



HUNNYHILL PRIMARY SCHOOL CURRICULUM PROGRESSION MAP

SUBJECT: Computing

	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
National guidance for coverage during each school year	<p><u>Early Learning Goal</u> Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p> <ul style="list-style-type: none"> • Completes a simple program on a computer. • Uses ICT hardware to interact with age-appropriate computer software. • Encourage children to speculate on the reasons why things happen or how things work. •Support children to coordinate actions to use technology, for example, call a telephone number. •Teach and encourage children to click on different icons to cause things to happen in a computer program. • Provide a range of materials and objects to play with that work in different ways for different purposes, for example, egg whisk, torch, other household implements, pulleys, construction kits and tape recorder. •Provide a range of programmable toys, as well as equipment involving ICT, such as computers. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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. 				

KNOWLEDGE

- Pressing buttons makes a device respond
- Different buttons cause different effects
- Moving a mouse moves the pointer on the screen
- Talk about use of ICT with age-appropriate vocabulary
- Digital pictures / videos can be displayed on a computer screen
- Many everyday devices respond to commands
- Simple instructional vocabulary (forward, backward, left, right)
- Items can be sorted (practically) using different criteria

Year 1

- Understand what is meant by technology
- Identify examples of technology in and out of school
- Identify objects that use modern technology and those that do not
- An algorithm is a set of instructions that is used to solve a problem or achieve something
- An algorithm for a computer is called a program
- Children can write simple algorithms for simple activities
- Children can spot errors and muddled steps in a simple algorithm
- Children can read one line of code at a time
- Work can be saved and then retrieved
- Talk about use of ICT with age-appropriate vocabulary
- Digital pictures and videos can be saved on a computer
- Sound can be recorded and played back
- Some information needs to be kept private

Year 2

- An algorithm is a set of instructions to complete a task and must be specific
- A program can be designed for a specific purpose
- Specific parts of a program respond to certain events and initiate certain actions
- There are links between the technology around us, coding and multimedia work
- There are consequences of inappropriate online searches
- Information (in different forms) can be shared electronically
- There are steps to be taken to make sure we use emails safely
- I know trusted adults I can report inappropriate behaviour and content to

Year 3

- Turn real-life situations into algorithms for a program by deconstructing it into manageable parts
- Begin to understand the different effect of using a timer command rather than a repeat command
- Variables can be used to store information while a program is executing
- The internet can be used to provide different communication methods
- Describe appropriate email conventions when communicating online
- To carry out research online, understand we are connecting to the internet and using a search engine
- Begin to select appropriate ways to present / record different types of data
- Passwords need to be secure
- Passwords and private information must not be shared with others
- If passwords are not secure or kept private, there are negative implications
- Personal conduct is important when using different technology and we are responsible for our actions
- There are many ways to report inappropriate contact and content

Year 4

- Turn real-life situations into algorithms with more thought about how to accomplish a specific task in code
- Recognise the main component parts of hardware
- Understand how different component parts of hardware allow computers to join and form a network
- Improving knowledge of online safety implications associated with the ways the internet can be used to provide different communication methods
- Not all information online is true / correct
- Understand the function, features and layout of a search engine
- Know how to use / when to use a range of different software
- Explore key concepts relating to online safety in greater detail and discuss these
- There are many ways to report inappropriate contact and content and can discuss this and help others

Year 5

- Turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts
- Understand the pros and cons of computer networks
- Know what personal information is and how it can be kept safe
- Explain how credible information found online is
- Secure knowledge of online safety rules

			<ul style="list-style-type: none">- Link appropriate online behaviour to their right to personal privacy and mental wellbeing (of themselves and others) <p>Year 6</p> <ul style="list-style-type: none">- Turn more complex programming tasks into algorithms by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using knowledge of possible coding structures and applying range of skills- Coding demonstrates better understanding of variables in coding, outputs (such as sound and movement), inputs from the user and the value of functions- Explain the difference between the internet and the World Wide Web- Know what WAN and LAN are- Describe how we access internet in school- Explain how credible information found online is- Use critical thinking skills in everyday use of technology- Consider the audience when designing and creating digital content- Identify more discreet inappropriate behaviours through developing critical thinking- Secure knowledge of online safety rules and smart internet use
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SKILLS

- Use a mouse and keyboard to explore programmes
- Use an art package, testing different tools and then using to convey ideas
- Use an iPad / camera / video camera, with support, to take pictures
- Use a computer / iPad / CD player, with support, to listen to pre-recorded sound
- Use a computer / iPad / Dictaphone / sound button, with support, to record and playback sound
- Use a keyboard to enter letter strings
- Begin to use a space bar to break strings into groups of letters
- Use back space to delete
- Use a word bank / word list to enter text
- Switch on a programmable toy to activate movement
- Play with remote control toys
- Play with programmable robots
- Explore apps / programmes / websites to find information
- Sort items and discuss the criteria (developing simple classification skills)

Year 1

- Print work using the Print icon
- Use both hands on the keyboard
- Load programs / apps with support
- Save work with support
- Retrieve work with support
- Experience of a range of ICT equipment and software
- Use an art package to convey ideas
- Use a range of different tools in an art package
- Use a digital camera / digital video camera to take pictures
- Use a computer / iPad / CD player to listen to pre-recorded sound
- Use a computer / iPad / Dictaphone / sound button to record and playback sound
- Use music software, with support, to experiment, create and play their compositions
- Add captions or sound to digital pictures or video with support

Year 2

- Organise data using a simple database
- Edit digital data
- Confidently create, name, save and retrieve content
- Use a range of media (including photos, text and sound) in digital content
- Use a search engine to retrieve purposeful content
- Use different programs / apps to present / share content found online

Year 3

- Turn real-life situations into algorithms for a program by deconstructing it into manageable parts
- Spot an error within their program and then fix it
- Design and code a program that follows a simple sequence
- Experiment with timers to achieve repetition effects in a program
- Begin to use the internet to communicate
- Carry out simple searches to retrieve relevant digital content
- Collect, analyse, evaluate and present data and information using different types of software
- Create purposeful content to attach to emails
- Create passwords that are secure
- Report inappropriate contact and content

Year 4

- Turn real-life situations into algorithms with more thought about how to accomplish a specific task in code
- More intuitive attempts made to debug their programs
- Use of timers for repetition are more logical and better integrated into their own designs
- Able to use different coding structures more confidently and logically
- Use and manipulate the value of variables
- Make better use of user inputs and outputs, e.g. print screen
- Find errors in code and make logical attempts to correct this
- 'Read' simple programs and predict the outcome accurately
- Appraise selected webpages for credibility and information at a basic level
- Use a search engine more confidently
- Make informed choices of software when presenting information / data
- Share digital content within their community, e.g. PurpleMash mail
- Make improvements on work following feedback

Year 5

- Turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts
- Able to test and debug their programs as they go
- Logically identify where a bug might be and the approximate cause
- Translate algorithms into code with increasing ease
- Range of coding structures (sequence, selection and repetition) used in work
- Select most appropriate form of online communication for different tasks
- Use a search engine for more complex searches, e.g. by content type, size etc.
- Investigate the validity and accuracy of information found in a search online

- Create content collaboratively
- Share digital content in a greater range of ways
- Demonstrate safe and respectful use of a range of technologies
- Demonstrate safe and respectful use of online services

Year 6

- Turn more complex programming tasks into algorithms by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using knowledge of possible coding structures and applying range of skills
- Able to test and debug their programs as they go
- Logically identify where a bug might be and use a systematic approach to try to identify the particular line of code causing the problem
- Translate algorithms – which include sequence, selection and repetition - into code with increasing ease
- Coding demonstrates variables in coding, outputs (such as sound and movement), inputs from the user and the value of functions
- Interpret a program in parts and make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole
- Apply filters when searching for digital content
- Compare a range of digital content sources and rate them by content quality and accuracy
- Use critical thinking skills in everyday use of technology
- Design and create a blog to become a content creator on the internet (2Blog)
- Demonstrate safe and respectful use of a range of technologies
- Demonstrate safe and respectful use of online services
- Identify more discreet inappropriate behaviours through developing critical thinking

	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Key vocabulary	Computer Mouse Keyboard Tablet Button Click Swipe Screen Type Sound Movement	Algorithm Digital	Algorithm Digital Media	Content Algorithm Code Deconstruct Program Sequence Selection Repetition	Content Algorithm Code Deconstruct Program Sequence Selection Repetition Variables	Content Algorithm Code Deconstruct Program Sequence Selection Repetition Variables	Content Algorithm Code Deconstruct Program Sequence Selection Repetition Variables Abstraction Decomposition