St. Peter's C.E. Primary School Computing Progression

EYFS Computing Objectives

ELG - Technology: Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	
Information Technology	Know that using technology and the internet can help them to do things. Can use a mouse to move objects. Can use a keyboard for basic tasks. Can use a camera, sound recorder or mobile device (e.g. iPad) to collect photographs and/or sound.
Computer Science	Identify some of the steps needed to achieve a simple task – e.g. brushing teeth Understand that people and computers follow instructions. Child can follow instructions and correct mistakes. Know that devices and objects on a screen can be controlled. Can move objects on a screen – IWB/Beebot app. Can program a robot/programmable toy and make it move. Can make choices about the buttons/icons that they press, touch or click on. Recognise that a printer is connected to a computer.
Digital Literacy	Understand that the internet can be used to play and learn. Can take photos/videos on cameras and other digital devices. Know that the things they create digitally can be shared with others (e.g. via email, on a website) Recognise purposes for using technology at home and in school (e.g. TV for watching Cbeebies; interactive whiteboard for showing work in school) Can match images to appropriate sounds (e.g. 'duck' to 'quack')
E-Safety	Understand what a password is for - protecting a device from someone else using it. Understand that they need to be safe when they are online and shouldn't be on a computer/tablet/phone without an adult present. Know who to go to for help if they see something they don't like when online. Understand to take turns when using technology. Know they need to be careful when using technology.

Skill	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that instructions written for a computer are called an algorithm. Children can work out what is wrong with a simple algorithm when the steps are out of order. Children know that an unexpected outcome is due to the code that they have created and can make logical attempts to fix it. Children can look at code and read one row at a time and can interpret what is going to happen.	Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code. Children can create a simple program that achieves a specific purpose. They can also identify and correct some errors. Children's program designs display a growing awareness of the need for logical, programmable steps. Children can identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause and effect sentence of what will happen in a program.	Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Children can identify an error within their program that prevents it following the desired algorithm and then fix it. Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. Children understand how variables can be used to store information while a program is executing.	When turning a real life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs. Children's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs – particularly when creating quizzes in Scratch. They understand 'if statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information while a program is executing, They are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as 'print to screen'. Children's designs for their programs show that they are thinking of the structure of a	Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Children are able 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. Children use Scratch to translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design. When children code, they are beginning 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	Children are able 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. Children 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. Children translate algorithms that include sequence, selection and repetition into code 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. Coding displays an improving understanding of variables in coding, outputs such as sound and

			Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. In programs such as Logo and Scratch, they can 'read' programs with several steps and predict the outcome accurately. Children can list a range of ways that the internet can be used to provide different methods of communication.	program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They can trace code and use step-through methods to identify errors in code and make logical attempts to correct this. In programs such as Scratch, they can 'read' programs with several steps and predict the outcome accurately. Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving	variables. Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications dependent on audience and digital content.	movement, inputs from the user of the program such as button clicks and the value of functions. Children are able 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. Children begin to develop an understanding of text-based programming using Python. Children understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what a WAN and LAN are and can describe how they access the internet in school.

Skill	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Information Technology	Children can sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work into their file/class file (with support) Children can follow simple instructions to be able to access information online.	Children demonstrate an ability to organise data using, for example, a database and can retrieve specific data for conducting simple searches. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content including photos, text and sound.	Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine or internet-wide search engines. Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database. Children are able to edit more complex digital data such as music compositions. Children can consider what software is most appropriate for a given task.	Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They can create a presentation using presentation software and combine with sound and other visual software. They create linked content using a range of software.	Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains. Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. E.g. creating their own program to meet a design brief. They objectively review solutions from others. The children design and create their own blogs to become a content creator on the internet. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode.	Children readily apply filters when searching for digital content. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Children use critical thinking skills in everyday use of online communication. Children make clear connections to the audience when designing and creating digital content. They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.

Skill	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Literacy	Children know what technology means and can give examples of technology both in and out of school. They understand what is meant by modern technology. They are able to name some objects that use modern technology and those that don't (e.g. iPad vs a chair) Children know how important it is to stay safe when they are on the internet. They know to keep their usernames and passwords private and not to share them with anyone and demonstrate this in lessons. Children know that they have their own files where they are to store their work (on both Purple Mash and on the school server.)	Children can effectively retrieve relevant, purposeful digital content using a search engine. Children make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs. Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting to sites. They know ways of reporting inappropriate behaviours and content to a trusted adult. Children know that they have their own files where they are to store their work (on both Purple Mash and on the school server.)	Children demonstrate the importance of having a secure password and not sharing this with anyone else. Children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using communication tools. They know more than one way to report unacceptable content and contact. Children know that they have their own files where they are to store their work (on both Purple Mash and on the school server.)	Children can explore key concepts relating to online safety using concept mapping. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact. Children know that they have their own files where they are to store their work (on both Purple Mash and on the school server.)	Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others. Children know that they have their own files where they are to store their work (on both Purple Mash and on the school server.)	Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking. They recognise the value in preserving their privacy when online for their own and other people's safety. Children know that they have their own files where they are to store their work (on both Purple Mash and on the school server.)