

Curriculum Map - Computing



Key Stage 1

Statutory requirements

Pupils should:

- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions.
- Write and test simple programs.
- Organise, store, manipulate and retrieve data in a range of digital formats.
- Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

<i>Disciplinary Knowledge</i>	<i>Principles and concepts of computer science</i>	<i>Learning coding and problem solving</i>	<i>Apply learning of coding and problem solving. (give examples - can children see / fix the problems)</i>	<i>Developing as digital users</i>	<i>Principles and concepts of computer science</i>
Year 1	Understand what algorithms are. Use logical reasoning to predict the behaviour of simple programs.	Understand that programs execute (run / work) by following precise and unambiguous instructions	Use technology purposefully to create.	Use technology safely; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Understand what algorithms are. Use logical reasoning to predict the behaviour of simple programs.
Year 2	Use logical reasoning to predict the behaviour of simple programs.	Understand how algorithms are implemented as programs on digital devices. Create and debug simple programs.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Recognise common uses of information technology beyond school. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use logical reasoning to predict the behaviour of simple programs.

Key Stage 2

Statutory requirements

Pupils should:

- Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- Use sequence, selection and repetition in programs' work with variables and various forms of input and output; generate appropriate inputs and predicted outcomes to test programs.
- Use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs.
- Understand computer networks including the Internet; how they can provide multiple services, such as the world-wide web; and the opportunity they offer for communications and collaboration.
- Describe how Internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely.
- Select, use and combine a variety of software (including interest services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Disciplinary Knowledge	<i>Principles and concepts of computer science</i>	<i>Coding and debugging</i>	<i>Apply learning of coding and problem solving. (Purple Mash or real world)</i>	<i>Developing as digital users</i>	<i>Principles and concepts of computer science</i>
Year 3	Work with variables and various forms of input and output	Design programs that accomplish specific goals.	Understand computer networks and how they can provide multiple services, such as the world wide web.		Work with variables and various forms of input and output
Year 4	Use sequence in programs.	Write programs that accomplish specific goals; solve problems by decomposing them into smaller parts.	Understand computer networks and how they can provide multiple services, such as the world wide web.	Use search technologies effectively.	Use sequence in programs.
Year 5	Use selection in programs. Use logical reasoning to explain how some simple algorithms work in programs.	Design, write and debug programs that accomplish specific goals, solve problems by decomposing them into smaller parts	Understand the opportunities computer networks offer for communication and collaboration.	Use search technologies effectively and appreciate how results are selected and ranked.	Use selection in programs. Use logical reasoning to explain how some simple algorithms work in programs.
Year 6	Use repetition in programs.	Design, write and debug programs that accomplish specific goals, including controlling or simulating	Understand the opportunities computer networks offer for	Use search technologies and be discerning in evaluating digital content.	Use repetition in programs.

	Use logical reasoning to detect and correct errors in algorithms and programs.	physical systems; solve problems by decomposing them into smaller parts	communication and collaboration.		Use logical reasoning to detect and correct errors in algorithms and programs.
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