



Hillside Primary School  
Computing: Progression of Knowledge, Skills and Vocabulary



Early Years Foundation Stage	Three and Four-Year Olds	Reception	Early Learning Goals
	<p>Increasingly follow rules, understanding why they are important.</p> <p>Match their developing physical skills to tasks and activities in the setting.</p> <p>Explore how things work.</p>	<p>Show resilience and perseverance in the face of a challenge.</p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</p> <p>Know and talk about the different factors that support their overall health and wellbeing: sensible amounts of 'screen time'.</p> <p>Explore, use and refine a variety of artistic effects to express their ideas and feelings.</p>	<p>Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.</p> <p>Explain the reasons for rules, know right from wrong and try to behave accordingly.</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>



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<b>Vocab</b>	<p><u>Recognising uses of information technology</u> Understand what is meant by technology</p> <p>Can give example of technology both in and out of school.</p> <p>Know the difference between objects that use modern technology and those that do not e.g. microwave vs a chair</p> <p><u>Using technology safely and respectfully</u> Save work to Purple Mash</p> <p>I can recognise that there may be people online who could make me feel sad, embarrassed or upset.*</p> <p>I can explain why it is important to be considerate and kind to people online. I can describe how to behave online in ways that do not upset others and can give examples*</p> <p>I can describe what information I should not put online without asking a trusted adult first.*</p> <p>I can use the internet to find things out.*</p> <p>I can explain why work I create using technology belongs to me. *</p>	<p><u>Understanding of Algorithms</u> Understand that algorithms are a set of instructions to achieve an objective.</p> <p>Know that an algorithm written for a computer is a program.</p> <p><u>Creating and debugging programs</u> Give and follow simple instructions</p> <p>Plan, create and debug a simple algorithm</p> <p><u>Logical Reasoning</u> Can read code one line at a time and guess the overall effect</p>	<p><u>Using technology purposefully</u> Can name, save and retrieve their work</p> <p>Follow simple instructions to access online resources</p> <hr/> <p><u>Skills used in Purple Mash Units</u> <b>Animated story books</b> Add text and change the colour, font and size Add animations Add sound Add backgrounds Add pages</p>
	<p>Online Safety and Exploring Purple Mash: Log in, Username, password, Avatar, Log out, Save, Notification Technology Outside of School: Technology Animated Story Books: Animation, E-Book, Font, File, Sound Effect, Display Boar Coding: Action, Button, Character, Coding, Command, Debug/ Debugging, Input, Object</p>		



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	Digital Literacy	Computer Science	Information Technology
Year 2	<p><u>Recognising uses of information technology</u> Can effectively retrieve relevant, purposeful digital content using a search engine</p> <p>I can explain rules to keep us safe when we are using technology both in and beyond the home. *</p> <p><u>Using technology safely and respectfully</u> Understand how to use the Purple Mash search bar and know the implications of inappropriate searches</p> <p>Know how to report inappropriate content to their teacher</p> <p>If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust. *</p> <p>I can explain why it is important to be considerate and kind to people online. *</p> <p>I can recognise that information can stay online and could be copied. *</p> <p>I can explain how passwords can be used to protect information and devices.*</p> <p>I can demonstrate how to navigate a simple webpage to get to information I need.*</p> <p>I can recognise more detailed examples of information that is personal to me.*</p>	<p><u>Understanding of Algorithms</u> Explain that an algorithm is a set of instructions to complete a task</p> <p>Know that computers need precise instructions.</p> <p><u>Creating and debugging programs</u> Create a simple program that achieves a specific purpose</p> <p>Identify and correct some errors</p> <p>Plan using logical reasoning to predict outcomes.</p> <p><u>Logical Reasoning</u> Identify the parts of a program that respond to specific events</p>	<p><u>Using technology purposefully</u> Confident when creating, naming, saving and retrieving content on Purple Mash</p> <p>Use a range of media in their digital content including photos, texts and sound.</p> <hr/> <p><u>Skills used in Purple Mash Units</u> <b>Presenting ideas</b> Add appropriate clipart Add appropriate photos Create content to achieve a goal Talk about work and make improvements</p>
	Vocab	<p>Online Safety: Search, Internet, Sharing, Digital footprint, Email            Effective Searching: Internet, Search, Search engine            Coding: Action, Algorithm, Bug, Character, Code block, Debug/Debugging, Input, Object            Presenting Ideas: Concept map, Presentation, Audience, Node</p>	



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<b>Year 3</b>	<p><u>Using technology safely</u>            Understand the importance of staying safe when using email</p> <p>They know more than one way to report unacceptable content and contact.</p> <p>Explain ways in which and why I might change my identity depending on what I am doing online (e.g. gaming; using an avatar; social media).*</p> <p>I can describe ways people who have similar likes and interests can get together online.</p> <p>I can explain ways that some of the information about me online could have been created, copied or shared by others.*</p> <p>I can recognise I need to be careful before I share anything about myself or others online.*</p> <p>I can explain the difference between bullying and cyber-bullying.*</p> <p>I can give reasons why I should only share information with people I choose to and can trust.*</p>	<p><u>Designing, writing and debugging programs</u>            Use logical reasoning to explain what will happen next</p> <p>Solve problems by decomposing them into smaller parts.</p> <p>Use and edit a program to achieve a specific outcome</p> <p>Predict how a change in a sequence may impact on the outcome of a program</p> <p><u>Using sequence, selection and repetition in programs and inputs and outputs</u>            Explain what a variable is in programming</p> <p><u>Using logical reasoning</u>            'Read' other's code and predict what will happen in a program which helps them to correct errors.</p> <p><u>Understanding computer networks including the internet</u>            List a range of ways that the internet can be used to provide different methods of communication</p> <p>Recognise the main component parts of hardware which allow computers to join and form a network</p>	<p><u>Selecting, using and combining software</u>            Collect, analyse, evaluate and present data and information using software e.g. 2database</p> <p>Consider what software is most appropriate for a given task.</p> <p>Create purposeful content to attach to emails</p> <p><u>Using search technologies</u>            Carry out simple searches to retrieve digital content*</p> <hr/> <p><u>Skills used in Purple Mash Units</u></p> <p><b>Email</b>            Read and respond to e-mails            Send an e-mail using an address book            Add an attachment to an e-mail.            Download and attachment from an email</p> <p><b>Branching Databases</b>            Sort objects using just 'yes' or 'no'.            Complete a branching database            Select and save appropriate images</p>
<b>Vocab</b>	<p>Touch typing- Posture, Top/ Home/Bottom row keys, Space bar            Coding- Action, Algorithm, Bug, Code Block, Code design, Command, Control, Debug/Debugging, Event, If, Input, Output, Object, Properties, Repeat, Selection, Timer, Variable            Emails- Communication, Email, Send, Attachment, Address Book, Password            Branching Databases- Branching Database, Data, Database            Hardware detectives- Motherboard, CPU, RAM, Graphics card, Network Card, Monitor, Speakers, Keyboard, Mouse</p>		



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Year 4	<p><u>Using technology safely</u> Explore key concepts relating to online safety</p> <p>I can explain how my online identity can be different to the identity I present in 'real life'*</p> <p>I can give examples of technology specific forms of communication (e.g. emojis, acronyms, text speak).*</p> <p>I can describe strategies for safe and fun experiences in a range of online social environments.*</p> <p>I can explain why spending too much time using technology can sometimes have a negative impact on me; I can give some examples of activities where it is easy to spend a lot of time engaged (e.g. games, films, videos).*</p> <p>I can create and use strong and secure passwords.*</p> <p>I can identify some online technologies where bullying might take place.*</p> <p><u>Be discerning in evaluating digital content</u> Assess selected webpages for credibility and information at a basic level.*</p> <p>Explore key concepts relating to online safety I can use key phrases in search engines.*</p> <p>I can explain what auto-complete is and how to choose the best suggestion.*</p>	<p><u>Designing, writing and debugging programs</u> Identify an error within a program. Debug their own programs.</p> <p><u>Using sequence, selection and repetition in programs and inputs and outputs</u> Use timers to achieve repetition effects</p> <p>Understand 'if' statements for selection and attempt to combine these with other coding structures including variables.</p> <p>Understanding how variables can be used to store information while a program is executing</p> <p>Make user inputs and outputs such as 'print to screen'.</p> <p><u>Using logical reasoning</u> Designs for their programs show that they are thinking of the structure of a program in logical, achievable steps.</p>	<p><u>Selecting, using and combining software</u> Make improvements to digital solutions based on feedback.</p> <p>Create linked content using a range of software.</p> <p><u>Using search technologies</u> Understand the function, features and layout of a search engine.</p> <p><u>Skills used in Purple Mash Units</u> <b>Animation</b> Storyboard a short animation - what would happen and when Effectively plan for an animation and use purposefully Take a series of pictures to form a animation Move items within an animation to create movement on playback. Save images at stages to compare my work and talk about the changes.</p> <p><b>3D modelling</b> Design a 3D model using ICT to meet a specific goal, e.g. 2design 3D Evaluate and improve my finished designs.</p>
	Vocab	<p>Coding- Action, Alert, Algorithm, Bug, Command, Control, Debug/Debugging, Event, Get input, If, If/Else, Input, Output, Object, Repeat, Selection, Timer, Variables</p> <p>Animation- Animation, Frame, Onion skinning, Background, Play, stop motion</p> <p>3D Modelling- CAD(Computer aided design, Modelling, 3D, Viewpoint, 2D, Net, Points, Template</p> <p>Effective Searching- Easter Egg, Internet, Internet Browser, Search, Search Engine, Spoof website, Website</p>	



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Year 5	<p><u>Using technology safely</u> 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.</p> <p>I can explain how identity online can be copied, modified or altered.*</p> <p>I can explain what it means to 'know someone' online and why this might be different from knowing someone in real life.*</p> <p>I can explain why I need to think carefully about how content I post might affect others, their feelings and how it may affect how others feel about them (their reputation).*</p> <p>I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose.*</p> <p>I can explain that others online can pretend to be me or other people, including my friends.*</p> <p>I can explain why copying someone else's work from the internet without permission can cause problems.*</p> <p><u>Be discerning in evaluating digital content</u> I can explain key concepts including: data, information, fact, opinion, belief, true, false, valid, reliable and evidence.*</p>	<p><u>Designing, writing and debugging programs</u> Test and debug their programs as they go and use logical methods to identify the approximate cause of any bug</p> <p>Apply knowledge of coding to create a game around a theme</p> <p>Think about component parts and design these as components in a theme rather than individual parts</p> <p>Consider aspects such as the movement of the characters and goal objects to increase playability</p> <p><u>Using sequence, selection and repetition in programs and inputs and outputs</u> Combine sequence, selection and repetition with other code structures to achieve their algorithm design.</p> <p><u>Using logical reasoning</u> Think about their code structure in terms of ability to debug and interpret the code later.</p>	<p><u>Selecting, using and combining software</u> Make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution</p> <p><u>Skills used in Purple Mash Units</u> <b>Data bases</b> Learn how to search for information in a database Contribute to a class database Create a database around a chosen topic Design and enter information accurately into their own database and create questions to ask classmates Use search functionalities to answer questions</p> <p><b>Game creator</b> Use a given success criteria to review and analyse what makes a successful computer game Consider the end of their game by designing appropriate settings and characters that maintain a user's interest Objectively review and evaluate a range of completed games</p>
	Vocab	<p>Coding- Action, Alert, Algorithm, Bug, Code Design, Command, Control, Debug/ Debugging, Design Mode, Event, Get input, If, If/Else, Input, Output, Object, Repeat, Sequence, Selection, Timer, Variable</p> <p>Databases- Avatar, Branching Database, Charts, Collaborative, Data, Database, Find, Record, Sort, Group, Arrange, Reports, Table</p> <p>Game Creator- Animation, Computer Game, Customise, Evaluation, Image, Instructions, Interactive, Screenshot, Texture, Perspective, Playability</p>	



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Year 6	<p><u>Using technology safely</u> Demonstrate the safe and respectful use of a range of different technologies and online services.</p> <p>I can describe ways in which media can shape ideas about gender*</p> <p>I can make positive contributions and be part of online communities.*</p> <p>I can explain how using technology can distract me from other things I might do or should be doing. *</p> <p>I can explain how I am developing an online reputation which will allow other people to form an opinion of me.*</p> <p>I can describe how to capture bullying content as evidence (e.g screengrab, URL, profile) to share with others who can help me.*</p> <p>I can describe strategies for keeping my personal information private, depending on context.*</p> <p>I can explain how many free apps or services may read and share my private information with others.*</p> <p><u>Be discerning in evaluating digital content</u> When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.*</p>	<p><u>Designing, writing and debugging programs</u> Evaluate the effectiveness of my programming and suggest improvement</p> <p>Make good attempts to 'read' code and predict what will happen in a program</p> <p>Test and debug their program as they go and can use logical method to identify the cause of any bugs</p> <p><u>Using sequence, selection and repetition in programs and inputs and outputs</u> Coding displays an understanding of outputs such as sound and movement, inputs from the user of the program such as button clicks</p> <p><u>Using logical reasoning</u> 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.</p> <p><u>Understanding computer networks including the internet</u> Recognise the approval process that their posts go through</p> <p>Explain the difference between the internet and World Wide Web</p> <p>Know what a WAN and LAN are and can describe how they access the internet</p>	<p><u>Selecting, using and combining software</u> Use a criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.</p> <p>Design and create their own blogs to become a content creator on the internet, e.g. 2Blog.</p> <p>Consider the audience, their ability and interests and make decisions based upon this.</p> <p><u>Using search technologies</u> Apply filters when searching for digital content*</p> <hr/> <p><u>Skills used in Purple Mash Units</u> <b>2DIY/ 2Quiz</b> Plan, design and create various quizzes using a variety of software- 2DIY and 2Quiz Choose the appropriate software for the questions they want to ask Give and respond to feedback, they edit and redesign the quizzes accordingly</p>	
	Vocab	<p>Coding- Action, Alert, Algorithm, Bug, Code Design, Command, Control, Debug/Debugging, Event, Function, Get Input, If, If/Else, Input, Output, Object, Repeat, Sequence, Selection, Timer, Variable</p> <p>Blogging- Audience, Blog, Blog Page, Blog Post, Collaborative, Icon</p> <p>Quizzing- Audience, Collaboration, Concept Map, Database, Quiz</p> <p>Networks- Internet, World Wide Web, Network, Local Area Network (LAN), Wide area Network (WAN), Router, Network Cable, Wireless</p>		



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