Curriculum overview for parents and carers

Computing

Summary of key Computing learning for Reception to Year 6.

	EYFS: Reception		
Autumn 1	**Computing through continuous provision** Exploring different forms of technology in the children's daily classroom play.	Autumn 2	**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 1	**Programming 1** **All about instructions** Receiving and giving instructions and understanding the importance of precise instructions.	Spring 2	**Computing systems and networks** **Exploring hardware** Tinkering and exploring with different computer hardware and learning to operate a camera.
Summer 1	**Programming 2** **Programming Bee-Bots** Learning about directions, experimenting with programming a Bee-Bot/Blue-Bot and tinkering with hardware.	Summer 2	**Data handling** **Introduction to data** Sorting and categorising data and introducing branching databases and pictograms.

Computing Curriculum overview for parents and carers ((KS1)

Year 1

Autumn 1	**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	**Autumn 2**	**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.
Spring 1	**Skills showcase** **Rocket to the moon** Developing keyboard and mouse skills through designing, building and testing. Creating a digital list of materials, using drawing software and recording data.	**Spring 2**	**Programming 2** **Programming Bee-Bots** Introducing programming through the use of a robot (Bee-Bot) and exploring its functions.
Summer 1	**Creating media** **Digital imagery** Taking and editing photos, searching for and adding images to a project.	**Summer 2**	**Data handling** **Introduction to data** Learning what data is and the different ways it can be represented. Learning why data is useful and the ways it can be gathered and recorded.
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.		

Computing Curriculum overview for parents and carers (KS1)

	Year 2		
Autumn 1	**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.	Autumn 2	**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.
Spring 1	**Computing systems and networks** **Word processing** Developing touch typing skills, learning keyboard shortcuts and simple editing tools.	Spring 2	**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 1	**Creating media** **Stop Motion** Learning how to create simple animations from storyboarding creative ideas.	Summer 2	**Data handling** **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 1	**Computing systems and networks** **Networks** Learning what a network is and how devices communicate and share information.	Autumn 2	**Programming** **Scratch** Exploring the programme Scratch, following the predict > test > review cycle. Using 'loops' and programming an animation, story and game.
Spring 1	**Computing systems and networks** **Emailing** Sending emails with attachments and understanding what cyberbullying is.	Spring 2	**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 1	**Creating media** **Video trailers** Developing digital video skills to create trailers, with special effects and transitions.	Summer 2	**Data handling** **Comparison cards databases** Learning about records, fields and data and sorting and filtering data.
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.		

Year 4

Autumn 1	**Computing systems and networks** **Collaborative learning** Learning how to work collaboratively and exploring a range of collaborative tools.	**Autumn 2**	**Programming** **Further coding with Scratch** Revisiting the key features of the programme Scratch and beginning to use 'variables' in code scripts.
Spring 1	**Computing systems and networks** **Website design** Learning how web pages and sites are created and how to embed media and links.	**Spring 2**	**Computing systems and networks** **HTML** Learning about the markup language behind a webpage; becoming familiar with HTML tags, changing HTML and CSS code to alter images and 'remixing' a live website.
Summer 1	**Creating media** **Computational thinking** Solving problems effectively using the four areas of abstraction, algorithm design, decomposition and pattern recognition.	**Summer 2**	**Data handling** **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.		

	Year 5		
Autumn 1	**Computing systems and networks** **Search engines** Learning about how pagerank works and how to identify inaccurate information.	Autumn 2	**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!
Spring 1	**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.	Spring 2	**Programming 2** **Micro:bit** Creating algorithms and programs that are used in the real world. Using the 'predict, test and evaluate' cycle to create and debug programs with specific aims.
Summer 1	**Creating media** **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.	Summer 2	**Skills showcase** **Mars Rover 2** Exploring how the Mars rover: moves, follows instructions, collects and sends data; understanding how computers work, what data is and how it is transferred.
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 1	**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.	Autumn 2	**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.
Spring 1	**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.	Spring 2	**Creating media** **History of Computers** Writing, recording and editing radio plays set during WWII, learning about how computers have evolved.
Summer 1	**Data handling** **Big data 2** Further developing understanding of how networks and the Internet are able to share information. Learning how big data can be used to design smart buildings.	Summer 2	**Skills showcase** **Inventing a product** Designing a product, pupils: evaluate, adapt and debug code to make it suitable for their needs and designing products in CAD and creating a website and video.
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.		