

## Date Valley School COMPUTING Curriculum Map 2021-2022

Computing Curriculum is based on Kapow Scheme of Work

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
RECEPTION		<b>Using a Computer</b>	<b>All about instructions</b>	<b>Exploring Hardware</b>	<b>Programming Bee-Bots</b>	<b>Introduction to Data</b>
		Learning about the main parts of a computer and how to use the keyboard and mouse. Logging in and out	The children learn to receive and give instructions and understand the importance of precise instructions	Tinkering and exploring with different computer hardware and learning to operate a camera	Children learn about directions, experiment with programming a Bee-bot / Blue-bot and tinker with hardware	Children sort and categorise data and are introduced to branching databases and pictograms

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	
Y1	<b>Online Safety (4 lessons)</b>	<b>Improving mouse skills (5 lessons)</b>	<b>Algorithms Unplugged (5 lessons)</b>	<b>Rocket to the Moon (5 lessons)</b>	<b>Programming Beebots (5 lessons)</b>	<b>Digital Imagery (5 lessons)</b>	<b>Introduction to Data (5 lessons)</b>
	Learning how to stay safe online and how to manage feelings and emotions when someone or something has upset us.	Learning how to log in and navigate around a computer; developing mouse skills; learning how to drag, drop, click and control a cursor to create a work of art	Algorithms, decomposition and debugging and made relatable to familiar context, following directions, learning why instructions need to be specific.	Developing keyboard and mouse skills through designing, building and testing. Creating a digital list of materials, using drawing software and recording data.	Introducing programming through the use of a Bee-Bot and exploring its functions.	Planning a miniature story and capturing it using photography. Editing photos, searching for and adding images to a project.	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.

## Date Valley School COMPUTING Curriculum Map 2021-2022

Computing Curriculum is based on Kapow Scheme of Work

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	
Y2	<b>Online Safety (5 lessons)</b>  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.	<b>What is a Computer? (5 lessons)</b>  Exploring what a computer is by identifying how inputs and outputs work and how computers are used in the wider world to design their own computerised invention.	<b>Algorithms and Debugging (5 lessons)</b>  Developing an understanding of; what algorithms are, how to program them and how they can be developed to be more efficient, introduction of loops.	<b>Word processing (5 lessons)</b>  Learning about word processing and developing touch typing skills. Introducing keyboard shortcuts and simple editing tools	<b>Scratch Junior (5 lessons)</b>  Exploring what 'blocks' do by carrying out an informative cycle of predict > test > review. Programming a familiar story and make sounds.	<b>Stop Motion (5 lessons)</b>  Learning how to create simple animations from storyboarding creative ideas.	<b>International Space Station (5 lessons)</b>  Learning how data is collected, used and displayed and the scientific learning of the conditions needed for plants and humans, to survive.

## Date Valley School COMPUTING Curriculum Map 2021-2022

Computing Curriculum is based on Kapow Scheme of Work

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	
<b>Y3</b>	<b>Online Safety (5 lessons)</b> Learning: the difference between fact, opinion and belief; and how to deal with upsetting online content. Knowing how to protect personal information online.	<b>Networks and the internet (5 lessons)</b> Learning what a network is, how devices communicate, how information is shared and identifying components.	<b>Programming: Scratch (5 lessons)</b> Exploring the programme Scratch, following the predict > test > review cycle. Learning about 'loops' and programming an animation, story and game	<b>Emailing (5 lessons)</b> Sending emails with attachments and learning how to be a responsible digital citizen. Understanding what cyberbullying is.	<b>Journey inside a computer (5 lessons)</b> Assuming the role of computer parts and creating paper versions of computers to consolidate understanding of how a computer works.	<b>Video trailers (5 lessons)</b> Developing digital video skills to create trailers, with special effects and transitions.	<b>Top Trumps databases (5 lessons)</b> Learning what a database is and their key components, such as records, fields and data. Further developing the ability to sort and filter data.

## Date Valley School COMPUTING Curriculum Map 2021-2022

Computing Curriculum is based on Kapow Scheme of Work

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	
<b>Y4</b>	<b>Online Safety (6 lessons)</b>	<b>Collaborative Learning (5 lessons)</b>	<b>Further coding with Scratch (5 lessons)</b>	<b>Website design (5 lessons)</b>	<b>HTML (5 lessons)</b>	<b>Computational Thinking (5 lessons)</b>	<b>Investigating Weather (5 lessons)</b>
	Searching for information and making a judgement about the probable accuracy; recognising adverts and pop-ups; understanding that technology can be distracting.	Learning how to work collaboratively and exploring a range of collaborative tools including Google Docs, Slides, Forms and Sheets.	Exploring Scratch further by revisiting its key features and introducing the concept and execution of using 'variables' in code scripts.	Developing research, word processing and collaborative working skills whilst learning how web pages and sites are created. Learning to embed media and links.	Learning about the markup language behind a webpage; becoming familiar with HTML tags, changing HTML and CSS code to alter images and 'remix' a live website.	Solving problems effectively using the four areas of abstraction, algorithm design, decomposition and pattern recognition.	Researching and storing data using spreadsheets; designing a weather station that gathers and records data; learning how weather forecasts are made.

## Date Valley School COMPUTING Curriculum Map 2021-2022

Computing Curriculum is based on Kapow Scheme of Work

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	
<b>Y5</b>	<b>Online Safety (5 lessons)</b>  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.	<b>Search Engines (5 lessons)</b>  Learning: to search using keywords and phrases, to identify inaccurate information, how page rank works and how to credit their sources	<b>Programming Sounds (5 lessons)</b>  Building-on programming and sound making skills to create different sounds and beats.	<b>Mars Rover 1 (5 lessons)</b>  Learning about the Mars Rover, exploring how and why it transfers data including instructions, and how messages can be sent using binary code.	<b>Micro:bit (5 lessons)</b>  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.	<b>Stop Motion animation (5 lessons)</b>  Creating animations, storyboard ideas and decomposing a story into small parts before putting together to create the illusion of a moving image.	<b>Mars Rover 2 (5 lessons)</b>  Exploring how the Mars rover: moves, follows instructions, collects and sends data; understanding how computers work, what data is and how it is transferred.

## Date Valley School COMPUTING Curriculum Map 2021-2022

Computing Curriculum is based on Kapow Scheme of Work

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	
<b>Y6</b>	<b>Online Safety (6 lessons)</b>	<b>Bletchley Park (5 lessons)</b>	<b>Introduction to Python (5 lessons)</b>	<b>Big Data 1 (5 lessons)</b>	<b>History of Computers (5 lessons)</b>	<b>Big Data 2 (5 lessons)</b>	<b>Inventing a product (5 lessons)</b>
	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.	Discovering the history of Bletchley and learning about code breaking and password hacking. Demonstrating digital literacy skills by creating presentations.	Using the programming language 'Python' to create designs and art. Learning how to create loops and nested loops to make their code more efficient.	Identifying how barcodes and QR codes work. Learning how infrared waves are used for the transmission of data while recognising the uses of RFID.	Writing, recording and editing radio plays set during WWII, learning about how computers have evolved from being larger than a room to fitting into the palm of our hand.	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.	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