



Holy Trinity Church of England Primary School

To be the best we can be: for God, for others and for ourselves

Computing Progression Grid

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	Children explore and begin to program, programmable toys. They begin to follow instructions which can involve several ideas or actions. They begin to give their own instructions. They begin to plan, test and evaluate instructions.	Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that an algorithm written for a computer is called a program. Children can work out what is wrong with a simple algorithm when the steps are out of order, algorithm. The children know about an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, eg Bubbles activity in 2Code.	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 create a simple program that achieves a specific purpose. They can also identify and correct some errors eg Debug Challenges: Chimp. Children's program designs display a growing awareness of the need for logical programmable steps.	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 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. Children's designs for their programs show that they are thinking	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's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. 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 timer inputs and outputs such as 'print to screen' eg 2Code.	Children can 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 ability to debug and interpret the code later, eg the use of tabs to organise code and naming of 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 contingent on audience and digital content, eg	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 and identify a particular line of code causing the 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 movement, inputs from the user of the program such as button

				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. Children can list a range of ways that the internet can be used to provide different methods of communication. They can use some of these methods of communication eg being able to open, respond to and attach files to emails using 2Email. They can describe appropriate email conventions when communicating in this way.	Children recognise the main components 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.	2Blog, 2Email, Display Boards.	clicks and the value of functions. Children understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what WAN and LAN are and can describe how they access the internet in school.
Information Technology	Children can recognise that technology is used in places such as home and schools. They select and use technology for a particular purpose. They know how to operate simple equipment. They show an interest in technological toys with knobs or pulleys or real objects such as cameras and mobile phones. They can make toys work by pressing parts or lifting flaps to achieve effects such as	Children are able to sort, collate, edit and store simple digital content eg children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.	children demonstrate and ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches. Children can edit more complex digital data such as compositions within 2Sequence. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content	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 such as Purple Mash search or internet-wide search engine. Children can collect, analyse, evaluate and present data and information using a selection of software eg using a branching database (2Question), using software such as 2Graph. Children can	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 can make improvements to digital solutions based in feedback. Children make informed software choices when presenting information and data. They create linked content using a range	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 eg creating their own program to meet a design brief using 2code. They objectively review solutions from others. Children are able to collaboratively create	Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. 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. The children design and create their

	sound, movement or new images. They know information can be retrieved from computers.		including photos, text and sound.	consider what software is most appropriate for a given task. They can create purposeful content to attach emails, eg. 2Respond.	of software such as 2Connect and 2Publish+. Children share digital content with their community ie using virtual display boards.	content and solutions while using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, ie 2Blog, Display Boards and 2Email.	own blogs to become a content creator on the internet, eg 2Blog. They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.
Digital Literacy	Children begin to understand what is meant by technology and can identify a variety of examples both in and out of school. They begin to make a distinction between objects that use modern technology and technology from the past, e.g. mobile phones and landline telephones. Children can act, if they find something they are unsure of (including identifying people who can help) They learn to be careful with technology and take care of it.	Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not eg a microwave vs a chair. Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.	Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom. They can share this knowledge eg 2Publish example template. Children make links between technology they see around them, coding and multimedia work they do in school eg 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 their work to the Purple Mash display board. They develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting	Children demonstrate the importance of having a secure password and not sharing this information with anyone else. Furthermore, 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 familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact.	Children can explore key concepts relating to online safety using concept mapping such as 2Connect. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact.	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 well-being of themselves and others.	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, eg 2Respond activities. They recognise the value in preserving their privacy when online for their own and others people's safety.

			inappropriate behaviours and content.				
Continuous Provision	Children complete simple programs on iPads. Interact with age appropriate computer software. They can:- Take a photograph with a camera or tablet. Search for information on the internet Play games on the interactive whiteboard Explore old mechanical toys Use a Beebot Watch a video clip Listen to music						