

Overview Computing Year 4

-Computational Thinking

-Digital Literacy and Online Safety

-Computers and Hardware

	Autumn Term		Spring Term		Summer Term	
Big Question	What makes a good civilisation?		How do you leave a legacy?		What makes a good mystery?	
Other Subject links	Ancient Greece, map work, living things & habitats.		Roman & Celt invaders & settlers. Art - Celtic mosaics, Anglo-Saxon masks		Egypt. DT- making Shadufs	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computational Thinking 	HTML  	Website Design 	Collaborative Learning 	Further Coding with Scratch 	Investigating Weather  
National Curriculum	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors		- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns.		- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	

	in algorithms and programs.	simple algorithms work and to detect and correct errors in algorithms and programs.		ways to report concerns about content and contact. - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - Understand computer networks including the internet; how they can provide multiple services such as the world wide web; and the opportunities they offer for communication and collaboration.	- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	
Knowledge	Explain how online identity can be different to the identity presented in 'real life'. Know how to solve unplugged problems by decomposing them into smaller parts. Know how to use decomposition to help solve problems. Identify patterns through unplugged activities. Know how to use abstraction to identify the important parts when completing both plugged and unplugged activities. Know how to create algorithms for a specific purpose.	Know how to analyse information and differentiate between 'opinions', 'beliefs' and 'facts'. Identify examples of how to be respectful to others online. Know that websites can be altered by exploring the code beneath the site.	Explain 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. Know how to build a webpage with content for a given purpose. Know that websites can be altered by exploring the code beneath the site.	Identify some online technologies where bullying might take place. Know ways people can be bullied through a range of media (e.g. image, video, text, chat). 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). Know how to build a webpage with content for a given purpose. Know how to use Google online software for documents, presentations, forms and spreadsheets.	Explain what a strong password is. Know strategies for keeping my personal information private, depending on context. Explain that others online can pretend to be me or other people, including my friends and suggest why they might do this. Know how to solve unplugged problems by decomposing them into smaller parts. Know how to use decomposition to help solve problems. Identify patterns through unplugged activities.	Explain why, when searching on the internet for content to use, we need to consider who owns it and whether we have the right to reuse it. Know how to use Google online software for documents, presentations, forms and spreadsheets. Know that computer networks provide multiple services such as the World Wide Web and opportunities for communication and collaboration. Know the role of inputs and output in computerised devices.

	Know how to use abstraction and pattern recognition to modify code. Know how to incorporate variables to make code more efficient. Know how to remix existing code. Know how to use a systematic approach to debugging code; justifying what is wrong and how it can be corrected.			Know that software can be used collaboratively online to work as a team.	Know how to use abstraction to identify the important parts when completing both plugged and unplugged activities. Know how to create algorithms for a specific purpose. Know how to use abstraction and pattern recognition to modify code. Know how to incorporate variables to make code more efficient. Know how to remix existing code. Know how to use a systematic approach to debugging code; justifying what is wrong and how it can be corrected.	
Skills	<u>Online Safety</u> - I follow the school's safer internet rules. - I understand the need to develop an alias for some public online use. - I can use repeat instructions to draw regular shapes on screen, using commands.	<u>Online Safety</u> - I know how to respond if asked for personal information or feel unsafe about the content of a message. - I understand that the internet contains fact, fiction and opinion and begin to distinguish between them.	<u>Online Safety</u> - I understand the need for caution when using an internet search for images and what to do if I find an unsuitable image. - I understand that the outcome of internet searches at home may be different than at school. - I know how to manipulate text, underline text, centre text, change font and size and save text to a folder.	<u>Online Safety</u> - I can recognise that cyber bullying is unacceptable and will be sanctioned in line with the school's policy. - I know how to report an incident of cyber bullying. - I understand the need for rules to keep safe when exchanging learning and ideas online. - I understand that if I make personal information available	<u>Online Safety</u> - I can use different search engines. - I understand the need to keep personal information and passwords private. - I can use repeat instructions to draw regular shapes on screen, using commands.	<u>Online Safety</u> - I can recognise that information on the internet may not be accurate or reliable and may be used for bias, manipulation or persuasion. - I can use strategies to verify information, e.g. cross-checking. - I recognise the difference between the

	- I can experiment with variables to control models. - I can make turns specifying the degrees. - I can give an on-screen robot specific directional instructions that takes them from x to y. - I can make accurate predictions about the outcome of a program they have written.	- I can use a search engine to find a specific website. - I can use note-taking skills to decide which text to copy and paste into a document. - I can use tabbed browsing to open two or more web pages at the same time. - I can open a link to a new window. - I can open a document (PDF) and view it.	- I can capture images using webcams, screen capture, scanning, visualiser and internet. - I can choose images and download into a file. - I can download images from the camera into files on the computer. - I can copy graphics from a range of sources and paste into a desktop publishing program.	online it may be seen and used by others. - I know the difference between online communication tools used in school and those used at home. - I appreciate the benefits of ICT to send messages and to communicate. - I can use the automatic spell checker to edit spellings. - I can create a lengthy presentation that moves from slide to slide and is aimed at a specific audience. - I can insert sound recordings into a multimedia presentation.	- I can experiment with variables to control models. - I can make turns specifying the degrees. - I can give an on-screen robot specific directional instructions that takes them from x to y. - I can make accurate predictions about the outcome of a program they have written.	work of others which has been copied (plagiarism) and restructuring materials which are unique and new. - I understand that copyright exists on most digital images, video and recorded music. - I can input data into a prepared database. - I can sort and search a database to answer simple questions. - I recognise what a spreadsheet is. - I can use the terms 'cells', 'rows', and 'columns'. - I can enter data, highlight it and make bar charts. - I can capture images using webcams, screen capture, scanning, visualiser and internet.
Vocabulary	Abstraction, algorithm design, code, code blocks, computational thinking, decompose, pattern recognition, problem, sequence	Code, content, CSS, hacker, Hex code, HTML, internet browser, script, URL, web page	Icon, insert, link, edit, presentation,, share, embed, hyperlink, tab, www, content, create, CSS, hacker, HTML, internet browser, script URL, web page	Collaborate, comment, e-document, icon, insert, link, presentation, reply, reviewing comments, share, embed, hyperlink, tab, www	Automated machine, calculate, forecast, log data, predict, record, sensor, source, spreadsheet,	Algorithm, calculate, conditional statement, orientation, position, log data, predict, record, abstraction, code, code blocks, computational thinking, decompose,

						pattern recognition, sequence, variable.
Computer program/s and/or devices needed	Google Sheets Green Screen WeVideo/Shotcut		Google Sites	Google Docs, Google Slides Google Forms	Scratch 3.0	