



Disciplinary Knowledge Progression in Computing

This document outlines the disciplinary knowledge which children will develop through Computing lessons. Learning disciplinary knowledge gives children the tools to unlock the significance of the carefully mapped substantive knowledge, outlined in Knowledge Organisers.

	<u>Computer Science</u>	<u>Information Technology</u>	<u>Digital Literacy</u>
<u>Year</u>	<u>Coding and Programming</u>	<u>To manipulate and produce data such as photos, videos, word documents and presentations.</u>	<u>E-Safety</u>
<u>EYFS</u>	<ul style="list-style-type: none"> • I can turn on and off a variety of technology that can be found at home and school e.g. iPad, car radio. • I can program a programmable toy e.g. Beebot. • I can follow a series of instructions. • I can use a simple computer game. 	<ul style="list-style-type: none"> • I can tell you about technology that is used at home and at school e.g. iPads, phones, microwaves, fridges, traffic lights. • I can tell you how I use technology e.g. to play games, to cook food, to make phone calls. • I can move objects on a screen. • I can use the functions in a simple paint program e.g. colour, brushes. 	<ul style="list-style-type: none"> • I can tell you about websites I use. • I can understand when to go to an adult when I feel unsure about something online. • I can understand how to use technology safely.

KS1

- I can understand algorithms as instructions.
- I can follow a series of instructions carefully.
- I can create a series of instructions (a program).
- I can predict what will happen after reading a sequence of instructions.
- I can identify and remove errors from a sequence of instructions (debug).
- I can follow instructions to move around a course.
- I can name a range of digital devices e.g. iPads, laptops, mobile phones.
- I can use various forms of input devices e.g. keyboard, mouse and camera.

- I can create digital content e.g. a picture in paint, take a photo.
- I can pick and use simple functions within a program e.g. exploring shapes and colour in paint, change text.
- I can save and store digit content.
- I can retrieve digital content I have saved.
- I can use ICT to sort objects according to given criteria e.g. simple branching databases.
- I can use ICT to edit and change the information quickly.
- I can amend work and resave.
- I can manipulate digital content to present or show data e.g. a pictogram.

- I can understand how to use technology safely.
- I can understand how to keep personal information private.
- I can recognise common uses of information technology beyond school.
- I can understand how to use technology respectfully.
- I can identify where to go for help and support when I have concerns about content or contact on the internet or other online technologies.

LKS2

- I can design programs that accomplish specific goals.
- I can write programs that accomplish specific goals.
- I can debug programs to ensure they accomplish specific goals.
- I can use sequences in programs e.g. giving directions around a maze.
- I can use repetition in programs e.g. a spider moving up, down, up, down.
- I can use logical reasoning to explain how some algorithms work.
- I can use logical reasoning to detect and correct errors in algorithms and programs.
- I can use various forms of input devices e.g. keyboard, mouse and camera.
- I can solve problems by decomposing them into smaller parts.

- I can use a search engine effectively.
- I can recognise and use keywords in my searches.
- I can create a questionnaire to collect data from the class.
- I can answer simple questions in bar charts, or pie charts and interpret data.
- I can discuss how different graphs can be used for different purposes.
- I can learn how to use software to create an e-book, brochure or poster on a given subject (Microsoft Word and Publisher).
- I can learn to write and deliver a presentation on a given subject (Microsoft PowerPoint).
- I can select the correct tool from a variety of software.

- I can use technology safely.
- I can use technology respectfully.
- I can use technology responsibly.
- I can recognise acceptable and unacceptable behaviour when using technology.
- I can identify a range of ways to report concerns about content and contact.
- I can understand the opportunities computer networks offer for communication and collaboration.

UKS2

- I can use selection in programs e.g. IF the snake hits the egg it disappears.
- I can solve problems by decomposing them into smaller parts.
- I can work with variables e.g. scoring, time left within a game.
- I can use logical reasoning to explain how some algorithms work.
- I can use logical reasoning to detect and correct errors in algorithms and programs.
- I can understand computer networks and how they provide multiple services.
- I can design programs that accomplish specific goals, including controlling or simulating physical systems e.g. a racing car.
- I can write programs that accomplish specific goals, including controlling or simulating physical systems e.g. a racing car.
- I can debug programs to ensure they accomplish specific goals, including controlling or simulating physical systems e.g. a racing car.
- I can use various forms of input devices e.g. keyboard, mouse and camera.
- I can use various forms of output devices e.g. speakers and printers.

- I can use a search engine effectively.
- I can recognise and use keywords in my searches.
- I can appreciate how search results are selected and ranked.
- I can create a questionnaire to collect data from the class.
- I can create an Excel spreadsheet using information collected in class.
- I can answer simple questions in bar charts, or pie charts and interpret data.
- I can discuss how different graphs can be used for different purposes.
- I can learn how to use software to create an e-book, brochure or poster on a given subject (Microsoft Word and Publisher).
- I can learn to write and deliver a presentation on a given subject (Microsoft PowerPoint).
- I can select the correct tool from a variety of software.
- I can combine a variety of software to reach a given goal.
- I can justify reasons for my choices and explain why other methods were not appropriate.
- I can use different software types on a range of digital devices.

- I can use technology safely.
- I can use technology respectfully.
- I can use technology responsibly.
- I can recognise acceptable and unacceptable behaviour when using technology.
- I can identify a range of ways to report concerns about content and contact.
- I can understand the opportunities computer networks offer for communication and collaboration.
- I can evaluate digital content to discern its usefulness.