COMPUTING Progression

This progression document is organised into 2 sections:

- **Substantive knowledge**- This is the collection of established facts within a subject. It's the content that students need to know and provides the foundational knowledge needed to understand the world. In our Computing curriculum, we focus on the following main content areas: computer systems and networks, creating media, date & information and programming .
- **Disciplinary Knowledge**- is the "how-to," or the practical skills and processes, such as knowing how to follow a sequence to make a character move on the screen, or how to find and use digital resources responsibly.

These two types of knowledge work together; for example, using substantive knowledge of software and hardware to apply disciplinary knowledge of programming to create a simple animation.

	EYFS	Year 1	Year 2
	Substantive Knowledge Our children will know the following:		
Computer Systems and Networks	• Gain awareness of different devices used within school e.g interactive whiteboard, laptop, till (Roleplay), ipad, walkie talkie • Explore using different digital devices e.g. tablets, computers, beebots	**Technology around us** • To identify technology • To identify a computer and its main parts • To create rules for using technology responsibly	**Information technology around us** • To recognise the uses and features of information technology • To identify information technology in the home • To identify information technology beyond school • To explain how information technology benefits us • To recognise that choices are made when using information technology
Creating Media	• Explore and use technology to create simple digital content (e.g., mark-making apps)	**Digital painting** • To describe what different freehand tools do • To explain why I chose the tools I used	**Digital photography** • To know what devices can be used to take photographs • To describe what makes a good photograph

	• Know that photographs can be taken and have experience of photos being taken of them	• To compare painting a picture on a computer and on paper **Digital writing** • To identify that the look of text can be changed on a computer • To explain why I used the tools that I chose	• To recognise that images can be changed **Making music** • To say how music can make us feel • To identify that there are patterns in music • To describe how music can be used in different ways • To show how music is made from a series of notes
Data and Information	• Notice features that can be used to sort e.g colour	**Grouping data** • To identify that objects can be counted • To describe objects in different ways	**Pictograms** • To recognise that we can count and compare objects using tally charts • To recognise that objects can be represented as pictures • To recognise that people can be described by attributes • To explain that we can present information using a computer
Programming	• Follow simple instructions and sequences in play based activities (e.g. using remote control toys, beebots) • Understand cause and effect in relation to technology (e.g.pressing a button on a CD player)	**Moving a robot** • To explain what a given command will do **Introduction to animation** • To identify the effect of changing a value • To explain that each sprite has its own instructions	**Robot algorithms** • To describe a series of instructions as a sequence • To explain what happens when we change the order of instructions • To use logical reasoning to predict the outcome of a program (series of commands) • To explain that programming projects can have code and artwork

			Introduction to quizzes • To explain that a sequence of commands has a start • To explain that a sequence of commands has an outcome
	EYFS	**Year 1**	**Year 2**
	Disciplinary Knowledge Our children will be able to:		
Computer Systems and Networks	• To switch on a simple device with help. • To seek permission to use devices showing an awareness of safey	**Technology around us** • To use a mouse in different ways • To use a keyboard to type • To use the keyboard to edit text	**Information technology around us** • To show how to use information technology safely
Creating Media	• To mark make with a simple paint programme on a tablet • To take a photo on a familiar device with support	**Digital painting** • To use the shape tool and the line tools • To make careful choices when painting a digital picture • To use a computer on my own to paint a picture **Digital writing** • To use a computer to write • To add and remove text on a computer • To make careful choices when changing text	**Digital photography** • To use a digital device to take a photograph • To decide how photographs can be improved • To use tools to change an image **Making music** • To create music for a purpose • To review and refine our computer work
Data and Information	• Within play, sort resources with a clear category.	**Grouping data** • To label objects	**Pictograms** • To create a pictogram

		• To count objects with the same properties • To compare groups of objects • To answer questions about groups of objects	• To select objects by attribute and make comparisons
Programming	• Identify when something doesn't work and attempt a simple fix or ask for help by turning them on or off • Operate a toy or simple device (e.g CD player) with help	**Moving a robot** • To act out a given word • To combine forwards and backwards commands to make a sequence **Introduction to animation** • To choose a command for a given purpose • To show that a series of commands can be joined together • To design the parts of a project To use my algorithm to create a program	**Robot algorithms** • To design an algorithm • To create and debug a program that I have written **Introduction to quizzes** • To create a program using a given design • To change a given design • To create a program using my own design • To decide how my project can be improved