enlarged,  
market research, proportion,  
Questionnaire, evaluate,  
illustrate, critical, analyse

Wow!

A visitor will teach us  
all about sound and  
help us make our  
instruments