

Computing Curriculum

At The Duston School, we use the Barefoot Computing at School for the planning of computing in EYFS and the National Centre for Computing Education (NCCE) curriculum to teach computing in Years 1-6, to ensure that our children are offered a progressive curriculum, where skills are revisited, developed and extended year on year. Units are carefully scaffolded to develop technical programming skills, an understanding of computer systems and networks as well as the ability to present information or create media. Teacher's subject knowledge and confidence is supported through the teaching resources and guides which run alongside each unit plan.

Whilst recognising the benefits that technology brings, children are taught about the risks that the technological world can present. They learn strategies to ensure safe and positive experiences, whilst using technology, at an age-appropriate level. We follow the Project Evolve – Education for a Connected World' framework to ensure the progressive, up to date teaching of Online Safety throughout all year groups.

Curriculum Map

Curriculum Map and Key Knowledge Goals						
EYFS						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
		Awesome Autumn - Repeating patterns - Prediction - Spotting mistakes - Directions - Instructions.	Amazing Aliens - Similarities - Logical reasoning - Predicting - Check and fix - Directions			Summer Fun - Representing groupings Pictogram. - Position on a map. - Turn and rotate
Key Stage 1						
Year 1	Computing systems and networks – Technology around us - Mouse and keyboard use - Editing text - Responsible use	Creating media – Digital painting - Freehand tools - Shape and line tools - Digital pictures - Comparisons	Programming A – Moving a robot - Combining commands - Sequences - Simple programs - Solutions	Data and information – Grouping data - Label objects - Properties - Compare groups - Answer questions	Creating media – Digital writing - Add and remove text - Change text - Choosing tools - Comparing	Programming B - Programming animations - Series of commands - Changing a value - Sprites - Algorithms
Year 2	Computing systems and networks – IT around us - Features of IT - Uses of IT - Using information technology safely	Creating media – Digital photography - Digital devices - Improving photography - Tools to change an image	Programming A – Robot algorithms - Ordering of instructions - Logical reasoning - Predicting - Debugging a program	Data and information – Pictograms - Tally charts - pictograms - Comparisons - Attributes - Present information	Creating media - Digital music - Patterns in music - Musical pattern - Music for a purpose - Refining	Programming B - Programming quizzes - Sequences of commands - Creating a program - Improving a project
Lower Key Stage 2						
Year 3	Computing systems and networks – Connecting computers - Input and output - Computer networks - Sharing information	Creating media - Stop-frame animation - Animation - Sequence drawings or photographs - Evaluate impact	Programming A - Sequencing sounds - Programming - Sequences of commands - Project from a task description	Data and information – Branching databases - Identifying attributes - Branching databases - Identification tools	Creating media – Desktop publishing - Page settings - Desktop publishing - Layouts for purposes	Programming B - Events and actions in programs - Explaining sprites - Creating a program - Adding features - Identify and fixing bugs

Year 4	Computing systems and networks – The Internet - Connecting networks - Content on the World Wide Web - Unreliable content	Creating media - Audio production - Sound recording - Editing audio - Creating a podcast - Evaluating audio	Programming A – Repetition in shapes - Accuracy in programming - Text--based language - Count-controlled loops	Data and information – Data logging - Data gathering over time - Collecting data automatically - Analysing data	Creating media – Photo editing - Changing digital images - cloning - Combining images	Programming B – Repetition in games - Count-controlled loops - Infinite loops
	Upper Key Stage 2					
Year 5	Computing systems and networks - Systems and searching - Systems - Selecting search engines results	Creating media - Video production - Capturing video - improving video - Reshooting and editing	Programming A – Selection in physical computing - Controlling circuits - Count-controlled loops	Data and information – Flat-file databases - Sorting data - used to comparing data visually - Real-world databases	Creating media – Introduction to vector graphics - Drawing tools - Vector drawing by combining shapes	Programming B – Selection in quizzes - Conditional statements connecting a condition - Directing the flow of a program
Year 6	Computing systems and networks - Communication and collaboration - Internet addresses - Transferring data across the internet	Creating media – Web page creation - Reviewing websites - Ownership - Navigation path - Implications of linking to content	Programming A – Variables in games - Using variables in a program - Improving a game by using variables	Data and information – Spreadsheets - Data set in a spreadsheet - Formulas to produce calculated data	Creating media – 3D Modelling - Three dimensions on a computer - Modifying.3D objects	Programming B - Sensing movement - Controllable devices - Using inputs and outputs on a controllable device
e-Safety success criteria (& Project Evolve resources)						
	Units are repeated and progressive as the children move through the school.					
	EYFS and KS1					
	Autumn 1		Spring 1		Summer 1	
	Self-Image and Identity Online Relationships		Online Reputation Online Bullying		Managing Online Information Privacy and Security	
	KS2					
	Autumn 1		Spring 1		Summer 1	
Y3	Self-Image and Identity Online Relationships 1		Online Relationships 2 Online Bullying		Health and Wellbeing	
Y4	Self-Image and Identity Online Relationships		Online Reputation Online Bullying		Health and Wellbeing Privacy and Security	
Y5	Self-Image and Identity Online Bullying		Managing Online Information Health and Wellbeing		Privacy and Security Copyright and Ownership	
Y6	Self-Image and Identity Online Relationships		Online Bullying Health and Wellbeing		Privacy and Security 1 Privacy and Security 2	