Curriculum overview for parents and carers

Computing

Summary of key Computing learning for Reception to Year 6.

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	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.

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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** Learning how to stay safe online and how to manage feelings and emotions when someone or something has upset us.		

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	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.		

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	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.		

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	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.		

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	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.		

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	Year 6		
Autumn 1	**Computing systems and networks** **Bletchley Park and the history of computers** Discovering the history of Bletchley Park, historical figures and the importance of code breaking and passwords. Designing a computer of the future and creating an audio advert for their designs.	Autumn 2	**Programming** **AI** Exploring what AI is and how it generates text, images and code. Learning about creating and refining prompts to improve AI responses while also considering the ethical implications of AI and its potential to replace human roles.
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** **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.
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.		

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