Curriculum overview for parents and carers

Computing

Summary of key Computing learning for Reception to Year 6.

	EYFS: Reception	
Autumn	**Computing through continuous provision** Exploring different forms of technology in the children's daily classroom play.	**Computing systems and networks** **Using a computer** Discovering the main parts of a computer and how to use the keyboard and mouse. Learning how to log in and out.
Spring	**Programming 1** **All about instructions** Receiving and giving instructions and understanding the importance of precise instructions.	**Computing systems and networks** **Exploring hardware** Tinkering and exploring with different computer hardware and learning to operate a camera.
Summer	**Completing Computing systems (Spring) and networks and Data handling** **Exploring hardware** Tinkering and exploring with different computer hardware and learning to operate a camera. **Introduction to data** Sorting and categorising data and introducing branching databases and pictograms.	

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	Year 1	
Autumn	**Computing systems and networks** **Improving mouse skills** Learning how to login and navigate around a computer; developing mouse skills; learning how to drag, drop, click and control a cursor to create works of art	
Spring	**Programming 1** **Algorithms unplugged** Identifying where algorithms, decomposition and debugging can be found in relatable, familiar contexts. Following directions, learning why instructions need to be specific.	**Programming 2** **Programming Bee-Bots** Introducing programming through the use of a robot (Bee-Bot) and exploring its functions.
Summer	**Completing Programming 2 and Creating media** **Programming Bee-Bots** Introducing programming through the use of a robot (Bee-Bot) and exploring its functions. **Digital imagery** Taking and editing photos, searching for and adding images to a project.	
Online safety	**Online safety** **Online safety Y1** **(5 lessons)** Learning how to stay safe online and how to manage feelings and emotions when someone or something has upset us.	

	Year 2	
Autumn	**Computing systems and networks** **What is a computer?** Exploring what a computer is by identifying how inputs and outputs work and how computers are used in the wider world. Designing a computerised invention.	
Spring	**Programming 1** **Algorithms and debugging** Developing an understanding of; what algorithms are, how to program them and how they can be developed to be more efficient including the introduction of loops.	**Programming 2** **ScratchJr** Exploring what 'blocks' do' by carrying out an informative cycle of predict > test > review. Programming a familiar story and make a musical instrument.
Summer	**Completing Programming 2 and Data handling** **ScratchJr** Exploring what 'blocks' do' by carrying out an informative cycle of predict > test > review. Programming a familiar story and make a musical instrument. **International Space Station** Learning how data is collected, used and displayed and the scientific learning of the conditions needed for plants and humans, to survive.	
Online safety	**Online safety** **Online safety Y2** Learning: how to keep information safe and private online; who we should ask before sharing things online and how to give, or deny permission online.	

	Year 3	
Autumn	**Computing systems and networks** **Networks** Learning what a network is and how devices communicate and share information.	
Spring	**Programming** **Scratch** Exploring the programme Scratch, following the predict > test > review cycle. Using 'loops' and programming an animation, story and game.	**Computing systems and networks** **Journey inside a computer** Assuming the role of computer parts and creating paper versions of computers to consolidate understanding of how a computer works.
Summer	**Completing Computing systems and networks and Creating media** **Journey inside a computer** Assuming the role of computer parts and creating paper versions of computers to consolidate understanding of how a computer works. **Video trailers** Developing digital video skills to create trailers, with special effects and transitions.	
Online safety	**Online safety** **Online safety Y3** Learning the difference between fact, opinion and belief and how to deal with upsetting online content. Knowing how to protect personal information online.	

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	Year 4	
Autumn	**Computing systems and networks** **Collaborative learning** Learning how to work collaboratively and exploring a range of collaborative tools.	
Spring	**Programming** **Further coding with Scratch** Revisiting the key features of the programme Scratch and beginning to use 'variables' in code scripts.	**Creating media** **Computational thinking** Solving problems effectively using the four areas of abstraction, algorithm design, decomposition and pattern recognition.
Summer	**Completing Creating media and Data handling** **Computational thinking** Solving problems effectively using the four areas of abstraction, algorithm design, decomposition and pattern recognition. **Investigating weather** Researching and storing data on spreadsheets and designing a weather station.	
Online safety	**Online safety** **Online safety Y4** Searching for information and making a judgement about the probable accuracy; recognising adverts and pop-ups; understanding that technology can be distracting.	

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	Year 5	
Autumn	**Computing systems and networks** **Search engines** Learning about how page rank works and how to identify inaccurate information.	
Spring	**Programming 1** **Programming music** Building-on programming and music skills to create different sounds, beats and melodies which are put to the test with a Battle of the Bands performance!	**Data handling** **Mars Rover 1** Learning about the Mars Rover, exploring how and why it transfers data including instructions, and how messages can be sent using binary code.
Summer	**Completing Data Handling and Creating media** **Mars Rover 1** Learning about the Mars Rover, exploring how and why it transfers data including instructions, and how messages can be sent using binary code. **Stop motion animation** Creating animations, storyboard ideas and decomposing a story into small parts before putting together to create the illusion of a moving image.	
Online safety	**Online safety** **Online safety Y5** Learning about app permissions; the positive and negative aspects of online communication; that online information is not always factual; how to deal with online bullying and managing our health and wellbeing.	

	Year 6	
Autumn	**Computing systems and networks** **Bletchley Park** Discovering the history of Bletchley and learning about code breaking and password hacking. Demonstrating digital literacy skills by creating presentations.	
Spring	**Programming** **Intro to Python** Using the programming language 'Python' to create designs and art. Learning how to create loops and nested loops to make their code more efficient.	**Data handling** **Big data 1** Identifying how barcodes and QR codes work. Learning how infrared waves are used for the transmission of data while recognising the uses of RFID.
Summer	**Completing Data Handling and Creating media** **Big data 1** Identifying how barcodes and QR codes work. Learning how infrared waves are used for the transmission of data while recognising the uses of RFID. **History of Computers** Writing, recording and editing radio plays set during WWII, learning about how computers have evolved.	
Online safety	**Online safety** **Online safety Y6** Learning to deal with issues online; about the impact and consequences of sharing information online; how to develop a positive online reputation; combating and dealing with online bullying and protective passwords.	