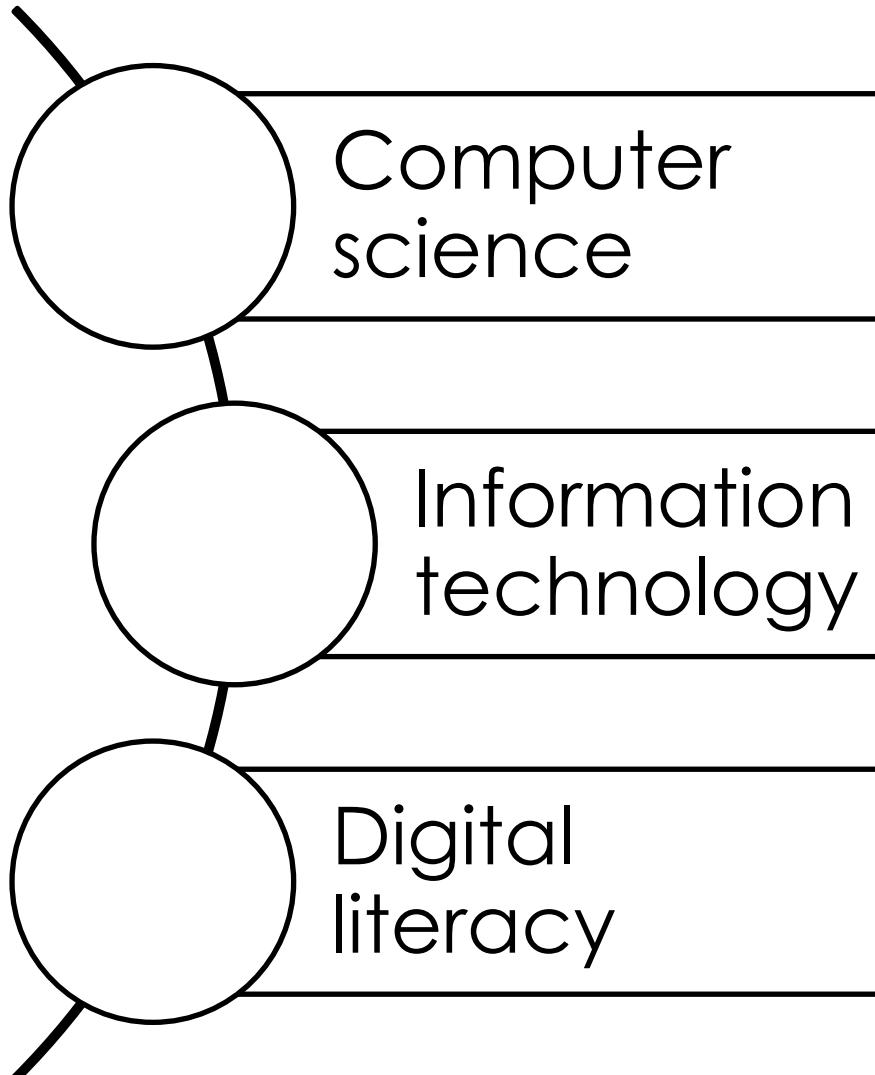


There are three strands to the computing curriculum:



The scientific and practical study of computation; what can be computed, how to compute it, and how computation may be applied to the solution of problems.

Concerned with how computers and telecommunications equipment work, and how they may be applied to the storage, retrieval, transmission and manipulation of data.

The ability to effectively, responsibly, safely and critically navigate, evaluate and create digital artefacts using a range of digital technologies.

EYFS

Subject content from the programme of study	What are our computing themes or unit titles? Content may be split between themes or units.	When will pupils be taught this?	Links with other subjects?	Opportunities for pupils to apply basic skills
Pupils should be taught to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	Programme Bee Bots for directional movement using simple commands - understand what algorithms are - learn that programs execute by following precise and unambiguous instructions	Rec Spring 1/2	ELG: Speaking ELG: Managing Self	Children to learn simple commands – forward, back, left, right, pause and stop
Pupils should be taught to 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.	Digital Citizenship: Privacy and security - Meet Guts of the Digital Citizens! <i>How do you stay safe online?</i> - keeping personal information private - identify where to go for help and support	Rec Autumn 2	P.S.H.E Jigsaw sessions	

Key Stage One

Subject content from the programme of study	What are our computing themes or unit titles? Content may be split between themes or units.	When will pupils be taught this?	Links with other subjects?	Opportunities for pupils to apply basic skills
Pupils should be taught to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	<p>Programme Bee Bots for directional movement around a circuit, using extensive sequences</p> <ul style="list-style-type: none"> -understand how algorithms are implemented as programs on digital devices - learn that programs execute by following precise and unambiguous instructions <p>Create a maze game in scratch, programming a sprite to move around a background of their own design</p> <ul style="list-style-type: none"> - understand what algorithms are -understand how algorithms are implemented as programs on digital devices - learn that programs execute by following precise and unambiguous instructions 	Y1 Summer 1 Y2 Spring 2	History - Fire of London	Children to program a bee bot using specific instructions Simple step by step game
Pupils should be taught to create and debug simple programs.	<p>Create simple programmes to move Bee Bots using directional movement</p> <ul style="list-style-type: none"> - create simple programs <p>Use algorithms to create a sequence in Scratch in order to move a sprite around a background within a game</p> <ul style="list-style-type: none"> - create simple programs - test and debug the code used within the game 	Y1 Summer 1 Y2 Spring 2	History - Fire of London	Children to use specific instructions and iPads Simple step by step game
Pupils should be taught to use logical reasoning to predict the behaviour of simple programs.	Use algorithms to create a sequence in Scratch and move a sprite around a background, considering how changes to the code will impact the behaviour of the sprite	Y2 Spring 2		Create a simple step by step game

Key Stage One

Key Stage Two¹

Subject content from the programme of study	What are our computing themes or unit titles? Content may be split between themes or units.	When will pupils be taught this?	Links with other subjects?	Opportunities for pupils to apply basic skills
<p>Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p>	<p>Scratch - Uncovering Tutankhamun's tomb - Use algorithms to create an animation and consider issues preventing the sequence from completing. Once issues have been identified, children will debug the program to fix this</p> <ul style="list-style-type: none"> - design and write simple programs - debug programs <p>Coding for Micro:bit – Programme micro:bits to make a simple animation linked to volcanoes. The external device will be programmed so that it simulates the eruption of a volcano when shook</p> <ul style="list-style-type: none"> - design programs for a specific goal - Simulate physical systems <p>Coding using Micro:bit to programme a game on an external device</p> <ul style="list-style-type: none"> - design, write and debug programs that accomplish specific goals - controlling or simulating physical systems <p>Develop an interactive game on Scratch - Debug independently to ensure varying movements, interaction between sprites and random operations</p> <ul style="list-style-type: none"> - design, write and debug programs that accomplish specific goals - solve problems by decomposing them into smaller parts 	<p>Y3 Summer</p> <p>Y4 Summer</p> <p>Y5 Summer</p> <p>Y6 Summer</p>	<p>History – Ancient Egypt</p> <p>Geography - Volcanoes</p> <p></p> <p>Science – Evolution</p>	<p>Children will apply the techniques used and new skills to create a game at the end of the unit</p>

Key Stage Two¹

Subject content from the programme of study	What are our computing themes or unit titles? Content may be split between themes or units.	When will pupils be taught this?	Links with other subjects?	Opportunities for pupils to apply basic skills
<p>Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p>	<p>Scratch - Uncovering Tutankhamun's tomb - Use algorithms to create an animation that follows a sequence to make sprites move and interact <i>- use sequence, selection, and repetition in programs</i></p> <p>Scratch - Create an information game testing and applying different variables and using problem solving to develop programming skills <i>- work with variables and various forms of input and output</i></p> <p>Create a complex Space Shuttle movement game on Scratch, adding features that change designs of sprites and backgrounds and troubleshoot the different variables to help improve the functionality <i>- use sequence, selection, and repetition in programs</i> <i>- work with variables and various forms of input and output</i></p> <p>CAD/3D printing - input a design into the CAD software then troubleshoot, check, and adjust final product before 3D printing <i>- work with variables and various forms of input and output</i></p> <p>Use algorithms and factual information to create a score based, interactive game using Scratch software, ensuring varying movements, interaction between sprites and random operations <i>- use sequence, selection, and repetition in programs</i> <i>- work with variables and various forms of input and output</i></p>	<p>Y3 Summer</p> <p>Y4 Autumn</p> <p>Y5 Autumn 1</p> <p>Y5 Autumn 1</p> <p>Y6 Summer</p>	<p>History – Ancient Egypt</p> <p>History – Ancient Greeks</p> <p>Science - Space</p> <p>D&T - hats</p> <p>Science – Evolution</p>	<p>Children will learn the techniques used and create a game at the end of the unit</p> <p>Maths – positional language and measuring this in degrees</p>

Key Stage Two ¹

Subject content from the programme of study	What are our computing themes or unit titles? Content may be split between themes or units.	When will pupils be taught this?	Links with other subjects?	Opportunities for pupils to apply basic skills
<p>Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p>	<p>Uncovering Tutankhamun's tomb Scratch – Explain how algorithms work to create a fact, based animation, troubleshooting the sequence to correct any errors within the game - use logical reasoning to explain simple algorithms - detect and correct errors in algorithms</p> <p>Scratch - Use problem solving and reasoning to detect and correct errors within the sprite's movement and score tracker - use logical reasoning to explain simple algorithms - detect and correct errors in algorithms</p> <p>Scratch Space Shuttle movement game - Troubleshoot the different variables to help improve the functionality - detect and correct errors in algorithms</p> <p>Scratch interactive game – Evaluate the varying movements and interactions between sprites and identify errors in the algorithms which impact the game's functionality - detect and correct errors in algorithms</p>	Y3 Summer Y4 Autumn Y5 Autumn 1 Y6 Summer	History – Ancient Egypt History Science - Evolution	Children will learn the techniques used and create a game at the end of the unit
<p>Pupils should be taught to understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.</p>	<p>Children will research Rivers - world wide web</p> <p>Children will research the Romans - world wide web</p> <p>Children will research the Rainforest - world wide web</p> <p>Children will type and email their thematic enquiry question to their teacher to understand how computer networks communicate. This will then be sent to the printer so children understand how devices are part of networks - computer networks - communication and collaboration</p> <p>Children will research web browsers and SEO to make a website visible - world wide web</p>	Y3 Spring 1 Y4 Spring 2 Y5 Summer 2 Y6 Autumn Y6 Spring	Geography History Geography Science/ Geography enquiry question History – Crime and Punishment	Create, fact files, power points, documentaries

Key Stage Two ²

Subject content from the programme of study	What are our computing themes or unit titles? Content may be split between themes or units.	When will pupils be taught this?	Links with other subjects?	Opportunities for pupils to apply basic skills
Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	<p>Children will research the artist David Hockney and explore his pop art - use search technologies effectively</p> <p>Children will create a PowerPoint to present their enquiry question about the Ancient Greeks - use search technologies effectively</p> <p>Children will research the Rainforest - use search technologies effectively</p> <p>Children will research web browsers - use search technologies effectively - appreciate how results are selected and ranked - evaluate digital content</p>	Y3 Spring 2 Y4 Spring 1 Y5 Summer 2 Y6 Spring 1	Art History - Ancient Greeks Geography - Amazon Basin and rainforest History - Crime and Punishment	Digital Literacy - Logging on to a computer, saving and retrieving information and work, mouse movement Create fact files, documents and PowerPoints
Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	<p>Create and film a presentation using a Green Screen - Children will use iPads and VSDC/ I can present software to create a news report based on information they have researched and including visual effects added to the background - use and combine a variety of software on a range of digital devices - collect, analyse, evaluate and present data and information</p> <p>Use recording software on iPads and iMovie to create a podcast about the Romans - use and combine a variety of software on a range of digital devices - present data and information</p> <p>Create a virtual space on 5D planner - Use CAD experience to create a virtual space. Children will research and study the architecture of buildings and the features needed to make a space useable. They will then use their understanding of area and perimeter to create a 3D design of a building on the iPads - use and combine a variety of software (including internet services) on a range of digital devices - collect, analyse, evaluate and present data and information</p>	Y3 Spring Y4 Spring 2 Y5 Spring	Geography – Rivers/ Mountains History – The Roman Empire Art	Taking, retrieving, editing and using photographs alongside PowerPoints and green screen documentaries Maths – area and perimeter

Curriculum enrichments (visits, visitors, themed events etc.)

Key Stage Two²