

Years 1 and 2						
	Autumn A	Spring A	Summer A	Autumn B	Spring B	Summer B
Computing Kapow Primary schemes of work	<p>Year 1 Improving Mouse Skills Learning how to explore and tinker with hardware to find out how it works. Learning where keys are located on the keyboard. Developing control of the mouse through dragging, clicking and resizing of images to create different effects. Developing understanding of different software tools. Recognising devices that are connected to the internet. Logging in and out and saving work on their own account.</p> <p>Programming Bee Bots Learning how to explore and tinker with hardware to find out how it works. Constructing a series of instructions into a simple algorithm. Applying computing concepts to real world situation in an unplugged activity.</p>	<p>Year 1 Algorithms Unplugged Understanding how to create algorithms. Learning that computers need information to be presented in a simple and clear way. Understanding how to break a computational thinking problem into smaller parts in order to solve it.</p> <p>Digital Imagery Using technology purposefully to create, organise, store, manipulate and retrieve digital content. Knowing what to do if they have concerns about content or contact online. Using cameras or tablets to take photos. Using logical reasoning to predict the behaviour of simple programs.</p>	<p>Year 1 Rocket To The Moon Using technology purposefully to create, organise, store, manipulate and retrieve digital content. Selecting software appropriately.</p> <p>Online Safety Understanding that they need to be kind on the internet, as they would in real life Discovering which devices connect to the internet Understanding some tips for staying safe and why this is important</p>	<p>Year 2 What Is A Computer Learning about inputs and outputs and how they are used in algorithms. Understanding what a computer is and the role of individual components.</p> <p>Word Processing Using word processing software to type and reformat text. Understanding the importance of staying safe online.</p>	<p>Year 2 Programming Scratch Jr. Creating and debugging simple programs. Using logical reasoning to predict the behaviour of simple programs. Understanding what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Using technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Algorithms And Debugging Creating and debugging simple programs. Using logical reasoning to predict the behaviour of simple programs. Understanding what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</p>	<p>Year 2 Stop Motion Using technology purposefully to create, organise, store, manipulate and retrieve digital content. Understanding how to use tablets or computers to take photos.</p> <p>Online Safety Identifying how to keep personal information private. Using technology respectfully by asking for permission before sharing about others online.</p>
Computing Key Vocabulary	<p>Year 1 Internet, Website, Private Information, Source, Digital Imagery, Device, Online, Algorithm, Programming</p> <p>Year 2 Search engine, Research, Sequence, Debug, Software, Input, Output, Retrieve, Permission</p>					
Years 3 and 4						
	Autumn A	Spring A	Summer A	Autumn B	Spring B	Summer B
Computing Kapow Primary schemes of work	<p>Year 3 Video Trailers Using technology purposefully to create, organise, store, manipulate and retrieve digital content, including searching for relevant information.</p> <p>Journey Inside A Computer Understanding what different components of a computer do. Understanding that programs execute by following precise and unambiguous instructions.</p>	<p>Year 3 Comparison Cards Databases Using logical thinking to explore more complex software; predicting, testing and explaining what it does. Understanding the vocabulary associated with databases: field, record, data. Learning about the pros and cons of digital versus paper databases. Sorting and filtering databases to easily retrieve information. Creating and interpreting charts and graphs to understand data.</p> <p>Programming Scratch Using logical reasoning to explain how simple algorithms work. Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems. Solving problems by decomposing them into smaller parts. Using sequence, selection, and repetition in programs. Working with variables and various forms of input and output.</p>	<p>Year 3 Networks Identifying network components and understand how they are used to connect to the internet and how data is transferred. Understanding computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.</p> <p>Online Safety Learn to distinguish between facts, opinions and beliefs on the internet Learn how to deal with upsetting online content Learn about how to protect our personal information using privacy settings and how to be discerning about what information we share and who with</p>	<p>Year 4 Collaborative Learning Selecting using and combining a variety of software to design and create a range of programs, systems and content that accomplish given goals. Understanding opportunities offered by the World Wide Web for communication and collaboration.</p> <p>Further Coding With Scratch Using logical reasoning to explain how simple algorithms work. Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems. Solving problems by decomposing them into smaller parts. Using sequence, selection and repetition in programs. Working with variables and various forms of input and output.</p>	<p>Year 4 Website Design Selecting using and combining a variety of software to design and create a range of programs, systems and content that accomplish given goals. Understanding opportunities offered by the World Wide Web for communication and collaboration.</p> <p>Investigating Weather Understanding why some sources are more trustworthy than others. Understanding the role of inputs and outputs in computerised devices</p>	<p>Year 4 Computational Thinking Understand what decomposition is and how it facilitates problem solving. Designing, writing and debugging programs that accomplish specific goals. Understand abstraction and patterns recognition.</p> <p>Online Safety Be discerning in evaluating content by learning about the techniques that companies use to advertise online. Use technology safely and responsibly by considering the risks of screen-time and technology. Using search technologies effectively, appreciating how results are selected and ranked.</p>
Computing Key Vocabulary	<p>Year 3 E-safety Rules, Secure Password, Data, Protect, Personal, Capture, Create, Cyberbullying, Components, Decomposing</p> <p>Year 4 World wide web, Collaboration, Design, Technology, Edit, Type, Analysis, Reliable</p>					

Years 5 and 6						
	Autumn A	Spring A	Summer A	Autumn B	Spring B	Summer B
Computing Kapow Primary schemes of work	Year 5 Online Safety Understanding permissions required by apps to access personal information. Considering online judgements that people make and how they treat others online. Micro:bit Using block coding to program a device. To explore variables and different forms of input. Understand how external devices can be programmed by a separate computer.	Year 5 Search Engines Recognising that information on the internet might not be true or correct. Know how to use keywords to quickly find accurate information. Programming Music Selecting using and combining a variety of software to design and create a range of programs, systems and content that accomplish given goals. Using programming language to create music, including use of loops.	Year 5 Mars Rover 1 Understanding computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration. Using search technologies effectively, appreciating how results are selected and ranked, and be discerning in evaluating digital content. Recognising that computers transfer data in binary and understand simple binary addition. Stop Motion Animation Using technology purposefully to create, organise, store, manipulate and retrieve digital content. Understanding how to use tablets or computers to take photos. Consider sequence and selection of frames when editing work.	Year 6 Bletchley Park Understanding the importance of secure passwords and using searching and word processing skills to create a presentation. Using programming software to understand hacking, relating this to computer cracking codes in WWII. Editing sound recordings for specific purpose. Learning about the history of computers and how they evolved over time. Exploring AI Explain what AI is and its basic functions. Identify real-life applications of AI that are commonly used in everyday life. Identify how AI understands and processes text and image prompts. Generate and refine prompts to achieve the best possible response from AI. Identify how AI generates code and how it can be useful in web design. Identify how AI can be a useful starting point for a project. Explain the key ethical considerations of AI. Debate the potential of AI replacing human roles, presenting well-structured arguments.	Year 6 Big Data 1 Understanding how learning can be applied to a real world context. Selecting, using and combining a variety of software to design and create a range of programs, systems and content to collect, analyse, evaluate and present data. Understanding that computer networks provide multiple services Understanding how barcodes and QR codes work. Selecting, using and combining a variety of software to design and create a range of programs, systems and content to collect, analyse, evaluate and present data. Intro To Python Understanding that websites can be altered by exploring the code beneath the site. Designing, writing and debugging programs that accomplish specific goals Solving problems by decomposing them into smaller parts.	Year 6 Big Data 2 Understanding how corruption can happen within data during transfer (for example when downloading, installing, copying and updating files). Understanding that computer networks provide multiple services. Using search and word processing skills to create a presentation. Creating formulas and sorting data within spreadsheets. Learning about the Internet of Things and how it has led to 'big data'. Learning how 'big data' can be used to solve a problem or improve efficiency. Online Safety Learning about online reputations and how to go about creating a positive one Being aware of the threats that face us online such as scammers and phishing emails and how to identify them
Computing Key Vocabulary	Year 5 Social media, Virus, Hardware, Spreadsheets, Network, Responsibility, Evaluate Year 6 Big data, Binary, Codes, Scam, Phishing					