



St Mary's Bentworth CE Primary School Computing Progression

Our high-quality computing curriculum is planned as a journey across the school and equips our pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which our pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, our pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that our pupils become digitally literate – that is, that they are able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

By the end of Key Stage 1

By the end of Key Stage 1, our pupils will have developed the core skills, knowledge and understanding within the 3 strands of Computing Science, IT Skills and Digital Literacy to enable them to access the teaching and learning that they will experience in Key Stage 2.

Our pupils are 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
- create and debug simple programs
- use logical reasoning to predict the behaviour of 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

By the end of Key Stage 2

By the end of Key Stage 2, our pupils will build upon the skills, matters and processes that they have learned in Key Stage 1 and develop further skills, knowledge and understanding within the 3 strands of Computing Science, IT Skills and Digital Literacy to enable them to access the teaching and learning that they will experience in Key Stage 3.

Our pupils are 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
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work 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 opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- 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
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

'Greater Depth' is achieved through a focus on ACE – tasks enable pupils to Apply, Connect and Explain & Evaluate

Apply:	Pupils have a curiosity to <u>apply</u> computing skills, knowledge and understanding from their current, and previous learning independently and in new or unfamiliar technologies to analytically solve problems and suggest new ideas.
Connect:	Pupils make clear, strong and appropriate <u>connections</u> between their computing skills, knowledge and understanding and use this in a variety of contexts, as they are inquisitive to know more.
Explain & Evaluate:	Pupils are able to explore and combine the taught skills to create individual, innovative and more complex outcomes. They can <u>explain</u> the processes to others and critically <u>evaluate</u> the results of their independent work to assess how effective it is.

Oak Class: Year R/1

EYFS Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.	
<u>Computer Science</u> Recognise common uses of information technology in school and at home. Understand that instructions (algorithms) are implemented as programs on digital devices. Create a simple algorithm for computer program e.g. programming a Bee-Bot. Begin to use logical reasoning to predict the behaviour of simple programs.	<u>Information Technology</u> Use digital technology to type words, use the space bar and make a new line using enter/return and full stops. Use technology to create a digital image e.g. a paint/drawing app.
<u>Digital Literacy</u> Use the internet to find things out.	<u>Online Safety</u> Know who to ask for help if I see something that upsets me. Explain rules that keep us safe when we are using technology both in and beyond the home. Explain why it is important to be considerate and kind to people online.

Ash Class: Year 2/3

<p><u>Computer Science</u> Recognise common uses of information technology beyond school. Understand and explain what algorithms are. Understand that computer programs need precise and unambiguous instructions to work. Create and debug algorithms using a range of digital devices e.g. Bee-Bots, Scratch Junior. Use logical reasoning to predict the behaviour of simple programs.</p>	<p><u>Information Technology</u> Use technology to combine text and images in a digital document. Create digital pictures by selecting and editing photos, using tools to edit the image and adding other effects. Create a short video. Use technology to create, edit and save a digital document. Import and save digital images from the web. Create a stop motion film with an animated character.</p>
<p><u>Digital Literacy</u> Demonstrate how to navigate a simple webpage to get to information I need.</p>	<p><u>Online Safety</u> Give examples of how I might get help online. Recognise and explain why I need to be careful before I share anything about myself or others online. Describe and explain some rules for keeping my information private. Describe rules about how to behave online and how I follow them.</p>

<p><u>Computer Science</u> Understand the difference between the Internet and the World Wide Web. Explain how the World Wide Web provides information for research. Describe how the internet is used to communicate with people in other places. Design, write and debug programs that accomplish specific goals. Decompose a task into separate steps to create an algorithm. Use sequence, selection and repetition in programs; Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p>	<p><u>Information Technology</u> Import, save and create digital content from different sources and create, edit and save a range of digital documents e.g. poster, leaflet, presentation. Present data e.g. bar charts, pie charts. Create video with sound, titles and subtitles.</p>
<p><u>Digital Literacy</u> Evaluate digital content and can explain how I make choices from search results.</p>	<p><u>Online Safety</u> Explain ways that some of the information about me on line could have been created, copied or shared by others. Understand and identify acceptable and unacceptable behaviour online. Give examples of how to be respectful to others online. Describe ways that information about people online can be used by others to make judgments about an individual. Describe strategies for keeping my personal information private, depending on context. Know who to talk to and what action to take if I see online bullying.</p>

Lime Class: Year 4/5

<p><u>Computer Science</u> Understand computer networks including the internet and how they can provide multiple services. Use online technology safely to communicate, research and work collaboratively. Control and simulate physical systems. Work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p>	<p><u>Information Technology</u> Input data into a spreadsheet and export the data in a variety of ways e.g. bar charts, pie charts. Create a mixed media video that includes enhanced effects e.g. background music, voiceovers, animated titles and green screen. Choose the most appropriate technology to communicate content effectively e.g. a simple digital document (poster, report, spreadsheet); a podcast; a webpage for a topic; a multi-media video/blog.</p>
<p><u>Digital Literacy</u> Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p>	<p><u>Online Safety</u> Describe some simple ways that help build a positive online reputation. Be aware of my digital footprint and understand the impact this can have. Demonstrate ways of reporting problems online for both myself and my friends. Explain the similarities and differences between relationships and online relationships. Understand the severity of online bullying. Explain how many free apps or services may read and share my private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.</p>