

## **Curriculum Overview.**

### **Intent**

We offer a structured sequence of lessons, helping teachers to ensure that they have covered the skills required to meet the aims of the national curriculum. The content allows for a broad, deep understanding of computing and how it links to children's lives. It offers a range of opportunities for consolidation, challenge and variety. This allows children to apply the fundamental principles and concepts of computer science. They develop analytical problem-solving skills and learn to evaluate and apply information technology. It also enables them to become responsible, competent, confident and creative users of information technology. This progression map supports computing subject leaders in readiness for an Ofsted 'deep dive'.

### **Implementation**

Each lesson contains revision, analysis and problem-solving. Through the sequence of lessons, we intend to inspire pupils to develop a love of the digital world, see its place in their future and give teachers confidence. Cross-curricular links are also important in supporting other areas of learning. Our lesson plans and resources help children to build on prior knowledge at the same time as introducing new skills and challenges. In KS1, the focus is on developing the use of algorithms, programming and how technology can be used safely and purposefully. In KS2, lessons still focus on algorithms, programming and coding but in a more complex way and for different purposes. Children also develop their knowledge of computer networks, internet services and the safe and purposeful use of the internet and technology. Data Handling is featured more heavily in UKS2. Skills learnt through KS1 and LKS2 are used to support data presentation. Adult guides are offered, as well as end-of-unit assessments, enabling staff to feel confident in the progression of skills and knowledge and that outcomes have been met. An example of keywords has been included, showing the progression of specific language involved in children's learning so that teachers can also assess understanding and progress through vocabulary. We suggest a specific sequence of lessons for each year group, offering structure and narrative. These are not to be used exclusively but will support teachers' planning.

### **Impact**

Learning in computing will be enjoyed across the school. Teachers will have high expectations and quality evidence will be presented in a variety of forms. Children will use digital and technological vocabulary accurately, alongside a progression in their technical skills. They will be confident using a range of hardware and software and will produce high-quality purposeful products. Children will see the digital world as part of their world, extending beyond school, and understand that they have choices to make. They will be confident and respectful digital citizens going on to lead happy and healthy digital lives.

Computing in the EYFS			
Three and Four-Year-Olds	Personal, Social and Emotional Development		<ul style="list-style-type: none"> <li>Remember rules without needing an adult to remind them.</li> </ul>
	Physical Development		<ul style="list-style-type: none"> <li>Match their developing physical skills to tasks and activities in the setting.</li> </ul>
	Understanding the World		<ul style="list-style-type: none"> <li>Explore how things work.</li> </ul>
Reception	Personal, Social and Emotional Development		<ul style="list-style-type: none"> <li>Show resilience and perseverance in the face of a challenge.</li> <li>Know and talk about the different factors that support their overall health and wellbeing:</li> <li>-sensible amounts of 'screen time'.</li> </ul>
	Physical Development		<ul style="list-style-type: none"> <li>Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</li> </ul>
	Expressive Arts and Design		<ul style="list-style-type: none"> <li>Explore, use and refine a variety of artistic effects to express their ideas and feelings.</li> </ul>
ELG	Personal, Social and Emotional Development	Managing Self	<ul style="list-style-type: none"> <li>Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.</li> <li>Explain the reasons for rules, know right from wrong and try to behave accordingly.</li> </ul>

	Expressive Art and Design	Creating with Materials	<ul style="list-style-type: none"> <li>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li> </ul>
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Disciplinary Knowledge.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Computer science</p> <p>This is made up of the elements:</p> <p>Computational Thinking</p> <p>Coding/Programming</p> <p>Computer Networks (KS2 Only)</p>	<ul style="list-style-type: none"> <li>Create a simple program e.g. sequence of instructions for a Bee Bot</li> <li>Write simple algorithms</li> <li>Understand the sequence of algorithms is important and debug simple algorithms with support.</li> <li>Sequence in programs</li> <li>Locate and fix bugs in my program</li> </ul>	<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 programs on a variety of digital devices.</li> <li>Debug programs of increasing complexity</li> <li>Use logical reasoning to predict the outcome of simple programs</li> </ul>	<ul style="list-style-type: none"> <li>Create algorithms for use when programming</li> <li>Decompose tasks (such as animations) into separate steps to create an algorithm</li> <li>Understand abstraction is focusing on important information.</li> <li>Identify patterns in an algorithm and use repetition in algorithms.</li> <li>Design and create programs</li> </ul>	<ul style="list-style-type: none"> <li>use abstraction to focus on what's important in my design.</li> <li>Write increasingly more precise algorithms for use when programming.</li> <li>Use simple selection in algorithms</li> <li>Use logical reasoning to detect and correct errors in programs.</li> <li>Use simple selection in programs</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems by decomposing them into smaller parts</li> <li>Use selection in algorithms.</li> <li>Recognise the need for conditions in repetition within algorithms</li> <li>Use logical reasoning to explain how a variety of algorithms work</li> <li>Use logical reasoning to detect and correct errors in algorithms</li> </ul>	<ul style="list-style-type: none"> <li>Recognise, and make use, of patterns across programming projects</li> <li>Write precise algorithms for use when programming</li> <li>Identify variables needed and their use in selection and repetition</li> <li>Decompose code into sections for effective debugging</li> <li>Critically evaluate my work and suggest improvements.</li> </ul>

		<ul style="list-style-type: none"> <li>Use logical reasoning to predict the behaviour of simple programs.</li> </ul>	<ul style="list-style-type: none"> <li>Write programs that accomplish specific goals</li> <li>Use repetition in programs I can work with various forms of input.</li> </ul>	<ul style="list-style-type: none"> <li>Work with various forms of output (Beebots)</li> <li>Use logical reasoning to systematically detect and correct errors in programs.</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate my work and identify errors.</li> <li>Create programs by decomposing them into smaller parts</li> <li>use selection in programs</li> <li>use conditions in repetition commands</li> <li>work with variables</li> <li>create programs that control or simulate physical systems</li> <li>Use search technologies effectively</li> </ul>	<ul style="list-style-type: none"> <li>Use a range of sequence, selection and repetition commands combined with variables as required to implement my design</li> <li>Create procedures to hide complexity in programs</li> <li>Identify and write generic code for use across multiple projects</li> <li>critically evaluate my work and suggest improvements.</li> <li>Recognize HTML tags</li> <li>Create a webpage using HTML</li> </ul>
<p>Information and Technology</p> <p>Including the elements of:</p> <p>Word processing/ typing</p> <p>Data Handling</p> <p>Presentations &amp; E-book creations</p> <p>Animation</p> <p>Video creation</p>	<ul style="list-style-type: none"> <li>Confidently type words quickly and correctly on a digital device.</li> <li>Use the space bar to make space and delete to delete letters/words</li> <li>Sort images or text into two or more categories on a digital device.</li> <li>I can collect data on a topic.</li> <li>Create a tally chart and pictogram.</li> <li>Add labels to an image (Pic Collage)</li> </ul>	<ul style="list-style-type: none"> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</li> <li>Use the space bar only once between words and use touch to navigate to words/letters to edit.</li> <li>Copy and paste images and text.</li> <li>Use caps locks for capital letters.</li> <li>Sort digital objects into a range of charts</li> </ul>	<ul style="list-style-type: none"> <li>Use a keyboard to type using both hands</li> <li>Edit style and effect</li> <li>Edit text through font sizes</li> <li>Input simple data into a spreadsheet</li> <li>Annotate an image</li> <li>Create a simple timeline/ mindmap.</li> <li>Create animations in puppetpals</li> <li>Sequence clips and record voice overs</li> </ul>	<ul style="list-style-type: none"> <li>Combine digital images from different sources</li> <li>Use spellchecker and thesaurus for accuracy</li> <li>Use shortcuts to cut, copy and paste.</li> <li>Input data and export to create charts, bar charts and pie charts.</li> <li>Input text, images and sounds in an E-book.</li> </ul>	<ul style="list-style-type: none"> <li>Add hyperlinks from the internet to documents.</li> <li>Insert sound clips.</li> <li>Input simple formulae including =Sum in Microsoft excel (numbers)</li> <li>Edit and format different cells in a spreadsheet.</li> <li>Use transitions and animations within PowerPoint to enhance presentations for the audience.</li> </ul>	<ul style="list-style-type: none"> <li>Accurately format text using all the different methods available.</li> <li>Upload work to a digital source so it can be published online.</li> <li>Input =Sum including multiple operations, percentages and fractions.</li> <li>Create a presentations using the available effects; edit and enhance for the audience.</li> </ul>

<p><b>Photography and digital art</b> <b>Sound</b></p>	<ul style="list-style-type: none"> <li># Order images to create a simple storyboard.(Pic Collage)</li> <li># Sequence a series of pictures to explain my understanding of a topic. (Pic Collage)</li> <li># Add filters and stickers to enhance an animation of a character. (PuppetPals)</li> <li># Create an animation to tell a story with more than one scene (PuppetPals).</li> <li># Record a film using the camera app.</li> <li># Select images and record a voiceover (voicememo).</li> <li># Edit a photo with simple tools.</li> <li># Use a paint/drawing app to create a digital image.</li> <li># Create a sequence of sounds (instruments, apps/software)</li> <li># Explore short and long sounds.</li> <li># Record my voice and add different effects.</li> </ul>	<ul style="list-style-type: none"> <li>such as Venn diagrams, carroll diagrams and bar charts with provided data (Excel).</li> <li># Create a branching database using questions</li> <li># Add voice labels to an image.</li> <li># Add a voice recording to a storyboard.</li> <li># Import images to a project from the web and camera roll to a presentation.</li> <li># Create multiple animations of an image and edit these together.</li> <li># Create a simple stop motion animation.</li> <li># Use tools to add effects to a video (AdobeSparkVideo)</li> <li># Begin to use green screen techniques with support.</li> <li># Edit a photo (crop, filters, mark up etc) (Camera app)</li> <li># Select and use tools to create digital imagery - controlling the pen and using the fill tool.</li> <li># Begin to cut images with accuracy to layer</li> </ul>	<ul style="list-style-type: none"> <li># Trim clips, add titles and transition in imovie</li> <li># Take and manipulate photographs</li> <li># Create and edit compositions using Garageband</li> <li># Use loops to create a song</li> </ul>	<ul style="list-style-type: none"> <li># Use PowerPoint to insert images, sounds and video</li> <li># Create 3D Animated story</li> <li># Add animation titles, transition and subtitles to video clips in imovie.</li> <li># Add music and sound effect to films in Imovie</li> <li># Use green screen app (Doink) to add animated backgrounds.</li> <li># Enhance digital images using crop and resize.</li> <li># Edit sound effect.</li> <li># Record voices for imovie or Ebook on voice memo.</li> </ul>	<ul style="list-style-type: none"> <li># Organise and reorganise text for effect</li> <li># Use green screen for stop animation</li> <li># Use cutaway and split screen tools in imovie</li> <li># Improve a green screen clip using crop/resize in DoInk</li> <li># Use green clothes for masking effects in DoInk app.</li> <li># Make a digital photo and enhance using crop, brightness and resize.</li> <li># Add voice over and edit sound clips including volume, pitch and fade.</li> <li># Use garageband to manipulate a known song.</li> </ul>	<ul style="list-style-type: none"> <li># Combine animation techniques within other project ie iMovie</li> <li># Plan and edit scrips to create green screen interviews</li> <li># Create videos using a range of media (green screen, animation, film and images).</li> <li># Edit a picture to remove items, add background and merge 2 photographs.</li> <li># Create a Garageband composition including multi-layered instruments, backing track and vocal track.</li> </ul>
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		<p>on other images (Pic Collage).</p> <ul style="list-style-type: none"> <li>✚ Create a musical composition using software.</li> <li>✚ Record my own sound effects.</li> <li>✚ Record my voice over a compositions to perform a song (GarageBand).</li> </ul>				
<p>Digital Literacy All work to be completed through PROJECT EVOLVE</p> <p>Objectives split into:</p> <ul style="list-style-type: none"> <li>Self-Image &amp; Identity</li> <li>Online Relationships</li> <li>Online reputation</li> <li>Online Bullying</li> <li>Managing online information</li> <li>Health, Wellbeing and lifestyle</li> <li>Safety &amp; security</li> <li>Copywrite and Ownership</li> </ul>	<ul style="list-style-type: none"> <li>✚ Recognise that there may be people online who could make me feel sad, embarrassed or upset. If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust.</li> <li>✚ Use the internet with adult support to communicate with people I know.</li> <li>✚ Explain why it is important to be considerate and kind to people online.</li> <li>✚ Recognise what the different types of online bullying are.</li> <li>✚ Use the internet to find things out by</li> </ul>	<ul style="list-style-type: none"> <li>✚ Recognise common uses of information technology beyond school.</li> <li>✚ Use technology safely and respectfully, keeping personal information private;</li> <li>✚ Explain how other people's identity online can be different to their identity in real life.</li> <li>✚ Describe ways in which people might make themselves look different online.</li> <li>✚ Give examples of issues online that might make me feel sad, worried, uncomfortable or frightened</li> <li>✚ Give examples of how I might get help.</li> </ul>	<ul style="list-style-type: none"> <li>✚ Recognise how to protect themselves using CEOP and online "reporting" functions on online social sites.</li> <li>✚ Recognise how people may not be who they say they are and know what information to share and what stays private..</li> <li>✚ Recognise how important online reputations are and identify where reputations are changed in different media.</li> <li>✚ Understand what online bullying is and how to report this to a trusted adult.</li> <li>✚ Use key phrases in search engines.</li> </ul>	<ul style="list-style-type: none"> <li>✚ Recognise how to protect themselves using CEOP and online "reporting" functions on online social sites and discuss the impact on others.</li> <li>✚ Recognise how people may not be who they say they are and know what information to share and what should stay private and the implications of both.</li> <li>✚ Recognise how important online reputations are and identify where reputations are changed in different media and the impact this has on individuals.</li> <li>✚ Understand what online bullying is and</li> </ul>	<ul style="list-style-type: none"> <li>✚ Using information gained in information technology units, how can programs be used to change to impact on individuals self-image.</li> <li>✚ Recognise how online relationships may not be trustworthy (BBC Newsround: Caught in the Web)</li> <li>✚ Using knowledge gained from information technology, understand how images can be changed to create false online identities to change reputations.</li> <li>✚ Report online bullying and how to get help</li> </ul>	<ul style="list-style-type: none"> <li>✚ Using information gained in information technology units, how can programs be used to change to impact on individuals self-image and how these create false identifies to entrap children.</li> <li>✚ Recognise how online relationships may not be trustworthy (BBC Newsround: Caught in the Web) and identify where mistakes have been made.</li> <li>✚ Recognise the impacts of having positive or negative online reputations on future careers, life choices.</li> <li>✚ Use screen grab on devices</li> </ul>

	<p>using keywords in search engines</p> <ul style="list-style-type: none"> <li>✚ Create rules to keep us safe when we are using technology both in and beyond the home and give examples of some of these rules.</li> <li>✚ Use passwords to protect information and devices.</li> <li>✚ Save my work so that others know it belongs to me (e.g. filename, name on content).</li> </ul>	<ul style="list-style-type: none"> <li>✚ Explain with empathy how online bullying makes other feel and how to get help.</li> <li>✚ Use keywords in search engines.</li> <li>✚ Demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections).</li> <li>✚ Explain what voice activated searching is and how it might be used (e.g. Alexa, Google Now, Siri).</li> <li>✚ Explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.</li> <li>✚ Explain why some information I find online may not be true.</li> <li>✚ Explain simple guidance for using technology in different environments and settings and say how those rules/guides can help me.</li> <li>✚ Recognise that content on the internet may belong to other people.</li> </ul>	<ul style="list-style-type: none"> <li>✚ Recognise examples of activities where it is easy to spend a lot of time engaged (e.g. games, films, videos).</li> <li>✚ Use simple strategies for creating and keeping passwords private.</li> <li>✚ Recognise how connected devices can collect and share my information with others and take precautions to stop this happening using safety measures taught.</li> <li>✚ Recognise why taking someone else's work from the internet is wrong.</li> <li>✚</li> </ul>	<p>how to report this to a trusted adult.</p> <ul style="list-style-type: none"> <li>✚ Explain what autocomplete is and how to choose the best suggestion.</li> <li>✚ Analyse information and differentiate between 'opinions', 'beliefs' and 'facts'. I understand what criteria have to be met before something is a 'fact'.</li> <li>✚ Search for information within a wide group of technologies (e.g. social media, image sites, video sites).</li> <li>✚ Identify times or situations when I might need to limit the amount of time I use technology and suggest strategies to help me limit this time.</li> <li>✚ Create strong passwords and recognise their importance.</li> <li>✚ Describe strategies for keeping my personal information private, depending on context. I can explain</li> </ul>	<p>to block abusive users.</p> <ul style="list-style-type: none"> <li>✚ Understand how to get help from online bullying.</li> <li>✚ Use different search technologies. And evaluate digital content and can explain how I make choices from search results.</li> <li>✚ Explain why I need to think carefully before I forward anything online.</li> <li>✚ Identify, flag and report inappropriate content found on search engine results</li> <li>✚ Recognise ways technology can affect healthy sleep and can describe some of the issues.</li> <li>✚ Create and use strong and secure passwords.</li> <li>✚ Recognise the dangers of in-app purchasing and the importance of discussion with an before purchasing.</li> <li>✚ Assess and justify when it is acceptable</li> </ul>	<p>(laptop/ipad/phones etc) to record online bullying.</p> <ul style="list-style-type: none"> <li>✚ Use search technologies effectively</li> <li>✚ Demonstrate the strategies I would apply to be discerning in evaluating digital content.</li> <li>✚ Demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important.</li> <li>✚ Identify, flag and report inappropriate content found on search engine results.</li> <li>✚ Assess and action different strategies to limit the impact of technology on my health (e.g. nightshift mode, regular breaks, correct posture, sleep, diet and exercise) and demonstrate the strategies to support</li> </ul>
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		<ul style="list-style-type: none"> <li>I can recognise that content on the internet may belong to other people.</li> </ul>		<p>how internet use can be monitored.</p> <ul style="list-style-type: none"> <li>Recognise when searching on the internet for content to use, that consideration needs to be given about who owns it and whether others have the right to reuse it.</li> </ul>	<p>to use the work of others.</p>	<p>(e.g. monitoring my time online, avoiding accidents ).</p> <ul style="list-style-type: none"> <li>Use different passwords for a range of online services and describe effective strategies for managing those passwords (e.g. password managers, acronyms, stories).</li> <li>Learn strategies of what to do passwords are stolen or lost</li> <li>Use simple ways to increase privacy on apps and services that provide privacy settings.</li> <li>Describe strategies to help me identify content which intends to take my personal information(e.g. scams, phishing)</li> <li>Demonstrate the use of search tools to find and access online content which can be reused by others.</li> <li>Demonstrate how to make references to and acknowledge</li> </ul>
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						sources I have used from the internet
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The disciplinary skills will be visited throughout the topics studied within each year.

**Substantive Knowledge**

Area of Computing Curriculum			
Cycle A			
	<p><b>Computer Science</b>                      Computational Thinking                      Coding/Programming                      Computer Networks (KS2 only)</p>	<p><b>Information Technology</b>                      Word processing/ typing                      Data Handling                      Presentations &amp; E-book creations                      Animation                      Video creation                      Photography and digital art                      Sound</p>	<p><b>Digital Literacy including E-Safety.</b>                      1x E-safety lesson every half term working alongside PSHE units.  <b>Work linked to Project Evolve</b>                      Self-image &amp; Respect                      Online relationships                      Online Reputation                      Online Bullying                      Managing Online Information                      Health, Wellbeing and lifestyle                      Safety &amp; security                      Copywrite and Ownership</p>
<b>Key Stage 1</b>	<ul style="list-style-type: none"> <li>✚ Explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.(iPad apps:</li> <li>✚ Create a simple program that achieves a specific purpose. They can also identify and correct some errors, e.g. Debug Challenges: iPad app/ Bebots.</li> <li>✚ Display a growing awareness of the need for logical, programmable steps (Beebots).</li> <li>✚ Identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write</li> </ul>	<ul style="list-style-type: none"> <li>✚ Demonstrate an ability to organise data using, for example, a database such as on Twinkl (paperbased) and can retrieve specific data for conducting simple searches.</li> <li>✚ Edit more complex digital data such as music compositions within BBC Play It programme. (garageband on the iPad).</li> <li>✚ Create, name save and retrieve content from the class server.</li> <li>✚ Use a range of media in their digital content including photos, text and sound.</li> <li>✚</li> </ul>	<ul style="list-style-type: none"> <li>✚ Make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive codes and programmes.</li> <li>✚ Know the implications of inappropriate online searches.</li> <li>✚ Begin to understand how things are shared electronically such as posting work to the school website.</li> <li>✚ Recognise that information can stay online and could be copied.</li> <li>✚ Describe what information I should not put online without asking a trusted adult first.</li> </ul>

	<p>a cause and effect sentence of what will happen in a program. (Beebots)</p>		<ul style="list-style-type: none"> <li>✚ Give examples of bullying behaviour and how it could look online.</li> <li>✚ Understand how bullying can make someone feel and talk about how someone can/would get help about being bullied online or offline.</li> <li>✚ Use search engines to research information for topics in history/geography.</li> <li>✚ Use SMART as an acronym for internet safety.</li> <li>✚ Know and recognise more detailed examples of information that is personal (e.g. where I live, my family's names, where I go to school).</li> <li>✚ Explain why a trusted adult should be asked before any personal information is shared online.</li> <li>✚ Know and explain how passwords can be used to protect information and devices.</li> <li>✚ Explain why work I create using technology belongs to me by why it belongs to me (e.g. 'it is my idea' or 'I designed it').</li> </ul>
<p><b>Lower Key Stage 2</b></p>	<ul style="list-style-type: none"> <li>✚ Use Scratch to create algorithms and debug where needed in small groups. (<a href="http://code-it.co.uk/scratch/scratchplan">http://code-it.co.uk/scratch/scratchplan</a>) Use the Y3 units of work to meet the expectations of topic.</li> <li>✚ Understand that computers in a school are connected together in a network and understand why computers are networked.</li> <li>✚ Understand the difference between the Internet and the World Wide Web (WWW)</li> </ul>	<ul style="list-style-type: none"> <li>✚ Use images, objects and text to make posters and leaflets (Microsoft Publisher) and documents (Microsoft Word) using shortcuts for speed and efficiency and create eye-catching work.</li> <li>✚ Create accurate work by using tools to improve spelling, grammar and word choice including the use of AI (eg Siri)</li> <li>✚ Create a 3D animated story using Puppetpals based on a class text.</li> <li>✚ Create a movie trailer (Imovie) including the use of a green screen and voice/sound (using Voicememo).(This is also an example of video creation)</li> </ul>	<ul style="list-style-type: none"> <li>✚ Explain what is meant by the term 'identity'.</li> <li>✚ Explain how I can represent myself in different ways online.</li> <li>✚ Explain ways in which and why I might change my identity depending on what I am doing online (e.g. gaming; using an avatar; social media).</li> <li>✚ Describe ways people who have similar likes and interests can get together online.</li> <li>✚ Give examples of technology-specific forms of communication (e.g. emojis, acronyms, text speak).</li> <li>✚ Explain some risks of communicating online with others I don't know well.</li> </ul>

			<ul style="list-style-type: none"> <li>✦ Explain how my and other people's feelings can be hurt by what is said or written online.</li> <li>✦ Explain why I should be careful who I trust online and what information I can trust them with and explain why I can take back my trust in someone or something if I feel nervous, uncomfortable or worried.</li> <li>✦ Know what it means to 'know someone' online and why this might be different from knowing someone in real life and explain what is meant by 'trusting someone online'; know why this is different from 'liking someone online'</li> <li>✦ Search for information about myself online and recognise the need to be careful before sharing anything about myself or others online.</li> <li>✦ Know who to talk to if an individual is not sure if something should be put online.</li> <li>✦ Know what bullying is and can describe how people may bully others.</li> <li>✦ Create rules about how to behave online and how to actively follow them.</li> <li>✦ Use internet search engines to research work for other curriculum areas.</li> <li>✦ Explain how the internet can be used to sell and buy things and the positive and negatives of this</li> <li>✦ Know the difference between a 'belief', an 'opinion' and a 'fact' when using internet search engines.</li> <li>✦ Give examples of when and why it is important to be 'sceptical'. I can explain what is meant by a 'hoax'.</li> </ul>
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			<ul style="list-style-type: none"> <li>✚ know why spending too much time using technology can sometimes have a negative impact on me and what these are.</li> <li>✚ Know examples of activities that are easy to spend a lot of time engaged in and the impact on health(e.g. games, films, videos).</li> <li>✚ Give reasons why I should only share information with people I choose to and can trust and explain that if I am not sure or I feel pressured, I should ask a trusted adult.</li> <li>✚ Understand and give reasons why passwords are important.</li> <li>✚ Know why copying someone else's work from the internet without permission can cause problems. And give examples of what those problems might be.</li> </ul>
<p><b>Upper Key Stage 2</b></p>	<ul style="list-style-type: none"> <li>✚ Create, decompose and debug programmes using Scratch. Refer to (Use Y5-6 units of work to meet the needs of topic/maths work - times table creator, gaming unit and coin programme)</li> <li>✚ Understand how we view web pages on the Internet</li> <li>✚ Use search technologies effectively</li> <li>✚ Understand that web spiders index the web for search engines</li> <li>✚ Know how pages are ranked in a search engine.</li> </ul>	<ul style="list-style-type: none"> <li>✚ Use hyperlinks, sound clips and images to enhance a document (PPT, iMovies).</li> <li>✚ Collect data to be used in a spreadsheet and then use this to create a graph for science experiments using Microsoft Excel or Numbers.</li> <li>✚ Use a spreadsheet to calculate the cost of a shopping trip and budge for an event (summer fayre etc).</li> <li>✚ Create a movie of a class book including green screen effects (DoInk), soundtrack (GarageBand) and images (PicCollage or equivalent). (Also example of <i>sound and photography</i>)</li> <li>✚ Explain how photoshop images are used in the media and can evaluate and discuss images explaining the effects/filters to enhance the image.</li> </ul>	<ul style="list-style-type: none"> <li>✚ Explain how identity online can be copied, modified or altered.</li> <li>✚ Demonstrate responsible choices about my online identity, depending on context.</li> <li>✚ Explain that there are some people who children communicate with online who may want to do children harm and recognise that this is not my/our fault.</li> <li>✚ Make positive contributions and be part of online communities.</li> <li>✚ Describe some of the communities in which children can be involved and describe how collaboration with others is a positive activity (Sharepoint or Teams documents for collaborative working on topic work).</li> <li>✚ Search for information about an individual online and create a summary report of the information I find.</li> </ul>

			<ul style="list-style-type: none"> <li>✚ Describe ways that information about people online can be used by others to make judgments about an individual.</li> <li>✚ Recognise when someone is upset, hurt or angry online.</li> <li>✚ Know how to get help for someone that is being bullied online and assess when I need to do or say something or tell someone.</li> <li>✚ Explain how to block abusive users and how to report online bullying on the apps and platforms that I use.</li> <li>✚ Describe the helpline services who can support me and what I would say and do if I needed their help (e.g. Childline).</li> <li>✚ Use a search engine and explain key concepts including: data, information, fact, opinion belief, true, false, valid, reliable and evidence.</li> <li>✚ Explain why some information I find online may not be honest, accurate or legal.</li> <li>✚ Know why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation either by accident or on purpose).</li> <li>✚ • Know and describe some strategies, tips or advice to promote healthy sleep with regards to technology.</li> <li>✚ 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.</li> <li>✚ Explain how and why some apps may request or take payment for additional content (e.g. in-app purchases) and explain why I should seek permission from a trusted adult before purchasing.</li> </ul>
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			 Give examples of content that is permitted to be reused on searches such as google images.
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Area of Computing Curriculum			
Cycle B			
	<p><b>Computer Science</b>                      Computational Thinking                      Coding/Programming                      Computer Networks (KS2 only)</p>	<p><b>Information Technology</b>                      Word processing/ typing                      Data Handling                      Presentations &amp; E-book creations                      Animation                      Video creation                      Photography and digital art                      Sound</p>	<p><b>Digital Literacy including E-Safety.</b>                      1x E-safety lesson every half term working through PSHE units.  <b>Work linked to Project Evolve</b>                      Self-image &amp; Respect                      Online relationships                      Online Reputation                      Online Bullying                      Managing Online Information                      Health, Wellbeing and lifestyle                      Safety &amp; security                      Copywrite and Ownership</p>
<b>Key Stage 1</b>	<ul style="list-style-type: none"> <li>✚ Use programmes such as Scratch Jnr on iPad to create algorithms for specific tasks and debug programmes with minimal support. (<a href="https://www.scratchjr.org/teach/activities/tasks_1-9">https://www.scratchjr.org/teach/activities/tasks_1-9</a> to fit with topic links where appropriate)</li> </ul>	<ul style="list-style-type: none"> <li>✚ Use basic word processing knowledge to type up work from class topic work including images from the internet.</li> <li>✚ Create graphs and tallies for a science investigation using Excel.</li> <li>✚ Create animation of a class book using PuppetPals app. Include voiceovers and different backgrounds.</li> <li>✚ Manipulate information using a range of applications including Garageband.</li> </ul>	<ul style="list-style-type: none"> <li>✚ Recognise how people can use the internet to show a different image of themselves and how this can be misleading.</li> <li>✚ Explain how information put online about me can last for a long time.</li> <li>✚ know who to talk to if an individual thinks someone has made a mistake about putting something online.</li> <li>✚ Describe how to behave online in ways that do not upset others and can give examples.</li> <li>✚ Use search engines to research information for topics in history/geography.</li> <li>✚ Describe some of the methods used to encourage people to buy things online (e.g. advertising offers; in-app purchases, pop-ups) and can recognise some of these when they appear online.</li> <li>✚ Know the difference between online misinformation (inaccurate information distributed</li> </ul>



			<p>by accident) and dis-information (inaccurate information deliberately distributed and intended to mislead). I can explain what is meant by 'being sceptical'.</p> <ul style="list-style-type: none"> <li>✚ Explain that some people I 'meet online' (e.g. through social media) may be computer programmes pretending to be real people.</li> <li>✚ Explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true.</li> <li>✚ Use SMART as an acronym for internet safety.</li> <li>✚ Explain why other people's work belongs to them and why it can't be copied without permission.</li> <li>✚ Explain why other people's work belongs to them.</li> </ul>
<p><b>Lower Key Stage 2</b></p>	<ul style="list-style-type: none"> <li>✚ Use Scratch to create algorithms and debug where needed in small groups. (<a href="http://code-it.co.uk/scratch/scratchplan">http://code-it.co.uk/scratch/scratchplan</a> Use the Y4 units of work to meet the expectations of topic.</li> <li>✚ Understand that servers on the Internet are located across the planet.</li> <li>✚ Understand how email is sent across the Internet.</li> <li>✚ Understand how the Internet enables us to collaborate.</li> </ul>	<ul style="list-style-type: none"> <li>✚ Children can use borders and shadows to make work more eye-catching and within documents (PPT, Publisher, Word) shortcuts are used for efficiency. (including presentations and e-books)</li> <li>✚ Work is accurately produced including the use of internet dictionaries/thesauri understanding the difference between US and UK sites.</li> <li>✚ Children can edit and improve 3D animated stories in PuppetPals app.</li> <li>✚ Children can use iMovie to create a film about their topic and include green screen, animated titles, transitions and basic GarageBand soundtrack to engage the audience. (Including sound, photography)</li> </ul>	<ul style="list-style-type: none"> <li>✚ Explain how my online identity can be different to the identity I present in 'real life'. Knowing this, I can describe the right decisions about how I interact with others and how others perceive me.</li> <li>✚ Recap on the information in Cycle A and Describe strategies for safe and fun experiences in a range of online social environments.</li> <li>✚ Give examples of how to be respectful to others online.</li> <li>✚ Describe how others can find out information about me by looking online. Explain ways that some of the information about me online could have been created, copied or shared by others.</li> <li>✚ Identify some online technologies where bullying might take place.</li> <li>✚ Describe ways people can be bullied through a range of media (e.g. image, video, text, chat).</li> <li>✚ Explain why I need to think carefully about how content I post might affect others, their feelings and how it may affect how others feel about them (their reputation).</li> <li>✚ Explain how using technology can distract children from other things they might do or should be doing.</li> <li>✚ Know the importance of secure passwords.</li> </ul>

			<ul style="list-style-type: none"> <li>✚ Explain that others online can pretend to be me or other people, including my friends and suggest reasons why they might do this</li> <li>✚ Know that internet use can be monitored.</li> <li>✚ Explain how work can only be copied from the internet if it is allowed and give examples of where it is and is not allowed.</li> </ul>
<p><b>Upper Key Stage 2</b></p>	<ul style="list-style-type: none"> <li>✚ Create, decompose and debug programmes using Scratch. Refer to (<a href="http://code-it.co.uk/scratch/scratchplan">http://code-it.co.uk/scratch/scratchplan</a> Use the Y5 units of work to meet the needs of topic/maths work (Cartesian coordinates, primary games maker or counting programme).</li> <li>✚ Create a webpage using HTML content.</li> </ul>	<ul style="list-style-type: none"> <li>✚ Children can independently choose appropriate applications to demonstrate cross-curricular learning (i.e which app could be used to share knowledge of history topic. <i>(Encapsulating all the different areas of information technology depending on the task).</i></li> <li>✚ Children can create work for a specific audience and publish online through school website/ private school YouTube channel.</li> <li>✚ Children can create an E-Book for topic work.</li> <li>✚ Children can plan a script and create a news report/story in iMovie including the use of green screen , stop-motion animation, 3D animation (PuppetPals) and backing music (GarageBand).</li> </ul>	<ul style="list-style-type: none"> <li>✚ Describe ways in which media can shape ideas about gender.</li> <li>✚ Identify messages about gender roles and make judgements based on them.</li> <li>✚ Challenge and explain why it is important to reject inappropriate messages about gender online.</li> <li>✚ Describe issues online that might make me or others feel sad, worried, uncomfortable or frightened. I know and can give examples of how I might get help, both on and offline.</li> <li>✚ Explain why I should keep asking until I get the help I need.</li> <li>✚ Understand the responsibilities for the well-being of others in online social groups (gaming communities).</li> <li>✚ Explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming).</li> <li>✚ Demonstrate how to support others (including those who are having difficulties) online.</li> <li>✚ Demonstrate ways of reporting problems online for both myself and my friends (through online communities or CEOP)</li> <li>✚ Explain how children are developing an online reputation which will allow other people to form an opinion of them.</li> <li>✚ Describe some simple ways that help build a positive online reputation.</li> <li>✚ Know how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help</li> <li>✚ Identify a range of ways to report concerns both in school and at home about online bullying.</li> <li>✚ Know how search engines work and how results are selected and ranked.</li> </ul>

			<ul style="list-style-type: none"> <li>✚ Describe how some online information can be opinion and can offer examples.</li> <li>✚ Explain how and why some people may present 'opinions' as 'facts'.</li> <li>✚ Define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online (e.g. advertising and 'ad targeting').</li> <li>✚ Know common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose.</li> <li>✚ Explain the importance of self-regulating the use of technology and describe different strategies that could be used.</li> <li>✚ Know the importance of a strong password and know what to do if this password is lost or stolen.</li> <li>✚ Explain what app permissions are and can give some examples from the technology or services I use.</li> <li>✚ Understand ways in which some online content targets people to gain money or information illegally;</li> <li>✚ Know how to correctly reference material that has been copied or taken from the internet.</li> </ul>
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