



Glossary for Computing Vocabulary



Abstraction	Simplifying things, focusing on what is important and ignoring what is unnecessary. (**action to support this)
Algorithm *	A precise set of ordered (sequenced) instructions to solve a problem or achieve a specific outcome. Can be turned into code that a computer can understand (**action to support this)
Code Tracing	When the pupil reads through code line by line and states exactly what each command will make happen when it runs.
Computer Networks	The computers and the connecting hardware (WIFI access points, cables, fibres, switches and routers) that make it possible to transfer data using an agreed method ('protocol').
Computer Systems	Consists of hardware and software along with any external device required to operate it. (See software and hardware)
Control	Using computers to make instructions that move or change the physical systems in the world. The computer can be hidden inside the system or connected to it and includes the use of sensors to influence what happens.
Data	Data is facts or numbers which we collect. Binary code which is transmitted or processed by a computer, it is a structured set of numbers which represents this data (digitised text, images, sound or video).
Debug*	To detect and fix the mistakes or errors in algorithms or in a computer program. (**action to support this)
Decomposition	Breaking a complex problem down into simple parts to make them easier to plan and work with and solve each part separately. (**action to support this)
Digital Content	Any media created, edited or viewed on a computer e.g. text, images, sound and video. (*Teacher note)
Hardware	The physical parts of a computer, which can include internal parts e.g. hard drive, motherboard and external devices e.g. mouse, keyboard or printer.
HTML	Hyper Text Mark-up Language – this is one way that can be used to create web pages.
Information	The meaning given to a set of data by its users, which results from the data being interpreted or processed.
Input	Data sent to a computer system from devices e.g. a keyboard, mouse, microphone, camera or physical sensors. Input devices enables information from the outside world to get into the computer.
Internet	The global collection of connected computer networks all using shared protocols (TCP/IP) to communicate. (*Teacher note)
Internet Services	A range of services which can include the World Wide Web, search engines, email and instant messaging, audio and video calls, media streaming, wikis and blogs.
Logical Reasoning	A systematic approach to solving problems or to explain why something happens using prediction and analysis.
Loop	See repetition

Network	A collection of interconnected computer systems which 'talk' to each other by exchanging data.
Output	Data or information communicated from a computer system to the outside world from various devices e.g. sound from a speaker, printer or what is shown on a screen but it can also control the motion of motors in physical systems.
Procedures	Broken down chunks of code that have patterns in programming. Each procedure has a named set of instructions.
Program *	A stored set of instructions (algorithm) for a computer in a language it can understand that processes an input and/or generates an output.
Repetition	Where actions and commands in programming are repeating. The repeating command can also be used in a loop. (*Teacher note)
Search	To identify data that satisfies one or more conditions, e.g. web pages containing supplied words, or files/documents on a computer with certain properties.
Selection	A programming structure of one or more instructions which is executed by a computer according to whether a particular condition is met. (If I do this, then this will happen or else that will happen **action to support this) (*Teacher note)
Sequence	To arrange instructions in a particular order, which are executed one after another.
Simulation	Using a computer to model a real world or imaginary situation. They can represent physical or life scenarios e.g. growth of a flower or the operation of an aircraft. This is an integral part of most computer games.
Software	Computer programs including both application software e.g. office and games and computer operating systems e.g. windows. This also includes apps running on mobile devices.
Tinkering	Experimenting and playing to build up experiences of cause and effect to find out what it does and how it works (if I move this, then this will happen). (*Teacher note)
Variables	A way in which a computer can store, retrieve or change data (text or numbers) in the computer's memory whilst the program is running e.g. users name, time left or the score in a game.
World Wide Web	A service provided by computers connected to the internet (web servers), in which pages of hypertext (webpages) are transmitted to users. The web pages typically include links to other web pages.

Teacher notes

Digital content	The text will include hypertext of a webpage, video (including animation) or virtual environments, and combinations of these (i.e. multimedia)
Internet	TCP - transmission Control Protocol. IP – Internet Protocol
Repetition	Loops can be repeated indefinitely (continuous loop – forever) or a set number of times (count-controlled loop) – repeat x Added in loop stopped by condition (repeat until) Nested loop – a repeat within a repeat
Selection	Conditional statement (if, then, else)
Tinkering	Constraints (the limits) and capabilities (strengths)

Actions -

<u>Computational thinking</u>	<u>Words used for actions</u>	<u>Actions</u>
Abstraction	Focusing on what is important, ignoring what isn't necessary	Hands near eyes looking through binoculars, turning head from side to side, then cover eyes with hands
Algorithm	Step by step, instructions	Standing step x2, Hands in front of body with gap above each other, move hands down over each other 3 times
Debugging	Getting rid of errors	1 hand at a time pick 'object' in front and 'throw' behind
Decomposition	Breaking problems into smaller parts	Closed hands together in front of body, next to each other (knuckles up), then pull apart into 2 sections
Selection	If I do this, then this will happen, else that will happen	Stand still, reach to left side to 'grab', then reach to right side to 'grab'