



## COMPUTING

### VISION

We believe computing is a crucial part of children's learning. We aim to equip the children with 'computational thinking' skills to enable them to participate effectively in the digital world.

The national curriculum outlines the three strands of computing that children should be taught: computer science, information technology and digital literacy. Within computer science, children at St. Andrew's learn the main vocabulary, including programming, algorithm and coding. In each year group, they practically explore writing code and creating programs, as well as using logical reasoning to explain how algorithms work. Information technology is the strand that focuses on understanding the internet, using search technologies efficiently and collect, evaluate and present data and information. Finally, within digital literacy, we aim to provide children with the tools to stay safe online. In a world where any information is accessible at all times, and any information can be posted and shared by anybody. We strongly believe that it is important to equip children with the knowledge and tools to be able to discern between reliable and unreliable information and facts. Our aim is to ensure that all our children are able to consistently make safe choices online.

### How do we plan and teach computing?

Children learn how computers and computer systems work, as well as design and build programs, develop their ideas using technology and create a range of content. Computing is a practical subject and we are well resourced with Ipads and laptops that are used throughout the school. As well as stand-alone computing lessons and focus days, children are constantly accessing computing equipment throughout the school week to research information, to complete tasks and to present their work in a digital form. Teachers plan a different unit of work for each half term and coverage of all three strands of the computing curriculum is ensured. Some aspects of digital literacy, with a focus on e-safety, are covered in PSHE lessons too.

### How do we evaluate learning in computing?

The impact of our computing curriculum can clearly be seen in projects that children create as well as presentations created as digital content. Children have the opportunity to self-assess the content they have created, as well as peer-assess. In each year group, children use past learned skills and apply them to new software and coding programs that they are exploring.

# Year 1: Computing Curriculum Map

Unit	We are digital artists	We are computer scientists	We are programmers	We are digital photographers	We are data scientists	We are storytellers
<b>Overview</b>	<ul style="list-style-type: none"> <li>Children are introduced to logging in and using technology for a purpose, including art.</li> <li>Use an online paint tool.</li> </ul>	<ul style="list-style-type: none"> <li>Children learn how computers handle information by exploring 'unplugged' algorithms and completing tasks away from the computer.</li> <li>Create a set of instructions for a human 'robot' to move between two (or more) fixed points that involve a turn and some distance.</li> </ul>	<ul style="list-style-type: none"> <li>Program a toy/robot/Beebot by inputting instructions.</li> <li>Direct a toy/robot/Beebot on a themed map.</li> <li>Retell a story using a programmable toy/robot/Beebot.</li> <li>Develop and record a set of instructions as an algorithm.</li> <li>Debug the program and predict how it will work.</li> </ul>	<ul style="list-style-type: none"> <li>Children take and manipulate digital photographs, including adding images found via a search engine.</li> </ul>	<ul style="list-style-type: none"> <li>Collect data eg. how do you get to school? What is your favourite fruit and organise on a simple graph/chart.</li> <li>Children learn about what data can be represented. They use these skills to show the findings of their data collection.</li> </ul>	<ul style="list-style-type: none"> <li>Children record sounds and create a talking book – fact or fiction.</li> </ul>
<b>National Curriculum</b>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Recognise common uses of IT.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Log in, save work, develop keyboard skills.</li> <li>Store and retrieve files.</li> <li>Combine text and images.</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Understand what algorithms are.</li> <li>Understand that programs execute with precise and unambiguous instructions.</li> <li>Break computational thinking into smaller parts.</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Learn how to use hardware.</li> <li>Construct a series of instructions into a simple algorithm.</li> <li>Apply computing concepts to real world situations.</li> <li>Create and debug simple programs.</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Use cameras or tablets to take photos.</li> <li>Recognise common uses of IT beyond school</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Recognise common uses of IT beyond school</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Recognise common uses of IT beyond school</li> </ul>
<p><b>ONLINE SAFETY</b></p> <ul style="list-style-type: none"> <li>CEOP and ThinkUKnow resources.</li> <li>Use technology safely and respectfully, identify where to go for help.</li> </ul>						

## Year 1: Computing Curriculum Map (continued)

Unit	We are digital artists	We are computer scientists	We are programmers	We are digital photographers	We are data scientists	We are storytellers
<b>Possible Outcomes &amp; curriculum links</b>	<ul style="list-style-type: none"> <li>• Children are confident and creative users of technology.</li> <li>• Link to topic</li> </ul>	<ul style="list-style-type: none"> <li>• Children can understand the principles of computer science – algorithms.</li> <li>• Algorithms linked to maths and English.</li> <li>• Link to topic</li> </ul>	<ul style="list-style-type: none"> <li>• Children can analyse problems in computational terms and have repeated practical experiences to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Children can produce a photo collage.</li> <li>• Links to topic – Space.</li> </ul>	<ul style="list-style-type: none"> <li>• Children can understand the principles of computer science – data representation</li> <li>• Links to science and maths.</li> </ul>	<ul style="list-style-type: none"> <li>• Children are confident and creative users of technology.</li> <li>• Link to topic.</li> </ul>
<b>Key Skills</b>	<ul style="list-style-type: none"> <li>• Learn about computers.</li> <li>• Develop skills.</li> <li>• Create paintings.</li> <li>• Create pictures to retell stories.</li> <li>• Create digital art.</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Follow a set of instructions.</li> <li>• Give your partner specific instructions.</li> <li>• Create an algorithm</li> </ul>	<ul style="list-style-type: none"> <li>• Learn simple programming skills.</li> <li>• Understand the importance of clear and precise instructions.</li> <li>• Use technology safely and keep personal information private.</li> </ul>	<ul style="list-style-type: none"> <li>• Children learn how to take digital photographs.</li> <li>• Children learn how to manipulate photographs.</li> <li>• Use a website and a camera.</li> </ul>	<ul style="list-style-type: none"> <li>• Children are able to display the data they have collected.</li> <li>• Create, store and retrieve digital content.</li> </ul>	<ul style="list-style-type: none"> <li>• Children learn how to plan their work for recording.</li> <li>• Children use pictures from a variety of sources to illustrate their talking book.</li> <li>• Record sound and playback</li> </ul>

## Year 2: Computing Curriculum Map

Unit	Typing	We are presenters	We are programmers using SCRATCH	We are treasure hunters	We are data Scientists	We are stop motion creators
<b>Overview</b>	<ul style="list-style-type: none"> <li>Children write simple messages to friends using word processing skills and learn about being safe online (who do we talk to online?)</li> <li>Children create a variety of reports and/or posters linked to their topic by searching online for information.</li> </ul>	<ul style="list-style-type: none"> <li>Children search for information on the internet.</li> <li>Children create and deliver a short multimedia presentation.</li> </ul>	<ul style="list-style-type: none"> <li>Use Scratch to programme a familiar story and an animation.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and record a set of instructions as an algorithm.</li> <li>Write a program to solve a problem using directions.</li> <li>Identify problems with code to diagnose and correct errors (debugging).</li> </ul>	<ul style="list-style-type: none"> <li>Collect data</li> <li>Children learn about what data can be represented. They use these skills to show the findings of their data collection.</li> </ul>	<ul style="list-style-type: none"> <li>Children tell a story by exploring how to create and animation using stop motion technology.</li> </ul>
<b>National Curriculum</b>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>Children use word processing software to type and reformat text.</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Recognise common uses of IT beyond school</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Construct a series of instructions into a simple algorithm.</li> <li>Apply computing concepts to real world situations.</li> <li>Create and debug simple programs.</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Understand what algorithms are; how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions.</li> <li>Create and debug simple programs</li> <li>Children can use logical reasoning to predict the behaviour of simple programs.</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Recognise common uses of IT beyond school</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Use cameras or tablets to take photos.</li> <li>Recognise common uses of IT beyond school</li> </ul>
<p><b>ONLINE SAFETY</b></p> <ul style="list-style-type: none"> <li>CEOP and ThinkUKnow resources.</li> <li>Use technology safely and respectfully, identify where to go for help.</li> </ul>						

## Year 2: Computing Curriculum Map (continued)

Unit	We are digital typers	We are presenters	We are programmers using SCRATCH	We are treasure hunters	We are data Scientists	We are stop motion creators
<b>Possible Outcomes &amp; curriculum links</b>	<ul style="list-style-type: none"> <li>• Children are confident and creative users of technology.</li> <li>• Children create digital messages, reports and posters combining text and images.</li> <li>• Link to topic</li> <li>• English</li> </ul>	<ul style="list-style-type: none"> <li>• Children are confident and creative users of technology.</li> <li>• Children create digital presentations</li> <li>• Link to topic</li> <li>• English</li> </ul>	<ul style="list-style-type: none"> <li>• Children can programme a well-known story and animate it.</li> <li>• Children can analyse problems in computational terms and have repeated practical experiences to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Children can analyse problems in computational terms and have repeated practical experiences to solve problems.</li> <li>• Children are confident and creative users of technology.</li> </ul>	<ul style="list-style-type: none"> <li>• Children can understand the principles of computer science – data representation</li> <li>• Links to science and maths.</li> </ul>	<ul style="list-style-type: none"> <li>• Children create their own animations using a storyboard.</li> <li>• Topic links</li> <li>• English</li> </ul>
<b>Key Skills</b>	<ul style="list-style-type: none"> <li>• Learn about the layout of a keyboard and touch typing.</li> <li>• Learn word processing and text documents.</li> <li>• Edit and format images</li> <li>• Copy and paste text.</li> <li>• Create digital posters.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to use multimedia presentations eg. powerpoint.</li> <li>• Learn how to use designs and animations.</li> <li>• Organise, retrieve and manipulate digital content</li> <li>• Know how technology is used inside and outside of school.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn simple coding skills.</li> <li>• Understand the importance of clear and precise instructions.</li> <li>• Know where to go for help.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn simple coding skills.</li> <li>• Understand the importance of clear and precise instructions.</li> <li>• Write a simple program and test it.</li> <li>• Predict what the outcome of a simple program will be</li> </ul>	<ul style="list-style-type: none"> <li>• Children are able to display the data they have collected.</li> <li>• Know how technology is used inside and outside of school.</li> </ul>	<ul style="list-style-type: none"> <li>• Create a stop motion</li> <li>• Plan an animation through a storyboard.</li> <li>• Create and review animations.</li> </ul>

## Year 3: Computing Curriculum Map

Unit	Research	Presentation	Emails including attachments.	Computer Networks	Sequencing Sounds Making an instrument	Create a game
<b>Overview</b>	<ul style="list-style-type: none"> <li>Children will research a topic using a search engine and collect information.</li> </ul>	<ul style="list-style-type: none"> <li>Children will create a document or presentation combining text and image.</li> </ul>	<ul style="list-style-type: none"> <li>Children learn how to send emails including attachments.</li> <li>They will learn about cyberbullying and fake emails.</li> <li>They will understand the purpose of emails.</li> <li>They will learn about spam, junk and phishing emails.</li> </ul>	<ul style="list-style-type: none"> <li>Children learn how computers communicate.</li> <li>Children learn about networks and how they are used to share information.</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to Scratch.</li> <li>Children will use Scratch to program a selection of motion, sound and event blocks.</li> <li>Create a musical instrument in Scratch</li> </ul>	<ul style="list-style-type: none"> <li>Children will create a simple game using Scratch.</li> <li>They will create a simple game and add extra facilities such as speech or music</li> </ul>
<b>National Curriculum</b>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Recognise common uses of IT beyond school. Understand the opportunities for communication and collaboration</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Recognise common uses of IT beyond school. Understand the opportunities for communication and collaboration</li> </ul>	<p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities for communication and collaboration</li> </ul>	<p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities for communication and collaboration</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</li> <li>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</li> <li>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>
<p><b>ONLINE SAFETY</b></p> <ul style="list-style-type: none"> <li>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>						

## Year 3: Computing Curriculum Map (continued)

Unit	Research	Presentation	Emails including attachments.	Computer Networks	Sequencing Sounds Making an instrument	Create a game
Possible Outcomes & curriculum links	<ul style="list-style-type: none"> <li>Children are confident and creative users of technology.</li> </ul>	<ul style="list-style-type: none"> <li>Children create digital messages, reports and posters combining text and images that are appealing to a specific audience.</li> <li>Link to topic – designing promotional and information leaflets.</li> </ul>	<ul style="list-style-type: none"> <li>Children create digital messages and reports.</li> <li>Link to topic – English/letter writing/sending messages for a particular audience/purpose</li> </ul>	<ul style="list-style-type: none"> <li>Children create an information presentation to show what they have learnt and understood about computer networks.</li> </ul>	<ul style="list-style-type: none"> <li>Topic links</li> </ul>	<ul style="list-style-type: none"> <li>Children will learn how digital systems work.</li> <li>They will be able to understand and apply the fundamental principles and concepts of computer science to create a simple game.</li> </ul>
Key Skills	<ul style="list-style-type: none"> <li>Navigate the web to complete simple searches.</li> <li>Use a range of software for similar purposes.</li> <li>Children use word processing software to type and reformat text.</li> </ul>	<ul style="list-style-type: none"> <li>Learn how to layout a document in an appealing way.</li> <li>Learn how to insert text and images in to a document.</li> <li>Learn how to manipulate the elements of the document.</li> <li>Collect and present information.</li> <li>Children use word processing software to type and reformat text.</li> </ul>	<ul style="list-style-type: none"> <li>Children will learn about emails and how to send them.</li> <li>They will learn how to add an attachment to an email.</li> <li>They will learn the positive language of an email.</li> <li>Children learn how to be responsible digital citizens</li> </ul>	<ul style="list-style-type: none"> <li>Learn the terms 'network,' device' and 'wireless.</li> <li>Identify different components of the school network.</li> <li>Understand what computer networks do and how they provide multiple services.</li> <li>Create a presentation or animation.</li> </ul>	<ul style="list-style-type: none"> <li>Learn program design skills.</li> <li>Identify objects in Scratch – sprites, backdrops.</li> <li>Understand attributes.</li> <li>Understand and explain a sequence of commands.</li> </ul>	<ul style="list-style-type: none"> <li>Learn simple coding and programming skills.</li> <li>Understand the importance of clear and precise instructions.</li> <li>Write programs that accomplish a specific goal.</li> <li>Design a sequence of instructions</li> </ul>

# Year 4: Computing Curriculum Map

Unit	Photo Editing	Data Representation	Create an online safety quiz.	Design a website	Programming Repetition in Shapes	Programming Repetition in Games
<b>Overview</b>	<ul style="list-style-type: none"> <li>Children develop their understanding of how digital images can be changed and edited</li> <li>They will consider the impact that editing images can have, and evaluate the effectiveness of their choices.</li> </ul>	<ul style="list-style-type: none"> <li>Research a topic using a search engine to collect information.</li> <li>Use the collected data purposefully.</li> </ul>	<ul style="list-style-type: none"> <li>Use a simple platform such as Google forms to create an E Safety quiz for children to complete online.</li> </ul>	<ul style="list-style-type: none"> <li>Design the layout of a website.</li> <li>Decide what pages and information are required and who the target audience will be.</li> <li>Decide on the purpose of the website.</li> <li>Work collaboratively</li> </ul>	<ul style="list-style-type: none"> <li>Children will use 'LOGO' to create a program by planning, modifying and testing commands to make shapes and patterns.</li> </ul>	<ul style="list-style-type: none"> <li>Children use Scratch to design and create a game using repetition.</li> </ul>
<b>National Curriculum</b>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> <li>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.</li> </ul>	<p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities for communication and collaboration</li> </ul> <p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> <li>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.</li> </ul>	<p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities for communication and collaboration</li> </ul> <p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</li> <li>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</li> <li>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>
<p><b>ONLINE SAFETY</b>            Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>						



## Year 4: Computing Curriculum Map (continued)

Unit		Data Representation	Create an online safety quiz.	Design a website	Programming Repetition in Shapes	
Possible Outcomes & curriculum links	<ul style="list-style-type: none"> <li>• PSHE</li> <li>• Topic links</li> </ul>	<ul style="list-style-type: none"> <li>• Topic links</li> <li>• Maths and science</li> </ul>	<ul style="list-style-type: none"> <li>• Children create and share an online quiz.</li> <li>• Children learn how to use the elements of Google forms (or similar) including the different kind of responses</li> </ul>	Children complete the outline of a website for a given purpose including the layout of pages and content.	<ul style="list-style-type: none"> <li>• Topic links</li> <li>• Maths and science</li> </ul>	<ul style="list-style-type: none"> <li>• Topic links</li> <li>• A game to share with other children.</li> </ul>
Key Skills	<ul style="list-style-type: none"> <li>• Children learn how to change a digital image – cropping, using filters and retouches.</li> <li>• Know how to combine parts of images to create new images</li> <li>• Understand the difference between a fake and real image.</li> <li>• Understand why people change images</li> </ul>	<ul style="list-style-type: none"> <li>• Children learn what data is useful.</li> <li>• Children refine the amount of data collection</li> <li>• Children learn how to present data in a meaningful way.</li> </ul>	<ul style="list-style-type: none"> <li>• Select and use software to accomplish given goals.</li> <li>• Understand the difference between a variety of response – multiple choice, short and long answers and checkboxes.</li> </ul>	<ul style="list-style-type: none"> <li>• Present information and data in a way that makes it easy for others to understand.</li> <li>• Think logically and plan.</li> <li>• Evaluate and apply information technology. Use information technology to create a system and range of content.</li> </ul>	<ul style="list-style-type: none"> <li>• Programming skills</li> <li>• Children learn how to create code and commands.</li> <li>• Children create and test algorithms</li> <li>• They identify patterns in a sequence.</li> <li>• Children create loops</li> <li>• Children use prediction skills.</li> </ul>	<ul style="list-style-type: none"> <li>• Programming skills</li> <li>• Children learn how to create and modify code and commands.</li> <li>• Children evaluate the effectiveness of sequences in a program.</li> <li>• Children create and modify loops</li> <li>• Children use prediction skills.</li> <li>• Evaluation skills.</li> </ul>

## Year 5: Computing Curriculum Map

Unit	St. A's All Stars & CC Champions	Sharing Information	Create an online safety resource for younger children	QR Codes	Parental Survey	Create a podcast
<b>Overview</b>	<ul style="list-style-type: none"> <li>Children begin to develop their class blogs.</li> <li>Blogs are then regularly updated with text, images and videos until the end of Y6.</li> </ul>	<ul style="list-style-type: none"> <li>Children develop their understanding of computer systems and how information is transferred.</li> <li>Children will collaborate on a project with other class members and develop their skills in working together online.</li> </ul>	<ul style="list-style-type: none"> <li>Children discuss online safety.</li> <li>Children plan a storyboard about online safety.</li> <li>Children create an online safety resource for younger children using tools such as presentation, software, video tools or a simple stop-motion animation.</li> </ul>	<ul style="list-style-type: none"> <li>Children explore barcodes and QR codes.</li> <li>Children investigate how collecting big data can be used to help people in a variety of different scenarios.</li> <li>Children learn the difference between mobile data and WiFi and how data is transferred.</li> </ul>	<ul style="list-style-type: none"> <li>Create and publish a parental survey to be published in the school newsletter.</li> <li>Gather the data and draw conclusions.</li> </ul>	<ul style="list-style-type: none"> <li>Children plan and present a podcast on a topic of their choice.</li> </ul>
<b>National Curriculum</b>	<p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand that the internet can provide multiple services and opportunities for communication and collaboration</li> </ul> <p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Select, use and combine a range of digital devices to design and create content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Design, write and debug programs that accomplish specific goals, solve problems by decomposing them into smaller parts.</li> <li>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand computer networks including the internet; how they can provide multiple services and the opportunities for communication and collaboration.</li> </ul>	<p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand computer networks including the internet; how they can provide multiple services and the opportunities for communication and collaboration.</li> </ul> <p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Select, use and combine a range of digital devices to design and create content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities for communication and collaboration</li> </ul>	<p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities for communication and collaboration</li> </ul> <p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</li> </ul>	<p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand that computers and devices present opportunities for communication and collaboration.</li> </ul> <p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Select, use and combine a range of digital devices to design and create content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</li> </ul>
<p><b>ONLINE SAFETY</b></p> <ul style="list-style-type: none"> <li>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> <li>Be increasingly aware of the potential dangers in using aspects of IT and know when to alert someone if feeling uncomfortable.</li> </ul>						

## Year 5: Computing Curriculum Map (continued)

Unit	St. A's All Stars & CC Champions	Sharing Information	Create an online safety resource for younger children	QR Codes	Parental Survey	Create a podcast
Possible Outcomes & curriculum links	<ul style="list-style-type: none"> <li>Weekly entries on to the class blog.</li> </ul>	<ul style="list-style-type: none"> <li>Topic links</li> <li>Create a joint presentation using slides.</li> </ul>	<ul style="list-style-type: none"> <li>A presentation for younger children that includes a variety of tools.</li> </ul>	<ul style="list-style-type: none"> <li>Children create QR codes.</li> <li>Link to science</li> <li>Children create a document with a QR code link to a website.</li> <li>Create a treasure hunt using QR codes.</li> </ul>	<ul style="list-style-type: none"> <li>Links to PSHE/Science.</li> <li>Topic links</li> </ul>	<ul style="list-style-type: none"> <li>A podcast linked to a topic or area of interest that can be shared with others.</li> </ul>
Key Skills	<ul style="list-style-type: none"> <li>Learn how to present information in an attractive way.</li> <li>Learn how to set out information on a web page.</li> <li>Photographic skills.</li> <li>Writing for a purpose</li> </ul>	<ul style="list-style-type: none"> <li>Understanding of computer systems and how they work.</li> <li>Understand that networked digital devices have unique addresses.</li> <li>How to send and share information using the internet</li> <li>Team work skills.</li> <li>Recognising that working together online can be public or private.</li> </ul>	<ul style="list-style-type: none"> <li>Present information in a way that makes it easy for others to understand.</li> <li>Be aware that some search engines may provide misleading information.</li> </ul>	<ul style="list-style-type: none"> <li>Use a device to scan and create a QR code. Understand that a QR (quick response) code contains information.</li> </ul>	<ul style="list-style-type: none"> <li>Design and plan a questionnaire.</li> <li>Write the questions and make predictions about the kind of answers that will be received.</li> <li>Organise and present the data.</li> </ul>	<ul style="list-style-type: none"> <li>Children learn how to plan and prepare a sequence of information for recording purposes.</li> <li>Present information in a way that makes it easy for others to understand.</li> <li>Children learn how to use a simple recording program.</li> <li>Children learn how to communicate effectively and work as a team.</li> <li>Children develop speaking and listening skills.</li> </ul>

## Year 6: Computing Curriculum Map

Unit	Create a trailer for a book. Video editing	History of computers and secret codes	E Safety Workshop for Parents	Introduction to Spreadsheets	Digital Project
<b>Overview</b>	<ul style="list-style-type: none"> <li>Children use a story board to plan a trailer for a children's book.</li> <li>Children record their ideas and use video editing software to create a short trailer to share with the class.</li> </ul>	<ul style="list-style-type: none"> <li>Children learn about the history of Bletchley Park including key historical figures.</li> <li>Children learn about the WWII code breaking team.</li> <li>Children learn how the first modern computers were created and have evolved over time.</li> <li>They investigate secret codes and how they are created, exploring hacking and learn how to make passwords more secure.</li> </ul>	<ul style="list-style-type: none"> <li>Plan and run a parent workshop on E Safety.</li> <li>Create a presentation using Powerpoint or something similar. Include appropriate text, images, videos and information from a variety of sources.</li> <li>Ensure it is refined to suit a specific purpose and audience.</li> </ul>	<ul style="list-style-type: none"> <li>Children are introduced to spreadsheets – Excel or Google sheets.</li> <li>Children learn how to organise data in to columns and rows, how to insert a formula.</li> <li>Children learn that a formula produces a calculation.</li> <li>Children learn how to create a graph or chart to display data.</li> </ul>	<ul style="list-style-type: none"> <li>Reflecting on and showcasing their computing skills, children create an entire project around a specific theme.</li> </ul>
<b>National Curriculum</b>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create and organise digital content.</li> <li>Select, use and combine a variety of software on a range of digital devices to design and create content that will accomplish a given goal.</li> </ul>	<p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Design, write and debug programs that accomplish specific goals, solve problems by decomposing them into smaller parts.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities for communication and collaboration</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> <li>Select, use and combine a variety of software on a range of digital devices to design and create content that will accomplish a given goal.</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> <li>Select, use and combine a variety of software on a range of digital devices to design and create content that will accomplish a given goal.</li> </ul>	<p><b>Digital Literacy:</b></p> <ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> <li>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.</li> </ul> <p><b>Computer Science:</b></p> <ul style="list-style-type: none"> <li>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> </ul> <p><b>Information Technology:</b></p> <ul style="list-style-type: none"> <li>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities for communication and collaboration</li> </ul>
<p><b>ONLINE SAFETY</b></p> <ul style="list-style-type: none"> <li>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> <li>Be increasingly aware of the potential dangers in using aspects of IT and know when to alert someone if feeling uncomfortable.</li> </ul>					

## Year 6: Computing Curriculum Map (continued)

Unit	Create a trailer for a book. Video editing	History of computers and secret codes	E Safety Workshop for Parents	Introduction to Spreadsheets	Digital Project
Possible Outcomes & curriculum links	<ul style="list-style-type: none"> <li>• A video trailer that can be presented to younger children or class mates.</li> <li>• Link to topic.</li> </ul>	<ul style="list-style-type: none"> <li>• Topic WWII link</li> </ul>	<ul style="list-style-type: none"> <li>• Parent workshop on E Safety to be delivered on Safer Internet Day.</li> <li>• A recording for parents to watch at home.</li> </ul>	<ul style="list-style-type: none"> <li>• Maths</li> <li>• Problem solving</li> <li>• Statistics</li> <li>• Science</li> </ul>	<ul style="list-style-type: none"> <li>• Links to topic</li> <li>• Presentation for leaver's service – our life in primary school</li> <li>• Class video to share</li> </ul>
Key Skills	<ul style="list-style-type: none"> <li>• Video editing skills.</li> <li>• Learn camera skills.</li> <li>• Planning skills</li> </ul>	<ul style="list-style-type: none"> <li>• Understand what hacking is.</li> <li>• Learn how to make passwords secure.</li> <li>• Learn how to create a secret code.</li> </ul>	<ul style="list-style-type: none"> <li>• Present information in a way that makes it easy for others to understand.</li> <li>• Children plan and prepare information to share with a specific audience.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand data headings.</li> <li>• Apply information to a cell including a simple formula.</li> <li>• Know how to construct a simple formula</li> <li>• Know how to duplicate cells</li> <li>• Know how to produce a graph/chart.</li> </ul>	<ul style="list-style-type: none"> <li>• Children learn how to plan and prepare a sequence of information for recording, videoing and information purposes.</li> <li>• Children learn how to communicate effectively and work as a team.</li> <li>• Children develop speaking and listening skills.</li> <li>• Children further develop editing and presentation skills.</li> </ul>