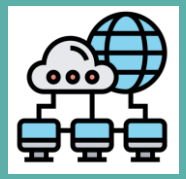
Broughton-in-Amounderness Church of England Primary School

Love learning, life, one another and God

Computing Knowledge Progression

	EYFS	KS1	LKS2	UKS2
Computer Science - Programming 	• To predict the outcome of a command on a device. • To be able to run a command on a device. • To be able to give directions/commands. • To be able to start to sequence from the same place. • To be able to compare left and right turns.	**Y1 Moving a Robot/ Y2 Robot Algorithms** • To understand how to run a command on a device. • To understand how to give clear instructions. • To understand how to combine commands to make a sequence. • To understand how to combine four directions to make a sequence. • To understand how to plan a simple sequence. • To understand that there can be more than one way to solve a problem **Y1 Programming Animations** • To understand how to choose a command for a given purpose. • To how a series of commands can be joined together. • To understand the effect of changing a value. • To understand that a sprite needs instructions to be able to function. • To understand how to plan a program effectively.	**Y3 Sequencing Sounds** • To understand what a programming environment is. • To understand that commands have outcomes. • To understand how a program starts. • To understand that a sequence of commands can have an order. • To understand how to build a sequence of commands. • To understand how to relate a task description to a design. **Y3 Events and Actions in Programs** • To understand the relationship between an event and action. • To understand how to move a sprite in four directions accurately. • To understand how to adapt a program to a new context. • To understand how to develop a program by adding features. • To understand how to identify and fix bugs in a program. • To understand how to implement my own design and debug it.	**Y5 Selection in Physical Computing** • To understand how to control a simple circuit that's connected to a computer. • To understand how to write a program that includes count-controlled loops. • To understand that a loop can stop when a condition is met. • To understand that a condition being met can start an action. • To understand how to design a physical project that includes selection. • To understand how to create a program that controls a physical computing project. **Y6 Selection in Quizzes** • To understand how if/then statements work. • To understand how conditions are used in selection. • To understand that a conditional statement connects a condition to an outcome. To understand how secret directs the flow of a program.

		• To understand how to create my own program. **Y2 Robot Algorithms** • To understand how to follow instructions. • To understand what happens when we change the order of instructions. • To understand how to use logical reasoning to make a prediction. • To understand how programming codes can be affected by artefacts (artwork). **Y2 Programming Quizzes** • To understand that sequence of commands has a start. • To understand that a sequence of commands has an outcome. • To understand how to sequence instructions to perform a specific task. • To understand how to design a program to perform a specific task. • To understand hot to create a program to perform a specific task	**Y4 Repetition in Shapes** • To understand that accuracy in programming is important. • To understand how to write an algorithm to produce a given outcome. • To understand how to create a count-controlled repeating loop. • To understand how to modify a count-controlled loop. • To understand how to use a procedure in a program. • To understand how to design a program that uses count-controlled loops. **Y4 Repetition in Games** • To understand the use of count-controlled loops in a different programming environment. • To understand that in programming there are infinite loops and count-controlled loops. • To understand how to develop a design that includes two or more loops which run at the same time. • To understand how to modify an infinite loop in a given program. • To understand how to create a project that includes repetition.	• To understand how to use selection in my own program. • To understand how to create and implement a program that uses selection.

Digital Literacy - Networks 	• To be able to name the main parts of a computer and what they are used for. • To be able to switch on a computer and log into a computer.	**Y1 Technology Around Us** • To understand what technology is. • To recognise the different parts of a computer. • To understand the function of a mouse and track pad. • To understand how to type on a keyboard. • To understand the different functions on a keyboard. • To understand how to use a computer safely **Y2 Information Technology Around Us** • To recognise the uses and features of information technology. • To recognise and identify information technology in school. • To identify information technology beyond school. • To understand the various ways information technology can help us. • To understand how to use information technology safely.	**Y3 Connecting Computers** • To understand how digital devices function. • To understand how to classify Input and output devices. • To recognise how digital devices can change the way we work. • To understand how messages can be sent through multiple connections. • To understand that a computer network is made up of a number of devices. **Y4 The Internet** • To understand the internet as a network of networks. • To understand how networked devices are connected. • To understand how websites are accessed and stored on the World Wide Web. • To understand that content on the World Wide Web is created by people. • To understand the consequences of unreliable content.	**Y5 Systems and Searching** • To understand how to refine search results. • To recognise the role of web crawlers in creating an index. • To understand how search results are ranked. • To understand how search engines make money. **Y6 Communication and Collaboration** • To understand that computers can be joined together to form systems. • To recognise the role of computer systems in our lives. • To recognise how information is transferred across the internet. • To understand how sharing information online lets people in different places collaborate.

Information Technology- Text and Images 	• To be able to use a mouse to click and drag objects on a screen. • To be able to type my name on a computer. • To be able to delete letters. • To be able to use arrow keys to move a cursor.	**Y1 Digital Writing** • To understand the keys on a keyboard. • To understand how to use different typing tools. • To understand the impact of different typing tools. • To understand how to edit using different typing tools. • To understand the advantages and disadvantages of different writing media. **Y2 Digital Photography** • To understand how to use a digital device to take a photograph. • To understand the differences between landscape and portrait. • To understand what makes a good photograph. • To understand how photographs can be improved with lighting. • To know how to identify whether an image is real or not. **Y2 Touch Typing** To understand the keys on a keyboard. To know where the keys are on the keyboard. To type with efficiency. To type with confidence.	**Y3 Desktop Publishing** • To understand how text and images communicate information. • To understand that text and layout can be edited. • To understand how to select appropriate page settings. • To understand the best locations to add content. • To understand how different layouts can suit different purposes. • To understand the uses of desktop publishing in the world. **Y4 Photo Editing** • To understand that the digital composition of digital images can be changed. • To understand how colours can be changed in digital images. • To understand how cloning can be used in photo editing. • To understand the impact of photo editing. • To understand how images can be combined for a purpose.	**Y5 Video Production** • To understand what makes a video effective. • To understand different framing techniques. • To know how to capture video using a range of techniques. • To understand that video can be improved through reshooting and editing. • To understand what a quality video project contains. **Y6 Web Page Creation** • To understand the features of a website. • To understand what copyright is. • To know how to add content to my own web page. • To understand what a navigation path is. • To understand the implications of linking to content owned by other people. • To understand what to do if being bullied online.

Information Technology – Data Handling 	• To be able to count groups of objects. • To be able to say which group is 'more' and which is 'less'.	**Y1 Grouping Data** • To understand how to group objects together and count them. • To understand how to describe an object using labels. • To understand how to group similar objects in more than one way. • To understand how to compare groups of objects. • To understand how to choose how to group objects and be able to describe them. **Y1 Data Pictograms** • To understand how to organise and record data in a tally chart. • To understand how to enter data on to a computer. • To understand how to create a pictogram to arrange objects by an attribute. • To understand how a computer program can be used to present information in different ways.	**Y3 Branching Databases** • To understand how to create and investigate questions with yes/no answers. • To understand how to select an attribute to separate objects into groups. • To understand how to prove a branching database works. • To understand how to compare two branching database structures. **Y4 Data Logging** • To understand how to choose a data set to answer a given question. • To understand that sensors are input devices. • To understand how to identify and select suitable intervals to collect data. • To understand how a computer program can be used to present information in different ways.	**Y5 Flat-File Databases** • To understand how to order, sort and group data cards. • To understand how to navigate a flat-file database to compare different views of information. • To understand how information can be grouped in order to answer questions. • To understand how 'AND' and 'OR' can be used to refine selection. • To understand that computer programs can be used to compare data visually. • To understand how to use real-world databases to answer questions. **Y6 Spreadsheets** • To understand the relevance of data. • To understand how to build a data set with formatted cells. • To understand how to construct a formula in a spreadsheet. • To understand that data can be calculated using different operations. • To understand how to use a spreadsheet to answer questions.

Digital Literacy – Online Safety 	• To know that I can so ‘no’ or ‘please stop’ when someone asks me to do something that makes me feel sad. • To understand what ‘online’ means. • To understand that I can put information online for others to see. • To understand that being unkind online can make you feel angry, upset and sad. • To understand that you can use the internet to find things out. • To be able to name at least one trusted adult who can help them stay safe online. • To identify and name examples of their own personal information. • To recognise that objects and work can belong to them.	Online safety is interwoven throughout each curriculum unit. Teachers will use Project Evolve to asses children’s knowledge in the following areas: Self-Image and Identity, Online Relationships, Online Reputation, Online Bullying, Managing Online Information, Health, Well-being and Lifestyle, Privacy and Security, Copyright and Ownership.	Online safety is interwoven throughout each curriculum unit. Teachers will use Project Evolve to asses children’s knowledge in the following areas: Self-Image and Identity, Online Relationships, Online Reputation, Online Bullying, Managing Online Information, Health, Well-being and Lifestyle, Privacy and Security, Copyright and Ownership.	Online safety is interwoven throughout each curriculum unit. Teachers will use Project Evolve to asses children’s knowledge in the following areas: Self-Image and Identity, Online Relationships, Online Reputation, Online Bullying, Managing Online Information, Health, Well-being and Lifestyle, Privacy and Security, Copyright and Ownership.