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Meldreth Primary Progression in Computing

Computing Progression & Prior Learning

EYFS (Development Matters): The 'Technology' strand has been removed from 'Understanding the World' and has not been replaced with any updated guidance. Teaching computing within the curriculum ensures that children enter Year 1 with a strong foundation of knowledge. Computing lessons in the EYFS also ensure that children develop listening skills, problem-solving abilities and thoughtful questioning — as well as improving subject skills across the seven areas of learning.

KS1 (National Curriculum): Pupils should be taught to: ♣ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions ♣ create and debug simple programs ♣ use logical reasoning to predict the behaviour of simple programs ♣ use technology purposefully to create, organise, store, manipulate and retrieve digital content ♣ recognise common uses of information technology beyond school ♣ use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

KS2 (National Curriculum): Pupils should be taught to: design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ♣ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration ♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science						
Expressive Arts and Design: Explore, use and refine a variety of artistic effects to express their ideas and feelings	Children understand that an algorithm is a set of instructions used to solve a problem They know that a computer program turns an algorithm into code that the computer can understand Children can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the	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, e.g. Debug Challenges: Chimp. Children's program designs display a growing awareness of the need for logical, steps.	Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. 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 make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. e.g. In programs such as	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 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. They are able to use and manipulate the value of variables.	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. 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. When children code, they are beginning to think about their code structure in terms of the	Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task. 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. Coding displays an improving understanding of variables in coding, outputs such

	turtle in 2Go challenges will end up at the end of the program	Children can identify the parts of a program that respond to specific events and initiate specific actions. For example, they can explain the cause and effect of what will happen in a program.	Logo, 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.	Children can trace code to identify errors and make logical attempts to correct this. In programs such as Scratch, they can 'read' programs with several steps and predict the outcome accurately	ability to debug and interpret the code late. 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.	as sound and movement, inputs from the user. Children understand and can explain in some depth the difference between the internet (Wide Area Network) and LAN are and can describe how they access the Internet in school
Information Technology						
Physical Development: Develop their small motor skills so that they can use a range of tools competently, safely and confidently.	Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), or using pictogram software such as 2Count.	Children demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions 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. Children can collect, analyse, evaluate and present data and information using a selection of software.	Children recognise the main component parts of hardware which allow computers to join and form a network. Children's ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving. 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 make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+	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.	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 make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the Internet.
Digital Literacy						
Personal, Social and Emotional Development: Show resilience and perseverance in the face of a challenge. Know and talk about the different factors that support their overall health and wellbeing: sensible amounts of 'screen time'	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 e.g. a microwave vs. a chair. Children understand the importance of keeping information, such as their	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. Children know the implications of inappropriate online searches and know ways of reporting inappropriate	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 communicating online.	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	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. Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify

	usernames and passwords, private and actively demonstrate this in lessons	behaviours and content to a trusted adult.			wellbeing of themselves and others.	more discreet inappropriate behaviours through developing critical thinking, e

Greater Depth at EYFS/KS1:	Greater Depth at KS2:
• Confident use of mouse to move, select and control on screen content. (Click and drag accurately, right click to access save options) • To organise given code/instructions to solve a problem in a digital environment, independently. • To begin to independently debug code and instructions by identifying errors and changing.	• Typing using two hands and more than two fingers at a good pace 20-30 words per minute. • Utilises a range of methods to select and record on screen activity (ctrl+alt+prntscrn, Windows snipping, screenshots etc). • Using the computational language to explain their ideas • Can independently apply the concept to new problems in unfamiliar situations. • Shows awareness of age appropriate e-safety guidelines during work.