West Norfolk Academies Trust

West Norfolk Academies Trust (Primary) – Curriculum Map – Computing

Computer Science (algorithms, data representation), ICT (Office Programmes) and Digital Literacy (different ways of writing a programme).

	Autumn 1st	Autumn 2nd	Spring 1st	Spring 2nd	Summer 1st	Summer 2nd
Year 1 **Knowledge**	**Online Safety** Find work on the Online Work area Learn how to search to find resources Add pictures and text to work, open, save and print Understand the importance of logging out		**Coding** Know what coding means Use code blocks to make a character perform actions Use collision detection Save and share work Know save,print, open and new icon		**Grouping and Sorting** Sort items using a range of criteria and by 'grouping' in different ways	
	Pictograms To understand that data can be represented in picture format Make a class pictogram and use a pictogram to record results of an experiment				**Spreadsheets** Understand what a spreadsheet is and how to use it, including: entering data adding clipart and using control tools such as lock move cells speak and count	
					Technology Outside of School To find and record examples of technology around the local community	

Year 1 **Vocabulary**	**Online Safety** Login, username, password, avatar, my work, log out, save, notification, topics, tools		**Coding** Action, background, button, character, code block, code design, coder, coding, input, program		**Grouping and Sorting** Arrow keys, backspace, cursor, columns, cells, clipart, count tool, delete key, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet	
	Pictograms Pictogram, data, collate				**Technology Outside of School** technology, environment, designer	
Year 2 **Knowledge**	**Online Safety** Use a search tool Send emails Understand that information on-line leaves a digital footprint How to keep data and hardware secure		**Coding** To understand what an algorithm is To design algorithms and then code them To compare different object types To use the repeat command To use the timer command To know what debugging is and debug programs		**Spreadsheets** Use tools in a spreadsheet programme to: copy and paste find a total complete money calculations collect data produce graphs	
	Effective searching To understand terminology surrounding searching Create a leaflet showing how to search effectively				**Making Music** To make music digitally by exploring, editing and combining sounds To use sounds from a sound bank and those recorded in the environment to express feelings	
Year 2 **Vocabulary**	**Online Safety** Search, display board, Internet, sharing, email, attachment, digital footprint		**Coding** Alert, bug, debug/debugging, algorithm, repeat, when clicked, when key *REVIEW PREVIOUS VOCAB*		**Spreadsheets** Backspace key, copy and paste, columns, cells, count tools, delete key, equals tool, image toolbox, lock key, move cell tool, rows, speak tool, spreadsheet	

	Effective searching Internet, search, search engine.				**Making Music** Bpm, composition, digitally, instrument, music, sound effects, soundtrack, tempo, volume.	
Year 3 **Knowledge**	**Online Safety** What makes a safe password and how to keep them safe How the internet is used to communicate and how a blog reaches a wider audience To consider if websites are truthful. Learn the meanings of age restriction symbols		**Coding** Design algorithms using flowcharts . Design an algorithm that represents a physical system Use the "if" command when coding To understand and use variables To understand and use timers and repeat commands		**Touch Typing** Typing terminology How to sit at the keyboard How to use the home, top and bottom row keys Using the left and right hand to touch type	
	Spreadsheets Use the symbols more than less than and equal to, to compare values To use a spreadsheet program to collect data and produce graphs To understand cell references				**Graphing** Entering data into a graph and answering questions solving an investigation and presenting the results in graphic form	
Year 3 **Vocabulary**	**Online Safety** Password, Internet, Blog, Concept Map, Username, Website, Webpage, Spoof Website, PEGI rating		**Coding** Algorithm, Bug, Command, Control, Debug/Debugging, Event, If, Input, Output, Object, Properties, Repeat, Computer Simulation, Timer, Variable *REVIEW PREVIOUS VOCAB*		**Touch Typing** Posture, top row keys, bottom row keys, space bar	
	Spreadsheets More than >, Less than <, Equal to =, Copy and Paste, Columns, Cells, Delete, Rows, Spreadsheet				**Graphing** Graph, field, data, bar chart, block graph, line graph	

Year 4 **Knowledge**	**Online Safety** To understand what identity theft is how to protect themselves To identify the risks and benefits of installing software including apps To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism To identify appropriate behaviour when participating or contributing to collaborative online projects for learning To identify the positive and negative influences of technology on health and the environment To understand the importance of balancing game and screen time with other parts of their lives.		**Coding** To use selection in coding with the 'if/else' command. To understand and use variables in 2Code. To use flowcharts for design of algorithms including selection. To use the 'repeat until' with variables to determine the repeat. To learn about and use computational thinking terms decomposition and abstraction.		**Spreadsheets** Formatting cells as currency, percentage, decimal to different decimal places or fraction Using formula to calculate averages Combining tools to make spreadsheet activities Using a spreadsheet to model a real-life situation Adding formula to a cell to automatically make a calculation in that cell.	
	Animation To understand what makes a good animated film or cartoon To learn how animations are created by hand To find out how to animate on a computer program To learn about onion skinning in animation To add backgrounds and sounds to animations To be introduced to 'stop motion' animation To share animation on the class display board and by blogging.				**Effective searching** To locate information on the search results page To use search effectively to find out information To assess whether an information source is true and reliable	

Year 4 **Vocabulary**	**Online Safety** computer virus, cookies, copyright, digital footprint, email, identity theft, malware, plagiarism, spam		**Coding** alert, control, event, output, selection, if, stimulation, variable *REVIEW PREVIOUS VOCAB*		**Spreadsheets** average, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, rows, spreadsheet, timer	
	Animation animation, flipbook, frame, onion skinning, background, play, sound, stop motion, video clip				**Effective searching** easter egg, internet, internet browser, search, search engine, spoof website, website	
Year 5 **Knowledge**	**Online Safety** To understand the benefits and risks of a mobile device broadcasting location To know that secure sites are identified by the privacy sign Review benefits and risks of giving out personal information To know the meaning of digital footprint, appropriate online behaviour, persistent online information and positive and negative influences of tech on health.		**Coding** To represent a program through design and algorithms To create a program that simulates a physical system using decomposition To explore string and text variable types so that the most appropriate can be used in programs To use the Launch command in a coding program To program a playable game with timers and scorepad.		**Spreadsheets** Add a formula to a cell to automatically make a calculation in that cell Use copy and paste on a spreadsheet Test a hypothesis Using a spreadsheet to model a real-life situation and answer questions	
	Game Creator To set the scene. To create the game environment, and create the game quest. Evaluate their and their peers' games.				**Hardware Investigators** To understand the different parts that make up a computer To recall the different parts that make up a computer.	
Year 5 **Vocabulary**	**Online Safety** digital footprint, Password, PEGI rating, Phishing, Screen time, Spoof website		**Coding** decomposition,get input, if/else sequence, selection, simulation *REVIEW PRIOR VOCAB*		**Spreadsheets** average, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, rows, spreadsheet, timer	

	Game Creator animation, computer game, customise, evaluation, image, instructions, interactive, screenshot, texture, perspective, playability				**Hardware Investigators** motherboard, CPU, RAM, graphics card, network card, monitor, speakers, keyboard and mouse	
Year 6 **Knowledge**	**Online Safety** Identify benefits and risks of mobile devices broadcasting the location of the user/device Identify secure sites by looking for privacy seals of approval Identify the benefits and risks of giving personal information To review the meaning of a digital footprint To have a clear idea of appropriate online behaviour To begin to understand how information online can persist To understand the importance of balancing game and screen time with other parts of their lives To identify the positive and negative influences of technology on health and the environment.		**Coding** To use the program design process, including flowchart, To develop algorithms for more complex programs Using and understanding of abstraction and decomposition to define the important aspects of the program To code, test and debug from these designs To use functions and tabs in a coding program to improve the quality of the code To code user interactivity using input functions.		**Binary** To understand binary and denary and use this to convert numbers from decimal to binary and vice versa. To represent states of objects in their own programme using binary.	
	Spreadsheets To use a spreadsheet to investigate the probability of the results of throwing many dice Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell				**Networks** To understand what the Internet consists of including what a LAN and WAN are To understand how the Internet is accessed in school and how old it is.	

	To create graphs showing the data collected To type in a formula for a cell to automatically make a calculation in that cell, Using a spreadsheet to create computational models and answer questions.					
Year 6 **Vocabulary**	**Online Safety** digital footprint, password, PEGI rating, phishing, screen time, spoof website.		**Coding** action, background ,button, character, code block, code design, coder, coding,input,program, alert, bug, debug/debugging, algorithm, repeat, when clicked, when key, command, algorithm, bug, control, debug/debugging, event, if, input, output, object, properties, repeat, computer Simulation, Timer, Variable *NOTE: Most, if not all of this vocab is accessed through prior learning.*		**Binary** base 10, base 2, binary, bit, byte, decimal, denary, digit, gigabyte, integer, kilobyte, machine code, megabyte, nibble, switch, terabyte, transistor, variable.	
	Spreadsheets average, copy and paste, columns, cells, charts, dice, equals tool, formula wizard, move cell tool, rows, spreadsheet, timer				**Networks** internet, world wide web, network, local area network, wide area network, router, network cables, wireless.	