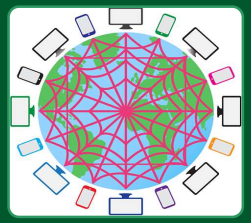
Key Knowledge, Vocabulary and Questions

Computing: Computing Systems and Networks – The Internet

Year 4

Key knowledge

- Know the hardware and software components required for networks.
- Know the hardware and software components the make up the internet.
- Know how websites are shared on the web.
- Know how content can be added and accessed on the WWW.
- Know that the content of the WWW is created by people.
- Know the consequences of unreliable content.
- Know the difference between commonly used web terms.






Key vocabulary

WWW (World Wide Web)	A service provided via the internet that allows access to web pages and other shared files.
Internet	The global system of interconnected computer networks.
URL (Uniform Resource Locator)	The specific address of a file on the internet. The text you type into the bar to go directly to a website (not to search).
HTML (HyperText Markup Language)	A standardised language used to write web pages. Most web pages are written in this.
Hyperlink	When clicked, takes the user to another specified location (URL).
Web page	A HTML document viewed using a web browser.
Website	A collection of interlinked web pages, stored under a single domain.
Domain name	The part of a website's URL that is user friendly and identifies that it is under the control of a particular person or organisation e.g. google.co.uk.
Web browser	A program used to view, navigate, and interact with web pages.

Key questions

1	What hardware and software are used to make a network?
2	What hardware and software are used to make up the internet?
3	Where are websites stored?
4	How do you change a website?
5	Who makes the content of the WWW?
6	What could happen if someone reads something that isn't true on the internet?
7	How can you tell if something is true on the internet?
8	What is the different between a website, web page and a web browser?
9	What is the difference between the internet and the WWW?
10	What hardware and software are used to make a network?

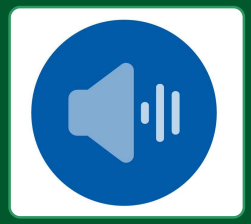
Key Knowledge, Vocabulary and Questions

Computing: Creating Media – Audio Production

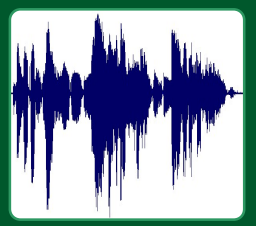
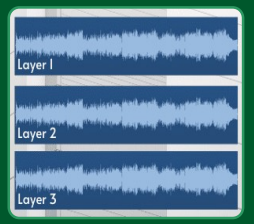
Year 4

Key knowledge

- Know that sound can be recorded by a computer.
- Know that audio recordings can be edited.
- Know the different parts of creating a podcast project.





Key vocabulary

Audio	Sound, especially when recorded, transmitted, or reproduced.
Audacity	A program used for recording and editing audio files.
Podcast	Digital audio episodes that relate to a specific theme.
Microphone	Input device for recording sound.
Sound layers	Each individual track of sound in a recording.
Export	Saving the audio project as an audio file that can be played by other programs outside Audacity.
Import	Bring an audio file into Audacity for editing.
Waveform	Waved lines used to describe a sound visually.

Key questions

1	How do you record sound using a computer?
2	Which program could you use to record and edit sound?
3	What is a podcast?
4	What do you use a microphone for?
5	What are sound layers?
6	What does it mean to export an audio project?
7	Which command would you use to bring music or sound into Audacity from a file?
8	What is a waveform?

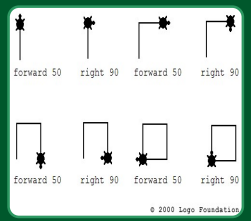
Key Knowledge, Vocabulary and Questions

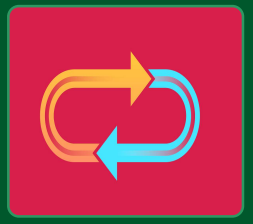
Computing: Programming A – Repetition in Shapes

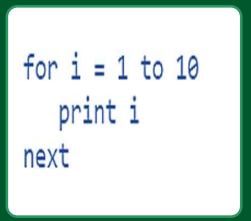
Year 4

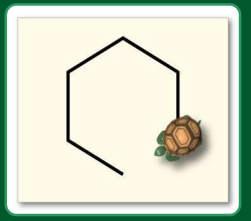
Key knowledge

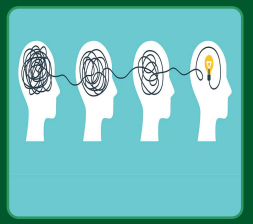
- Know the difference between text-based and visual programming.
- Know what 'repeat' means in programming.
- Know what a count-controlled loop is.
- Know the difference between a procedure and an algorithm.
- Know that procedures and loops can be used to decompose longer tasks.











Key vocabulary

Logo	A program used for moving a programmable turtle around the screen.
Algorithm	A precise set of steps to achieve a task. (Recapped from Y1, Y2 and Y3)
Text-based language	Blocks in visual programming (such as Scratch) are replaced with text commands.
Repetition	Part of a program where one or more commands are run multiple times in a loop.
Loop	Commands that repeatedly run a defined section of code.
Count-controlled loop	A command that repeatedly runs a defined section of code a predefined number of times.
Procedure	A named set of commands that can be called multiple times throughout a program. This type of subroutine does not return a value.
Decompose	To break down a task into smaller, more achievable steps.

Key questions

1	What is the difference between a text-based and visual programming language?
2	Give an example of when you would use a repeat in a program.
3	What is a count-controlled loop and why would you use one?
4	What is the difference between a procedure and an algorithm?
5	What is the word for breaking a task down into smaller, more manageable steps in programming?

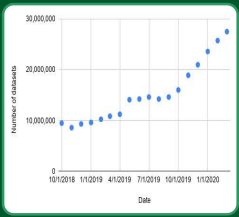
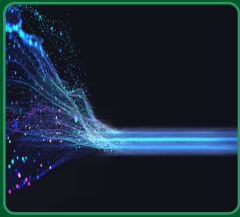
Key Knowledge, Vocabulary and Questions

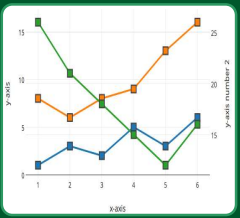
Computing: Data and Information – Data Logging

Year 4

Key knowledge

- Know what a data logger is and what it does?
- Know that a data logger collects 'data points' from sensors over time
- Know how a data logger can help us to analyse data.




Key vocabulary

Data logger	A device used to collect digital data from a range of inputs.
Data set	A collection of related data. (Recapped from Y3)
Sensor	The part of the data logger that collects the data.
Data point	An individual piece of data collected over time.

Key questions

1	What is a data logger?
2	What kind of information can you collect with it?
3	Which part collects the data? What is it called?
4	What is a data point?
5	How does a data logger help us to analyse data?
6	Can you give an example of how a data logger could be used to analyse data outside school?

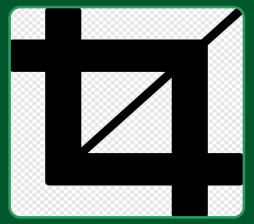
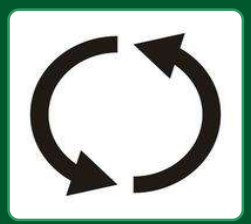
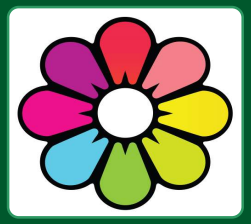
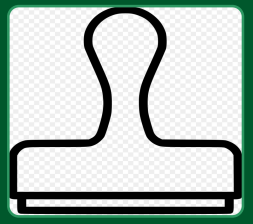
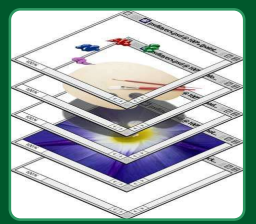
Key Knowledge, Vocabulary and Questions

Computing: Creating Media – Photo Editing

Year 4

Key knowledge

- Know the ways that the composition of digital images can be changed.
- Know that colours can be changed in digital images.
- Know how cloning can be used in photo editing.
- Know what it means to combine images and understand why you would do it.

Key vocabulary

Crop	To remove parts of an image to keep a smaller section of the original.
Rotate	To turn the image around on the screen (without turning the screen).
Recolour	To change the colours of part of an image.
Clone	To copy and reproduce parts of an image repeatedly.
Combine	To take parts of several images and put them together.
Caption	The writing below a picture explaining what the picture is.

Key questions

1	Explain some of the ways you could change an image in a photo editing program.
2	What is cloning? How could you use it to change parts of an image?
3	What does it mean to combine an image?
4	Why would you combine an image?

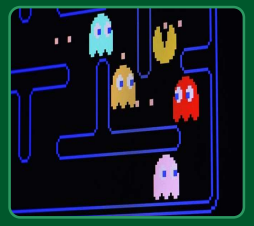
Key Knowledge, Vocabulary and Questions

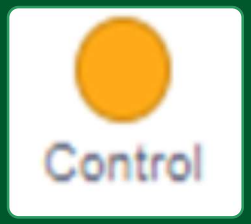
Computing: Programming B – Repetition in Games

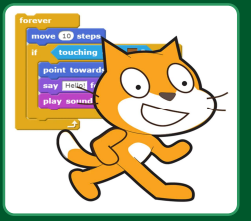
Year 4

Key knowledge

- Know what a count-controlled loop is.
- Know what an infinite loop (forever) is?
- Know what concurrency is in programming.
- Explain the control commands for repeat and forever.







Key vocabulary

Count-controlled loop	A command that repeatedly runs a defined section of code a predefined number of times. (Recapped from Y4 Spring 1)
Infinite loop (forever)	A repeat command that repeatedly runs a section of code forever (forever command in Scratch).
Concurrency	Running more than one process at the same time.
Control	A list of commands where loops are found.

Key questions

1	What is a count-controlled loop and why would you use one?
2	Why would you use a forever command?
3	What is the word for running more than one process at the same time in coding?
4	Where do you find the repeat and forever commands in Scratch?