Key Knowledge, Vocabulary and Questions

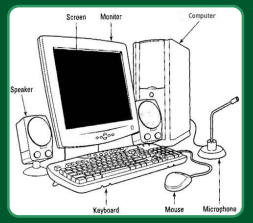
Computing: Computing Systems and Networks – Connecting Computers

Year 3

Key knowledge

- Know how digital devices function.
- Know what input and output devices are.
- Know how a computer network can be used to share information.
- To recognise the physical components of a network.





Key vocabulary

Hardware	The physical parts of a computer system.
Software	The programs used to control computers and perform specific tasks.
Input	Data that is sent to a program to be processed.
Input device	A piece of hardware used to control, or send data to, a computer.
Output device	A piece of hardware that is controlled by outputs from a computer.
Computer network	A group of computing devices connected together.
Computer system	A combination of hardware and software that can have data input to it, which it then processes and outputs.
Network switch	A device that manages the flow of data within a computer network.
Server	A networked computer that manages, stores, and provides data such as files to other computers.
WAP (Wireless Access Point)	A network device that allows wireless computing devices to connect to a wired network.
WiFi	A technology that allows devices to wirelessly access a network and transfer data.
Router	A device that manages the flow of data between computer networks.

Key questions

1	What is the difference between hardware and software?
2	Give an example of an input and an output device.
3	What is a computer network?
4	Name some devices a computer network is made from.
5	Identify pictures of these devices on our school network.

Key Knowledge, Vocabulary and Questions

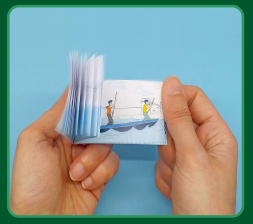
Computing: Creating Media – Stop-Frame Animation

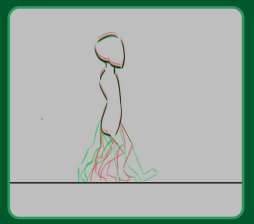
Year 3

Key knowledge

- Know that animation is a sequence of drawings or photographs.
- Understand what stop frame animation is and why it is used.
- Know what onion skinning is and why it is used.






Key vocabulary

Animation	Showing a series of pictures to create the illusion of movement.
Frame	One picture in the animation.
Stop frame animation	An animation that is captured one frame at time, with objects that are moved slightly between frames.
Flipbook	A paper book used to create an animation effect.
Onion skinning	A technique used in creating animated cartoons and editing movies to see several frames at once.

Key questions

1	What is animation?
2	What is a frame?
3	What is stop frame animation?
4	What is onion skinning?
5	Why is it useful?

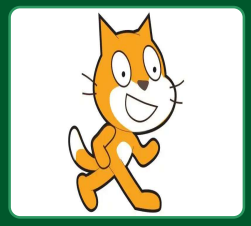
Key Knowledge, Vocabulary and Questions

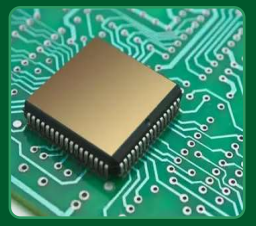
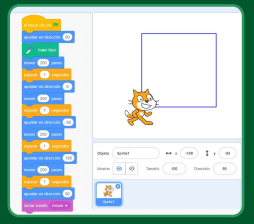
Computing: Programming A – Sequencing Sounds

Year 3

Key knowledge

- Understand how Scratch is different from Scratch Jr.
- Know that commands have an outcome.
- Know that an algorithm has a start and what runs (executes) it.




Key vocabulary

Scratch	A programming language, which uses visual blocks as commands.
Sprite	A flat (2D) picture. (Recapped from Y1)
Costume	One frame of the sprite.
Process	A program, or part of a program, that is running on a computer.
Outcome	The result of using a command.
Algorithm	A precise set of steps to achieve a task. (Recapped from Y1 and Y2)

Key questions

1	How is Scratch different from ScratchJr?
2	What is a sprite?
3	What is a costume?
4	What does this command do? (Choose a blue movement and a purple looks command from Scratch)
5	Where does this algorithm start?
6	What runs it?

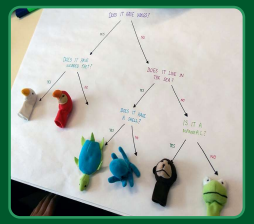
Key Knowledge, Vocabulary and Questions

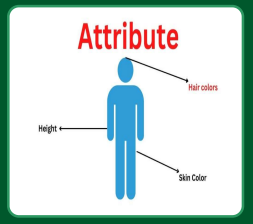
Computing: Data and Information – Branching Databases

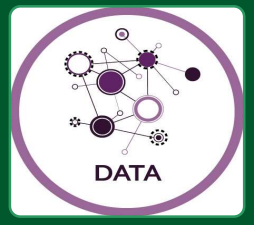
Year 3

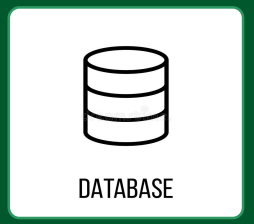
Key knowledge

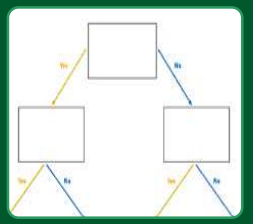
- Know what a branching database is.
- Create questions to sort objects by their attributes.
- Know what branching databases are used for.











Key vocabulary

Data	Information about something (does not have to have order or meaning).
Data set	A collection of related data.
Branching database	A list of questions that have yes or no answers used to sort objects.
Object	Something that is uniquely identifiable and has attributes. (Recapped from Y1)
Attribute	An attribute includes its name and a value. For example, a ball will have a colour, which might be red. (Recapped from Y1)
Common Attribute	An attribute shared by more than one object.

Key questions

1	What is a branching database and how does it work?
2	Think of a YES/NO question to sort these objects into two groups.
3	Can you give examples of how a branching database could be used?

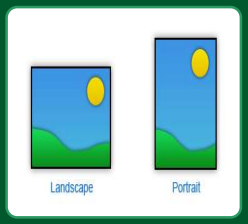
Key Knowledge, Vocabulary and Questions

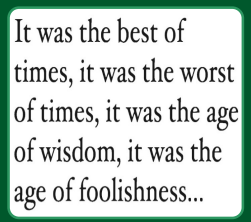
Computing: Creating Media – Desktop Publishing

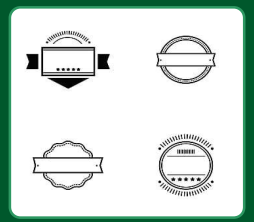
Year 3

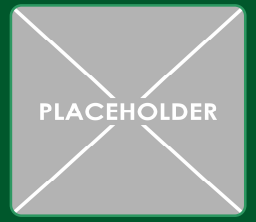
Key knowledge

- Know the difference between landscape and portrait.
- Know the difference between text and images.
- Know how text and images convey information
- Know what desktop publishing is and when to use a desktop publisher.
- Know how different layouts can suit different purposes.
- Know why we use desktop publishing and give examples of uses.









Key vocabulary

Landscape	Paper turned so the shortest part is at the side.
Portrait	Paper turned so the shortest part is at the top.
Text	Writing.
Images	Pictures.
Desktop publishing	Use of computers to design books and booklets that are intended to be printed.
Template	A ready-made document with placeholders that can be filled in.
Placeholders	A blank frame in a template that can be filled in.
Orientation	The way in which a rectangular page is oriented for viewing. Portrait or landscape.

Key questions

1	What is the difference between landscape and portrait and which is which?
2	What is the difference between text and images?
3	When would it be appropriate to use an image in a document?
4	What is a desktop publisher?
5	When would you use one?
6	What is a template?
7	Why would you use one?
8	What is a placeholder?
9	What does orientation mean?
10	Can you give an example of somewhere a desktop publisher has been used?

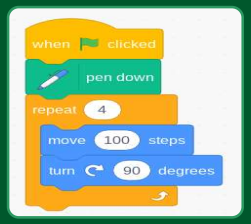
Key Knowledge, Vocabulary and Questions

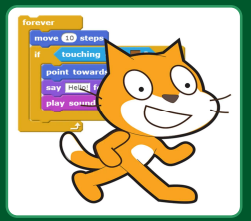
Computing: Programming B – Events and Actions in Programs

Year 3

Key knowledge

- Know how to move a sprite in four directions.
- Know that debugging is correcting errors in a program.
- Know the meaning of the following command groups.





Key vocabulary

Sprite	A flat (2D) picture. (Recapped from Y1)
Run (execute)	To action the commands in a program
Algorithm	A precise set of steps to achieve a task. (Recapped from Y1 and Y2)
Outcome	The result of using a command.
Motion (Blue Commands)	The blue commands in Scratch responsible for the movement of a sprite.
Debug	Correcting mistakes within a program. (Recapped from Y1 and Y2)
Looks	Contains commands that affect the appearance of the sprite.
Sound	Contains commands for controlling sounds.
Events	Contains commands for the start and end of algorithms.
Pen	Tools for drawing a trail behind a sprite.

Key questions

1	What does this program do? Show example of a movement-based program.
2	What do the blue commands do in Scratch?
3	What does debugging mean?
4	Can you explain the different categories of commands in Scratch?