Computing Long-Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	Although, the 'Technology' strand of the Early Learning Goals has been removed, we value the opportunities that children have in our Early Years to develop their Computational Thinking skills, which will ensure they are well prepared to start a more formal Computing education from Year 1. Computational Thinking is at the heart of the Computing curriculum and closely aligns with the Characteristics of Effective Learning. By aligning our EYFS provision to Computational Thinking, we use the same vocabulary as used by our colleagues in KS1 and KS2, to ensure a fluid progression. Throughout their time in our EYFS, children will use and practice the following Computational Thinking skills: **Tinkering** – playing and exploring **Creating** – creating, checking and fixing things **Collaboration** – playing and working collaboratively **Persevering** – not giving up **Logic** – anticipating and explaining is logical reasoning **Pattern** – grouping things, comparing, spotting similarities and differences, working out rules **Abstraction** – naming and labelling, working out what is important, sticking to the main theme, ignoring what is not important, creating a summary **Algorithms** and **Decomposition** – responding to instructions, ordering things, sequencing things, introducing storylines, working out different ways to do things, breaking problems down into steps We use Barefoot Computing to support our learning: <u>Click here to access EYFS Computing Resources</u>					

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Year 1	**Computing Systems and Networks – Technology Around Us** To recognise technology in school and use it responsibly	**Creating Media – Digital Painting** Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally	**Creating Media – Digital Writing** Using a computer to create and format text, before comparing to writing non-digitally.	**Data and Information – Grouping Data** Exploring object labels, then using them to sort and group objects by properties.	**Programming A – Moving a Robot** Writing short algorithms and programs for floor robots, and predicting program outcomes.	**Programming B – Programming Animations** Designing and programming the movement of a character on screen to tell stories.
Year 2	**Computing Systems and Networks – Information Technology Around Us** Identifying IT and how its responsible use improves our world in school and beyond	**Creating Media – Digital Photography** Capturing and changing digital photographs for different purposes.	**Creating Media – Digital Music** Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.	**Data and Information – Pictograms** Collecting data in tally charts and using attributes to organise and present data on a computer.	**Programming A – Robot Algorithms** Creating and debugging programs, and using logical reasoning to make predictions.	**Programming B – Programming Quizzes** Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.
Year 3	**Computing Systems and Networks – Connecting Computers** Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	**Creating Media – Stop-Frame Animation** Capturing and editing digital still images to produce a stop-frame animation that tells a story.	**Creating Media – Desktop Publishing** Creating documents by modifying text, images, and page layouts for a specified purpose.	**Data and Information – Branching Databases** Building and using branching databases to group objects using yes/no questions.	**Programming A – Sequencing Sounds** Creating sequences in a block-based programming language to make music.	**Programming B - Events and Actions in Programs** Writing algorithms and programs that use a range of events to trigger sequences of actions.

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Year 4	**Computing Systems and Networks – The Internet** Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.	**Creating Media – Audio Production** Capturing and editing audio to produce a podcast, ensuring that copyright is considered.	**Creating Media – Photo Editing** Manipulating digital images and reflecting on the impact of changes and whether the required purpose is fulfilled.	**Data and Information – Data Logging** Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	**Programming A – Repetition in Shapes** Repetition in shapes Using a text-based programming language to explore count-controlled loops when drawing shapes.	**Programming B – Repetition in Games** Using a block-based programming language to explore count-controlled and infinite loops when creating a game.
Year 5	**Computing Systems and Networks – Systems and Searching** Recognising IT systems in the world and how some can enable searching on the internet.	**Creating Media – Video Production** Planning, capturing, and editing video to produce a short film.	**Creating Media – Introduction to Vector Graphics** Creating images in a drawing program by using layers and groups of objects.	**Data and Information – Flat-File Databases** Using a database to order data and create charts to answer questions.	**Programming A – Selection in Physical Computing** Exploring conditions and selection using a programmable microcontroller.	**Programming B – Selection in Quizzes** Exploring selection in programming to design and code an interactive quiz.
Year 6	**Computing Systems and Networks – Communication and Collaboration** Exploring how data is transferred by working collaboratively online.	**Creating Media – Webpage Creation** Designing and creating webpages, considering copyright, aesthetics, and navigation.	**Creating Media – 3D Modelling** Planning, developing, and evaluating 3D computer models of physical objects.	**Data and Information – Introduction to Spreadsheets** Answering questions by using spreadsheets to organise and calculate data.	**Programming A – Variables in Games** Exploring variables when designing and coding a game.	**Programming B – Sensing Movement** Designing and coding a project that captures inputs from a physical device.

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