Vicarage PRIMARY SCHOOL

BE THE BEST YOU CAN BE

Computing - Computer Science

Skills	Use a program that allows children to select objects and animate them. With help, use buttons to play back sounds on a computer and a sound player. Use a variety of electronic toys in play situations, e.g., dance mats, Bee-bots, and remote control toys, using basic directional language.	Understand what algorithms are Create simple programs	Understand that algorithms are implemented as programs on digital devices Understand that programs execute by following precise and unambiguous instructions Debug simple programs Use logical reasoning to predict the behaviour of simple programs	Write programs that accomplish specific goals Use sequence in programs Work with various forms of input Work with various forms of output	Design programs that accomplish specific goals Design and create programs Debug programs that accomplish specific goals Use repetition in programs Control or simulate physical systems Use logical reasoning to detect and correct errors in programs Understand how computer networks can provide multiple services, such as the World Wide Web Appreciate how search results are selected	Solve problems by decomposing them into smaller parts Use selection in programs Work with variables Use logical reasoning to explain how some simple algorithms work Use logical reasoning to detect and correct errors in algorithms Understand computer networks, including the internet Appreciate how search results are ranked	Work with multiple variables Explore use of text based language using Python Predict multiple errors in a script and debug Use logical reasoning to evaluate and make adjustments in accordance to audience and purpose. Use of multiple variables. Use of selection and function features with ease.
Key Vocabulary		Predict Programming Robot Algorithm Data Sequence Step by step Problem Instruction	Sprite Output Input Algorithm Debugging Program Data Animation Code	Test Selection Repetition Variables Logical reasoning Coordinates Overlap Bug Script Algorithm Animation Input Output Program Script Storyboard	Interface Prototype Interactive Simulation Composition Software Code Storyboard Debugging Input Interface Output Program Prototype Repetition Variable	Navigate Computational logic Conditional operators Hypotheses Decomposition Variable Function Perseverance Process	Abstraction Python Linear search Pseudocode Selection Print Procedure Syntax Binary Repetition Variable
EYFS	🟦	🟦	🟦		🟦	🟦	🟦
Year 1		🟦	🟦		🟦	🟦	🟦
Year 2			🟦	🟦	🟦	🟦	🟦
Year 3				🟦	🟦	🟦	🟦
Year 4					🟦	🟦	🟦
Year 5						🟦	🟦
Year 6							🟦

Computing - Online safety

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7
Skills	**Media balance and Wellbeing** How do you say goodbye to technology when you don't want to? **Privacy and security** How do you go places safely online?	**Media balance and Wellbeing** Why is it important to listen to your feelings when using technology? **Privacy and security** How do you stay safe when visiting a website or app?	**Media balance and Wellbeing** Why is it important that we have device-free moments in our lives? **Privacy and security** What kinds of information should I keep to myself when I use the internet? **Digital footprint and identity** What information is ok to have on your digital footprint? **Relationship and communication** How are we all part of an online community? **Cyberbullying, digital drama and hate speech** What should you do if someone is mean to you online? **News and Media literacy** How can you give credit for other people's work?	**Media balance and Wellbeing** How do digital citizens take responsibility for themselves, their communities, and their world? **Privacy and security** How can a strong password help protect your privacy? **Digital footprint and identity** How does what I post online affect my identity? **Relationship and communication** What makes a strong online community? **Cyberbullying, digital drama and hate speech** What should you do when someone uses mean or hurtful language on the internet? **News and Media literacy** Why do people alter digital photos and videos?	**Media balance and Wellbeing** What makes a healthy media choice? **Privacy and security** What information of yourself is okay to share online? **Digital footprint and identity** How does what I post online affect my identity? **Relationship and communication** How can I be positive and have fun while playing online games, and help others do the same? **Cyberbullying, digital drama and hate speech** How can we be upstanders when we see bullying? **News and Media literacy** What rights and responsibilities do you have as a creator?	**Media balance and Wellbeing** What does media balance mean for me? **Privacy and security** What is clickbait and how can you avoid it? **Digital footprint and identity** How do gender stereotypes shape our experiences online? **Relationship and communication** How do you keep online relationships safe? **Cyberbullying, digital drama and hate speech** What is cyberbullying and what can you do to stop it? **News and Media literacy** What are the important parts of an online news article?	**Media balance and Wellbeing** How do we balance digital media use in our lives? **Privacy and security** How can you protect yourself from phishing? **Digital footprint and identity** What are the benefits and drawbacks of presenting yourself in different ways online? **Relationship and communication** How do you chat safely with people you meet online? **Cyberbullying, digital drama and hate speech** How can you de-escalate digital drama so it doesn't go too far? **News and Media literacy** How do we find credible information on the internet?
Key Vocabulary		Safety Emotions Unacceptable behaviour Acceptable behaviour Kindness Positive Negative Respect Password Goal Text Kindness Communication Device Manipulate Edit	Sharing Oversharing Setting Personal information Cyberbullying Digital footprint Boundaries Permission Private Danger Sharing Digitally responsible Reporting Help Respect	Digital footprint Verification Scams Hacks Social media Blocking Reporting Bystander Upstander Evaluate Appropriate Website Strategies Resilience Tools Internet	Online presence Privacy and security Online community Personal boundaries Two step verification Security token Trustworthy Verifiable Content Virus Parental permission Audience Age restriction Application	Anti-virus Anti-scam Personal information Parental control Social community Credibility Validity Copyright Fraud Negative Impact Critical analysis Positive online Community Personal information	Critical analysis Authenticity Spear phishing Phishing hook Firewall Filtering Cookies Amplify Encrypted Online persona Consequence Oversharing Validity
EYFS	■						
Year 1	■	■					
Year 2		■	■				
Year 3			■	■			
Year 4				■	■		
Year 5					■	■	
Year 6						■	■

Computing – Creativity

Skills	With support, use a digital camera or digital video camera to take pictures, be aware that digital pictures and video can be displayed on a computer screen · With support, use cassette recorders / CD players to listen to pre-recorded sound With support, use cassette recorders / Dictaphones / sound buttons to record and playback sounds e.g. own voice, other voices and experiment with music software	Use the web safely to find ideas for an illustration Select and use appropriate painting tools to create and change images on the computer Understand how this use of ICT differs from using paint and paper Create an illustration for a particular purpose Know how to save, retrieve and change their work Reflect on their work and act on feedback received.	Consider the technical and artistic merits of photographs Use a digital camera or camera app Take digital photographs Review and reject or pick the images they take Edit and enhance their photographs Select their best images to include in a shared portfolio.	Gain skills in shooting live video, such as framing shots, holding the camera steady, and reviewing Edit video, including adding narration and editing clips by setting in/out points Understand the qualities of effective video, such as the importance of narrative, consistency, perspective and scene length.	Use one or more programs to edit music Create and develop a musical composition, refining their ideas through reflection and discussion Develop collaboration skills Develop an awareness of how their composition can enhance work in other media.	Develop an appreciation of the links between geometry and art Become familiar with the tools and techniques of a vector graphics package Develop an understanding of turtle graphics Experiment with the tools available, refining and developing their work as they apply their own criteria to evaluate it and receive feedback from their peers Develop some awareness of computer-generated art, in particular fractal-based landscapes.	Think critically about how video is used to promote a cause Storyboard an effective advert for a cause Work collaboratively to shoot suitable original footage and source additional content, acknowledging intellectual property rights Work collaboratively to edit the assembled content to make an effective advert.
Key Vocabulary	Hardware devices Digital camera Video camera Video Sound Picture Music Computer screen Cassette CD players CD player Software Dictaphone playback sound	Character eBook Edit Illustration Traditional tale	Camera Image Picasa Pixel Portfolio Theme	Audio Close-up Editing Footage Planning Shooting Video camera Zooming	Audio Composition Copyright Digital Instruments Pitch Sample Sequencing Software	Geometry Sprite landscape Op art Symmetry Tessellations	Footage Rough cut Storyboard Advert Creative Commons Video camera Rushes of footage Final cut
EYFS	■	■	■	■	■	■	■
Year 1		■	■	■	■	■	■
Year 2			■	■	■	■	■
Year 3				■	■	■	■
Year 4					■	■	■
Year 5						■	■
Year 6							■

Computing – Computer Network							
Skills	Do practical sorting activities and discuss sorting criteria Begin to develop simple classification skills	Find and use pictures on the web Know what to do if they encounter pictures that cause concern Group images on the basis of a binary (yes/no) question Organise images into more than two groups according to clear rules Sort (order) images according to some criteria Ask and answer binary (yes/no) questions about their images.	Develop collaboration skills through working as part of a group Develop research skills through searching for information on the internet Improve note-taking skills through the use of mind mapping Develop presentation skills through creating and delivering a short multimedia presentation.	Understand the physical hardware connections necessary for computer networks to work Understand some features of internet protocols Understand some diagnostic tools for investigating network connections Develop a basic understanding of how domain names are converted to IP addresses.	Understand some technical aspects of how the internet makes the web possible Use HTML tags for elementary mark up Use hyperlinks to connect ideas and sources Code up a simple web page with useful content Understand some of the risks in using the web.	Develop their research skills to decide what information is appropriate Understand some elements of how search engines Select and rank results question the plausibility and quality of information Develop and refine their ideas and text collaboratively Develop their understanding of e-safety and responsible use of technology.	Appreciate that computer networks transmit and Receive information digitally Understand the basic hardware needed for computer networks to work Understand key features of internet communication protocols Develop a basic understanding of how domain names are converted to numerical IP addresses.
Key Vocabulary	Sorting Matching Same Different	Algorithm Copyright e-safety Manuel Permission Personal Private	Google Mind map Presentation Research Search Search engine	Command prompt Internet IP address Network Packet of data Ping Router Wi-Fi	Code HTML HTTP (hyper text Transfer protocol) Hyperlink Tag URL Web page	Bias E Safety Page rank Revision history Search engine Wiki	Command prompt Internet IP address Packet of data The web webserver Network Domain Name Service (DNS)
EYFS							
Year 1							
Year 2							
Year 3							
Year 4							
Year 5							
Year 6							

Computing - Communication/ collaboration							
Skills	With support, use a range of devices including tablets, cameras and microphones Use the keyboard to enter letter strings (play writing) Begin to use the space bar to break letter strings into groups of letters · Use the Back Space key to delete, use a word bank or word list to enter text e.g. to match with pictures	Use sound recording equipment to record sounds Develop skills in saving and storing sounds on the computer Develop collaboration skills as they work together in a group Understand how a talking book differs from a paper-based book Talk about and reflect on their use of ICT share recordings with an audience.	Understand that email can be used to communicate Develop skills in opening, composing and sending emails Gain skills in opening and listening to audio files on the computer Use appropriate language in emails Develop skills in editing and formatting text in emails Be aware of e-safety issues when using email.	Develop a basic understanding of how email works Gain skills in using email Be aware of broader issues surrounding email, including 'netiquette' and e-safety Work collaboratively with a remote partner experience video conferencing.	Understand the conventions for collaborative online work, particularly in wikis Be aware of their responsibilities when editing other people's work Become familiar with Wikipedia, including potential problems associated with its use practise research skills Write for a target audience using a wiki tool Develop collaboration skills Develop proofreading skills.	Become familiar with blogs as a medium and a genre of writing Create a sequence of blog posts on a theme Incorporate additional media Comment on the posts of others Develop a critical, reflective view of a range of media, including text.	Research a location online using a range of resources appropriately. Understand the safe use of mobile technology, including GPS. Capture images, audio and video while on location showcase shared media content through a mapping layer.
Key Vocabulary	Hardware devices Keyword Space bar Back space	Audio book Copyright Microphone Recording Sound effects Talking book	Address Attachment Database Evidence Email Fact file Header Safety	Attachment Email E-safety Spam Spoofed link Video conference Virus	Edit Information Mind map Reliable Style Wiki Wikipedia's Five Pillars	Audience Blog Blogroll Copyright Dashboard Hyperlink Podcast	Geotagging GPS Route Location Track-log Smartphone Map Metadata
EYFS	▓	▓	▓	▓	▓	▓	▓
Year 1		▓	▓	▓	▓	▓	▓
Year 2			▓	▓	▓	▓	▓
Year 3				▓	▓	▓	▓
Year 4					▓	▓	▓
Year 5						▓	▓
Year 6							▓

	Computing - Research						
Skills	Explore selected internet website resources (with adult support) Begin to be aware of internet safety rules	Can talk about websites they have been on Can explore a website by clicking on buttons, arrows, menus and hyperlinks Can navigate 'back' by clicking on the 'back' button Can complete a search using a child friendly search engine under the supervision of adults	Can complete a search using a child friendly search engine independently Can use the Internet to find information for a topic, with support (Favourites file, hyperlinks set up by the teacher)	Can type in a URL to find a website Can add websites to favourites Can use a search engine to find a range of media, e.g. images, text Can understand Internet safety rules.	Can think of search terms to use linked to questions they are finding the answers for Can talk about the reliability of information on the Internet, e.g. the difference between fact and opinion · Can use Internet safety rules	Can use advanced search functions in Google, e.g. quotations Can use AND and OR in their searches Can check the accuracy of information, with support Can begin to be aware of privacy and other issues related to using the Internet Can interpret and question the plausibility of information	Understand websites such as Wikipedia are made by users (link to E-Safety) Can suggest ways to check the accuracy of information independently Can be aware of privacy and other issues related to using the Internet
Key Vocabulary	URL Website Links Safety Browser	arrow Hyperlink Menu Back Browser Search bar Keywords Search engine	Purpose Favourites Tabs arrow Hyperlink Menu Back Browser Search bar Keywords Search engine	URL Https Favourites Websites Media Images Maps Web links Online safety	Purpose Reliability Authenticity Validity Internet Fat Opinion Online safety	Advanced search Google Search engine And/OR Validity Authenticity Privacy Plausibility Fact Opinion Audience	Wikipedia Forums Advanced search Google Search engine And/OR Validity Authenticity Privacy Plausibility Fact Opinion Audience
EYFS	■	■	■	■	■	■	■
Year 1		■	■	■	■	■	■
Year 2			■	■	■	■	■
Year 3				■	■	■	■
Year 4					■	■	■
Year 5						■	■
Year 6							■

Computing - Text							
Skills	Use the keyboard to enter letter strings (play writing) Begin to use the space bar to break letter strings into groups of letters · Use the Back Space key to delete, use a word bank or word list to enter text e.g. to match with pictures	Can access and open a word processing document Can enter text Can use upper and lower case letters Can use the space bar Can use the Return key Can use the Shift key to create a capital letter Can understand how to sue the delete/backspace key if they have mistyped or repeated a letter Can word process short texts using word lists Can move the cursor and insert text	Can understand how text can be saved and retrieved Can change the font style Can change the font size Can change the font colour Can use the cursor (arrow) keys for simple on screen editing Can import graphics and add text, with support	Can select text and change the font style, size and colour Can select text and use Bold and Underline icons Can confidently use the cursor (arrow) keys for simple on screen editing Can use the scroll bars to view different parts of the document justify/align text · Can import graphics and add text	Can import graphics and use the Picture Toolbar to choose the text wrapping · Can use the spell checker Can use Page Setup to choose Portrait or Landscape page as appropriate Can learn how to insert and use a simple table Can use the Zoom menu to view the whole page Can use word art	Use their word processing skills in a range of contexts Can change the layout of a document using centering and justification Can use the tab key to format a list Can import, position and manipulate graphics into word processing document Can moving, resizing and reshaping text and graphics on a page	Use their word processing skills in a range of contexts Can split cells in a table Can merge cells in a table Can insert/delete cells in a table Can use Find, search and replace if appropriate
Key Vocabulary	Keyboard Space bar Back space Delete	Word processing Upper case Lower case Space bar Return key Paragraph Shift ky Capital letters Cursor	Save Retrieve Documents Font Colour, style Graphics Import Export	Bold Underline Cursor Scroll bar Align text Graphics	Picture toolbar Text wrapping Spell check Page setup Page orientation Insert Tables Zoom Word art	Centering Justification Manipulate Resizing Reshaping	Cells Row Colum Table Split Merge Find Search Replace
EYFS	■	■	■	■	■	■	■
Year 1		■	■	■	■	■	■
Year 2			■	■	■	■	■
Year 3				■	■	■	■
Year 4					■	■	■
Year 5						■	■
Year 6							■