

Year 4

[1. Computing systems and networks – The Internet](#)

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Year 4- The Internet



L1- To describe how networks physically connect to other networks	L2- To recognise how networked devices make up the internet	L3- To outline how websites can be shared via the World Wide Web (WWW)	L4- To describe how content can be added and accessed on the World Wide Web.	L5- To recognise how the content of the WWW is created by people	L6- To evaluate the consequences of unreliable content
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network 	To place copied text or images into a new location in your document.
security 	Measures taken to protect computers and data from harm, such as viruses or unauthorised access.
download 	To copy data or files from the internet or another computer to your own device.
World Wide Web (WWW) 	A system of interlinked web pages and websites that you can access using the internet.
files 	Digital containers used to store information, such as text, images, or programs.
permission 	The approval or rights given to access, use, or change digital content or files.

- The internet is made up of interconnected networks.
- The World Wide Web is a part of the internet, not the whole internet.
- Websites are hosted on servers and accessed via browsers.
- Anyone can create and share content online, but not all content is reliable.
- It's important to evaluate online information for honesty, accuracy, and reliability.
- Ownership and copyright affect what we can legally use or share online.
- Online safety includes protecting personal information and being critical of what we read.



Copyright means that when someone creates something like a picture, story, or song, they own it. We must ask permission or give credit before using it, because it's not ours.



Year 4- Audio production



L1- To identify that sound can be recorded	L2- To explain that audio recordings can be edited	L3- To recognise the different parts of creating a podcast project	L4- To apply audio editing skills independently	L5- To combine audio to enhance my podcast project	L6- To evaluate the effective use of audio
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audio 	Sound that can be recorded, played back, or edited using digital tools.
podcast 	A digital audio recording that can be shared online, often used to tell stories, share information, or entertain.
edit 	To make changes to a recording, such as cutting parts out, adjusting volume, or adding effects.
record 	To capture sound using a microphone or digital device so it can be saved and used later.
export 	To save and share a finished audio file from a program, often in a format like MP3.
layer 	A separate track or part of an audio project that can be combined with others to create a full sound.



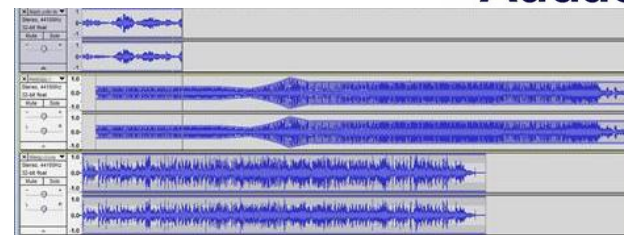
Sound can be recorded using microphones and played back using speakers or headphones. These are often integrated within our computers or laptops.



Copyright protects the work of others; we must not copy without permission.



Audio can be edited by cutting, rearranging, or adding effects.





Year 4- Repetition in shapes



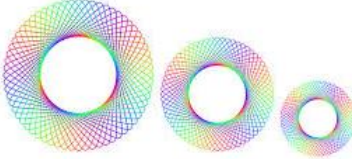
L1- To identify that accuracy in programming is important	L2- To create a program in a text-based language	L3- To explain what 'repeat' means	L4- To modify a count-controlled loop to produce a given outcome	L5- To decompose a task into small steps	L6- To create a program that uses count-controlled loops to produce a given outcome
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program 	A set of ordered commands that can be run by a computer to complete a task.
count controlled loop 	A command that repeatedly runs a defined section of code for a predefined number of times.
command 	A single instruction that can be used in a program to control a computer.
pattern 	Looking at similarities between a set of data or object.
debugging 	The process of finding and correcting errors in a program.
decompose 	To break down a task into smaller, more achievable steps

Playground

Write your code here ... e.g fd 10







Forward = fd
Back = bk
Left = lt
Right = rt
Clear screen = cs
Hide turtle = ht
Show turtle = st
Pen up = pu
Pen down = pd





Year 4- Data logging



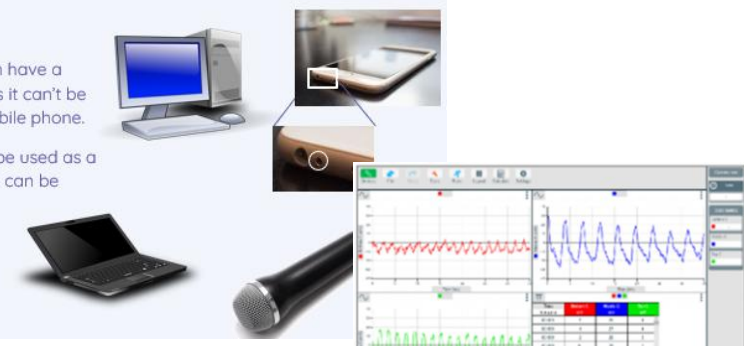
L1- To explain that data gathered over time can be used to answer questions	L2- To use a digital device to collect data automatically	L3- To explain that a data logger collects 'data points' from sensors over time	L4- To recognise how a computer can help us analyse data	L5- To identify the data needed to answer questions	L6- To use data from sensors to answer questions
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data 	Information that can be collected, measured, and analysed to answer questions or make decisions.
table 	A way of organising data in rows and columns so it's easier to read and understand.
layout 	How information is arranged visually in a table or chart to make it clear and easy to follow.
analyse 	To study data carefully to find patterns, answers, or insights.
import 	To bring data from one program or file into another so it can be used or edited.
export 	To save and share data from a program, often in a format like CSV or Excel

Sensors

All these computers can have a microphone. Sometimes it can't be seen easily, like in a mobile phone.

The microphone could be used as a sensor from which data can be logged.



Data loggers



Temperature sensor

Microphone

Sound reading (in decibels)

Light reading (in lux)

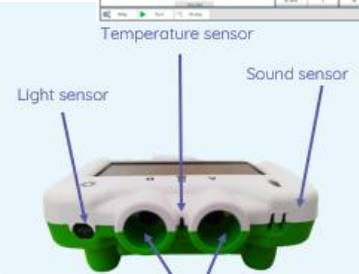
Temperature reading (in degrees Celsius)

Light sensor

Pause

Scroll up/down

Select



Temperature sensor

Light sensor

Sound sensor

Sockets to connect external sensors

Complete the activity sheet, showing the inputs and outputs.

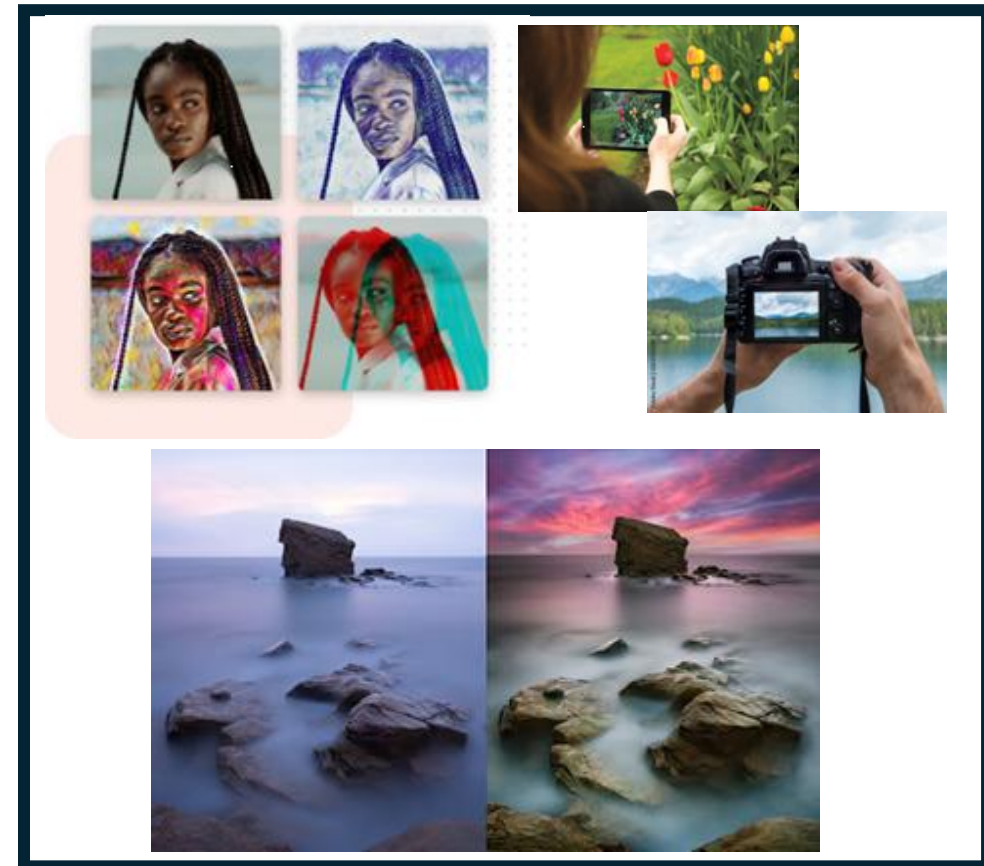


Year 4- Photo editing



L1- To explain that the composition of digital images can be changed	L2- To explain that colours can be changed in digital images	L3- To explain how cloning can be used in photo editing	L4- To explain that images can be combined	L5- To combine images for a purpose	L6- To evaluate how changes can improve an image
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foreground 	Part of the image that is closest to the photograph, an important feature in the photo.
edit 	The process of changing an image to enhance or correct it.
crop 	Removal of unwanted parts of the image.
alter 	You can alter an image by cropping it, applying filters or adjusting white balance.
copy 	To make an identical version of something.
paste 	Taking an image that as been copied and put it into another part of the document or another document.



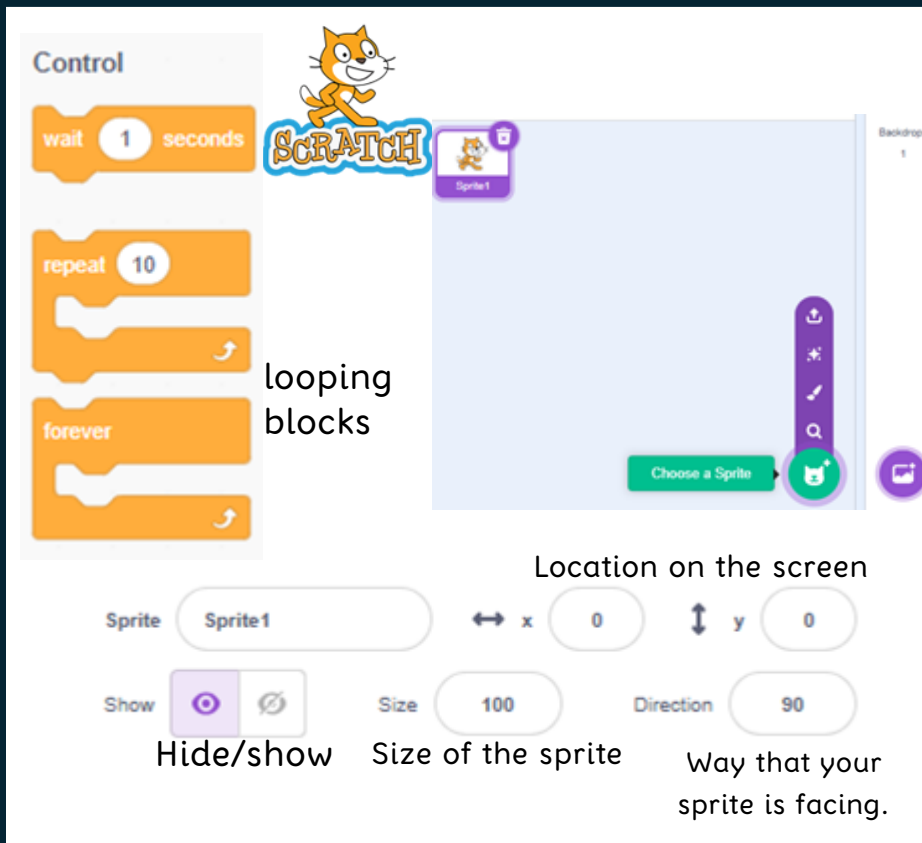


Year 4- Repetition in games



L1- To develop the use of count-controlled loops in a different programming environment	L2- To explain that in programming there are infinite loops and count-controlled loops	L3- To develop a design that includes two or more loops which run at the same time	L4- To modify an infinite loop in a given program	L5- To design a project that includes repetition	L6- To create a project that includes repetition
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debugging 	The process of finding errors in a program.
loop 	Commands that repeatedly run a defined section of code.
design 	Design is the process of planning and creating how something will look or work
block 	A block in Scratch is a little puzzle piece that gives the computer a command, like making a character move, jump, or talk.
code 	The commands a computer can run.
evaluate 	To carefully look at something to see if it fits it's intended purpose.



Control

wait 1 seconds

repeat 10

forever

looping blocks

Sprite

Sprite1

Choose a Sprite

Location on the screen

Sprite Sprite1 x 0 y 0

Show Hide/show

Size 100

Direction 90

Size of the sprite

Way that your sprite is facing.