Computing Curriculum Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Children are given the opportunities to explore toys and books with flaps and simple mechanisms		Children are given the opportunities to explore mechanical toys, torches, and toys with on/off buttons.		Children are given the opportunities to explore mechanical toys, and technology	
Reception	**Data Handling** The children will begin to understand and explain how to sort and categorise objects. They will start to articulate their ideas and thoughts in well-formed sentences Use talk to help work out problems and organise thinking and activities, and explain how things work and why they might happen.		**Programming** Bee Bots Children will explore the directional movement of a bee bot and learn simple commands to programme a robot. Children will learn the forward, back, left, right, pause and stop commands. They will use these to create a path/ follow a path aiming to move the robot from a starting location to an end location.		**Digital Literacy** Children will become aware of computing vocabulary to identify each part of a computer and complete an activity to label the different components.	
Year 1			**Information Technology** Research task - weather Children will understand how to use web services to locate information on the internet. They will then use screen		**Programming** Bee Bots direction game Children will use the bee bots and build on the knowledge from reception, programming them directly from the iPads. They will	**Digital Literacy** Typing and word skills, children will learn the layout of a keyboard and how to type. They will follow a guided programme which will allow them to type with speed

			grab features to capture images to use.		create a circuit for the bee-bots to follow and use iPads to navigate paths with on screen bee bots, using extensive sequences.	and purpose and understand how to hold their hands over the keyboard.
Year 2	**Digital Literacy** Taking and editing photos Children will use the IPads to take photos in a range of scenarios. They will look at what makes a photo effective and how to edit images. They will then create a small animation/ sequence of images to tell a story.		**Role model Ebook** Who is Bill Gates and how has he shaped the way we use computers?	**Programming** Maze game (Scratch) Children will use scratch software to programme a sprite to move around a background of their own design. They will learn to use the directional movements in the software recalling the vocabulary from EYFS and Y1.	**Digital Literacy** Word skills Combining text and graphics Children will build on their typing skills and use PowerPoint to create varying effects to words and pictures. They will learn to change backgrounds and to format text boxes/ pictures.	
Year 3	**Data- Information Technology** Collecting and analysing data / Data loggers Children will use the Micro:bit data loggers to measure light and temperature differences around the school during the day. They will then		**Information Technology** Creating and filming a presentation Green Screen Children will use iPads and VSDC/ I can present software to create a news report/ information presentation with visual effects added to the background		**Programming and algorithms** Scratch - Programming an animation and fixing bugs - uncovering Tutankhamun's tomb Children will create an information-based game using scratch software – they will	

	use these to record a set of results and input them into a spreadsheet.		**Role model Ebook** Who is Steve Jobs and how has he shaped the way we use technology creatively?		programme sprites to move and interact with each other.
Year 4	**Programming and algorithms** Scratch The children will develop their scratch skills further and complete an information game that has variables and varying questions that challenge the user to think and input answers. These will then have answers that link to other sections of the game and provide an in depth source of recall questions. **Case study debate** *How can fake news fuel a war?* Pupils will discuss how filtered media coverage/social media blackouts have impacted the Russia-Ukraine war		**Information Technology** PowerPoint Creating multimedia presentations Children will build on their understanding of gathering data and inputting it into a PowerPoint presentation. They will learn to use animations and transitions to make their presentation more interesting and how to link pages together.	**Information Technology** Podcast Romans Microsoft Teams machine Children will use recording software on the iPads and iMovie to create a podcast that has sound effects and jingles.	**Programming and algorithms** Coding for Micro:bit Computational thinking – Volcanic Animations The children will build on their understanding of programming micro bits to make a simple animation linked to their context of volcanoes. They will programme the external device so that it portrays the eruption of a volcano when shook. **Role model Ebook** Who is Ada Lovelace and how is she responsible for the way we use coding in computing?
Year 5	**Programming and algorithms** Scratch Space Shuttle Movement game The children will develop their directional movement skills	**Information technology** Use CAD to design emblem for hat – print with 3D printer.	**Information Technology** Creating a virtual space – Planner 5D The children will use their CAD experience to create a virtual space. They will study the architecture of buildings and the features needed to make a space useable. They will then use their understanding of area and perimeter to create a 3D design of a building.		**Programming and algorithms** Coding using Micro:bit Toy / game making – Reaction time The children will programme an external device to create a 2-player game. They will build on their understanding of networks and how data can be sent and received from devices and how our local network and the internet works.

	when programming sprites. They will incorporate their understanding of variables and add features that change designs of sprites and backgrounds.		**Role model Ebook** Who are the hidden figures behind the first moon landing and what work did they do for NASA?	**Case study debate** **(link to digital citizenship and influencers)** *Do all influencers have good intentions?* Pupils will discuss how the 'Storming of the White House' was triggered and provoked via social media
Year 6	**Information Technology** Spreadsheet – Modelling Children will expand their understanding of spreadsheets to create a spreadsheet which uses formulae and graphs.	**Digital Literacy** Children will learn how networks work and discover the opportunities they offer for communication and collaboration. Children will compose and send an email to their teacher with their thematic enquiry question as the subject.	**Information Technology** **Digital Literacy** Building a Website – information about period of history – Crime and punishment The children will use PowerPoint to create an offline website. They will learn about hyper-links and presentational features. How a website gains interest and how it features in search engines. They will explore key words and SEO. They will then use this to help their web page be discoverable. **Case study debate** **(link to digital citizenship and how the media can shape our views)** *How can the media create a worldwide movement?* Pupils will discuss the Black Lives Matter movement and how information was shared via social media/petitions on websites	**Programming and algorithms** Scratch Developing an interactive game Children will create a complex game that incorporates all the features learnt from previous years. They will include information/ text options. Clues and interaction between sprites. It will also include varying movements and random operations. They will debug independently and be able to aid others to debug and troubleshoot. Pupils will learn how to use the skills they have learnt to respond to any challenges they might face when they leave primary school when interacting with others. **Role model Ebook** Who is Alan Turing and how did he use technology to save millions of lives?