

National Curriculum objectives

- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content;
- Select, use, and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems, and content that accomplish given goals, including collecting, analysing, evaluating, and presenting data and information;
- Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify ways to report concerns about content and contact.

Science – Year 4 – Sound:

- Find patterns between the volume of a sound and the strength of the vibrations that produced it;
- Recognise that sounds get fainter as the distance from the sound source increases.

English – Years 3 and 4:

- **Writing – composition:** Plan their writing by discussing and recording ideas;
- **Writing – draft and write by:** In non-narrative material, using simple organisational devices [for example, headings and subheadings];
- **Writing:** Read aloud their own writing, to a group or the whole class, using appropriate intonation and controlling the tone and volume so that the meaning is clear.

[Education for a Connected World links](#)**Copyright and ownership**

- I can explain why copying someone else’s work from the internet without permission can cause problems (Y3);
- I can give examples of what those problems might be (Y3);
- When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it (Y4).

To begin this unit, the children should have already learnt:Year 1

Digital devices – and specific programs – can be used to draw and create media: we can draw in different ways and use various tools to create unique effects. Size and colour can also be manipulated for a purpose.

Year 2

Digital devices can be used to take photographs and edit them after capture; this means that not all images children see are real and they will begin to recognise what features might be changed in photographs they encounter.

Year 3

Stop-frame animation is comprised of a series of photographs of objects, with small movements of the objects creating the illusion the objects are actually moving. Animations can be edited and other media, such as text, can be added to improve the finished outcome.

The learning in this unit will prepare the children to learn these things in the future:Year 5

Video means recording, reproducing and visualising of visual images (often in conjunction with audio). Video is made up of a sequence of images shown in quick succession, giving the impression of movement. Many different devices can be used to record, edit and playback video and sound. Theme, setting, characters, colour, sound and dialogue are all important features of video.

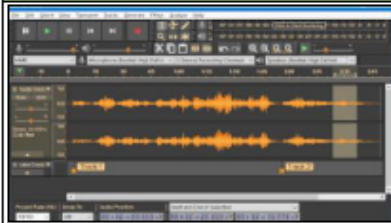
Year 6

A web page is a hypertext document that is a part of the World Wide Web. Websites are a collection of web pages about the same topic. They can be found using browsers. Websites are created for a chosen purpose and must adhere to copyright and fair use of media rules.

<p>Key Enquiry Question</p> <p>We hear digital sound every day – what is needed to record it? Who owns audio after it has been recorded? What are the features of a good audio recording? How could you use waveforms to edit a piece of audio? Why might audio creators add sound effects to their recordings? What is the difference between saving and exporting a project? What are the strengths of your audio project and how could it be improved?</p>	<p>The Big Idea:</p> <p>An input device (microphone) and output devices (speaker or headphones) are required to work with sound digitally. Creators have ownership of digital audio and there are copyright implications of duplicating the work of others.</p>
<p>To achieve ARE, pupils will need to be secure in the following knowledge:</p>	
<p>By the end of this unit, children will know:</p> <ul style="list-style-type: none"> • Sound can be recorded; • Input device is needed to record a sound; • Output devices are needed to play audio; • Recorded audio can be stored on a computer; • Audio can be edited; • Sound can be represented visually as a waveform; • audio can be layered so that multiple sounds can be played at the same time. 	<p>Vocabulary:</p> <p>Editing; digital; software (introduced in Y2).</p> <p>Sequence; playback; audio (introduced in Y3).</p> <p>Output; input; microphone; speaker; podcast; waveform; jingle; track; presenter.</p>
<p>By the end of this unit, children will be able to do:</p> <ul style="list-style-type: none"> • Record sound using a computer; • Play recorded audio; • Import audio into a project; • Delete a section of audio; • Change the volume of tracks in a project; • Evaluate the results of editing choices. 	<p>Useful Resources:</p> <p><i>Audacity</i> is a free and open-source digital audio editor and recording application software - https://www.youtube.com/watch?v=l2hidKKWGPU</p> <p>Online training courses</p> <p>Raspberry Pi online training courses</p>



Overview



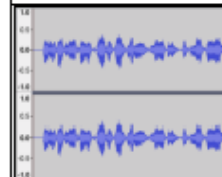
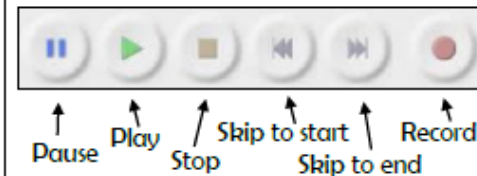
Audio Editing

- You should already know that audio means sound, including music, sound effects, and podcasts.
- The process of recording and listening to sound requires input devices (e.g. a microphone) and output devices (e.g. a speaker).
- Podcasts are a type of spoken word audio file, that can be downloaded by listeners.
- People can have ownership over audio files, and can have the audio copyrighted, so that it can't be copied without permission.



Using Software

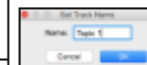
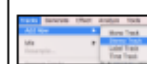
Audacity is one example of an audio editing tool, but many others are available. For example, you can use the voice memo recorder on a tablet.



The sound is shown as a waveform. We should aim for it to peak at around 0.5/-0.5

How to Record a New Track

1. Go to the tab 'Tracks' and then 'Add New.'
2. Name the new track
3. Click in the track's window to select it.
4. Press record to begin recording into the new track.



Got to the 'file' tab and 'Save Project' to save your work. You can also delete recordings, but you should only ever delete your own files!



Input and Output Devices

We use input devices to send the audio to the device/ computer. We use output devices to listen to the audio from the device/ computer.

Input Devices



Microphones are input devices that change sound into electrical signals, which can then be recorded or transmitted.



With the help of special cables, musical instruments can be linked to computers, and become input devices.



Some devices are capable of acting as both input and output devices. Examples include headsets, smartphones, and voice assistants (e.g. Google Home and Amazon Echo).

Output Devices



Digital speakers turn the electrical signal into an audio output that can be heard by the listener.



Headphones are worn over the ears of the listener, so that only they can hear the sound output.

Creating Podcasts

Podcasts are a type of spoken word file that can be downloaded by listeners. A user can often choose to download the whole series of podcasts.

Some examples of podcasts are 'Stories Podcast', 'Six Minutes' and 'Brains On! Kids Science Podcast.'

Features of podcasts include:

Sounds: Voices, jingles, background music, sound effects

Information: Presenters' names, name of podcast, introduction, main section, conclusion.



Top Tips for High-Quality Podcasts

- Speak clearly
- Avoid fillers ('um', 'like')
- Avoid coughing/ sneezing
- Take turns to speak
- Avoid background noise
- Don't touch the microphone
- Choose music carefully

Important Vocabulary

Audio

Input

Output

Microphone

Speaker

Podcast

Waveform

Jingle

Track

Presenter