St. Luke's CE Primary School

Computing Knowledge Progression 2022-23

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To code	• To know how a set of instructions can solve a problem or achieve an objective. • To know that a computer program follows instructions.	• To know that an algorithm is a set of instructions used to solve a problem or achieve an objective. • To know that a computer program turns an algorithm into code that the computer can understand	• To know that an algorithm is a set of instructions to complete a task. • To know that their own algorithms must be precise.	• To know how to turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts.	• To know how to turn a real-life situation into an algorithm, showing that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. • To know how to make more intuitive attempts to debug their own programs.	• To know how to turn more complex real life situations into algorithms for a program by deconstructing it into manageable parts. • To know how to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code.	• To know how to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. • To know how to test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem.
	• To know how to solve simple problems in the order of a set of instructions.	• To know what is wrong with a simple algorithm when the steps are out of order and can make logical	• To know how to create a simple program that achieves a specific purpose. To know how to	• To know how to design and code a program that follows a simple sequence and experiment	• To know how to use timers to achieve repetition effects. • To know how to use 'IF	• To know how to translate algorithms that include sequence, selection and repetition into code	• To know how to translate algorithms that include sequence, selection and repetition into code

		steps to fix the code.	identify and correct some errors.	with timers to achieve repetition effects in their programs. • To know the difference in the effect of using a timer command rather than a repeat command when creating repetition effects	statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. • To know how variables can be used to store information while a program is executing and use and manipulate the value of variables. • To know how to make use of user inputs and outputs such as 'print to screen'.	with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. To know how to combine sequence, selection and repetition with other coding structures to achieve their algorithm design	and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. • To know how to use variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions.
	• To know how to read and follow simple instructions.	• To know how to read the code and predict the overall effect of the program.	• To know how to identify the parts of a program that respond to specific events and initiate specific actions	• To know how to design a program showing that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures.	• To know how to design programs showing that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. • To know how to trace code and use step-	• To know how to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables	• To know how to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.

					through methods to identify errors in code and make logical attempts to correct this.		
To connect	• To begin to know the risks of being online.	• To know the risks of being online.	• To know how to participate in class social media accounts. • To know the online risks and the age rules for sites.	• To know the risks posed by online communications. • To know that comments made online that are hurtful or offensive are the same as bullying. • To know how to contribute to blogs that are moderated by teachers.	• To know the risks posed by online communications and know some ways to minimise those risks. • To know and understand the term 'copyright'. • To know that comments made online that are hurtful or offensive are the same as bullying. • To know how online services work.	• To know and understand the effect of online comments and show responsibility and sensitivity when online. • To know the risks of online communities and demonstrate more knowledge of how to minimise risk.	• To know how to collaborate with others online on sites approved and moderated by teachers. • To know the risks of online communities and demonstrate knowledge of how to minimise risk and report problems. • To know and understand that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. • To know how to act responsibly and sensitively online.

							• To know how simple networks are set up and used.
To communicate	To begin to know how to use some applications and devices in order to communicate ideas and work with support.	To know how to use a simple range of applications and devices in order to communicate ideas, work and messages through text, sounds and pictures.	To know how to use a range of applications and devices in order to communicate ideas, work and messages in different ways.	To begin to know how to use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally, such as touch typing and use of email.	To know how to use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally, using Publisher.	To know how to use many of the advanced features in order to create high quality communications.	• To know which is the most suitable applications and devices for the purposes of communication. • To know how to confidently use many of the advanced features in order to create high quality, professional or efficient communications.
To collect	To begin to know to use simple databases to record information in areas across the curriculum with some support.	To know how to begin to use simple databases to collect and store information in areas across the curriculum.	To know how to use simple databases to collect, store and retrieve information in areas across the curriculum.	To know how to begin to devise and construct databases to analyse, evaluate and present data using applications designed for this purpose in areas across the curriculum.	To know how to devise and construct databases using applications designed for this purpose in areas across the curriculum and make improvements based on feedback.	To know how to use applications to devise, construct and manipulate data.	To know how to select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.