



Computing Skills Progression

Builds upon the Skills Progression at Downs View Infant School



Computer Science	Information Technology	Digital Literacy
What makes computers work?	Using apps as tools	Making sense of information
<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>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</p> <p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>	<p>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</p>	<p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable / unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>

Year 3					
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<p>Basic Skills IT & DL Children will begin to become familiar with keyboards and mousepads – beginning to develop the motorskills required to use these technologies safely, comfortably and efficiently. Children will be introduced to the school network, how to log onto it and how to access cloud based resources.</p> <p>Computer Networks CS Children will begin to understand the concept of a network and that devices can communicate with each other</p>	<p>Basic Skills IT Children will learn to use word processing and publishing software to present content.</p> <p>(Word and Publisher)</p>	<p>Online Safety DL Children demonstrate the importance of having a secure password and not sharing this 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. They know more than one way to report unacceptable content and contact.</p>	<p>Coding CS 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</p>	<p>Coding CS 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.</p>	<p>Animation IT Children can create a real-world animation and relate this to stop motion animation. Children will be able to design, create and improve upon a stop-motion animation using digital tools.</p>

Year 4					
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<p>Basic Skills IT & DL Children will increase familiarity with keyboards and mousepads – further developing the motor skills required to use these technologies safely, comfortably and efficiently. Children will know how to access files in and save to locations on the network, and access cloud based resources Children will learn to use presentation software to publish content and spreadsheet software.</p>	<p>Computer Networks CS Children will apply their knowledge and understanding of networks, to appreciate the internet as a network of networks which need to be kept secure. They will learn that the World Wide Web is part of the internet, and will be given opportunities to explore the World Wide Web for themselves in order to learn about who owns content and what they can access, add, and create. Finally, they will evaluate online content to decide how honest, accurate, or reliable it is, and understand the consequences of false information.</p>	<p>Online Safety DL Children can explore key concepts relating to online safety. They can help others to understand the importance of online safety. Children know a range of ways of Reporting inappropriate content and contact. 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, e.g. being able to open, respond to and attach files to emails. They can describe appropriate email conventions when communicating in this way.</p>	<p>Animation IT Same as Y3T6 2022-2023 Revise for next academic Year Children can create a real-world animation and relate this to stop motion animation. Children will be able to design, create and improve upon a stop-motion animation using digital tools.</p>	<p>Coding CS 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 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 Logo, they can 'read' programs with several steps and predict the outcome accurately.</p>	<p>Coding CS 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 user inputs and outputs such as 'print to screen</p>

Year 5					
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<p>Basic Skills IT & DL Children will be familiar with keyboards and mousepads - using these technologies safely, comfortably and efficiently. Children will be able to quickly save and retrieve files on the network and access cloud based resources.</p>	<p>Computer Networks CS Children develop their understanding of computer systems and how information is transferred between systems and devices. Children consider small-scale systems as well as large-scale systems. They explain the input, output, and process aspects of a variety of different real-world systems. Learners discover how information is found on the World Wide Web, through learning how search engines work (including how they select and rank results) and what influences searching, and through comparing different search engines.</p>	<p>Online Safety DL 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.</p>	<p>Coding CS Children may attempt to turn more complex reallife 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.</p>	<p>Coding CS 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.</p>	<p>Video IT Children learn how to create short videos in groups. As they progress through this unit, they will be exposed to topic-based language and develop the skills of capturing, editing, and manipulating video. Active learning is encouraged through guided questions and by working in small groups to investigate the use of devices and software. Children are guided with step-by-step support to take their idea from conception to completion. At the teacher's discretion, the use of green screen can be incorporated into this unit. At the conclusion of the unit,</p>

					learners have the opportunity to reflect on and assess their progress in creating a video.
--	--	--	--	--	--

Year 6					
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<p>Basic Skills IT & DL Children will be confident users of keyboards and mousepads - using these technologies safely, comfortably and efficiently. Children will be able to quickly save and retrieve files on the network and access cloud based resources.</p>	<p>Computer Networks CS Children explore how data is transferred over the internet. Learners initially focus on addressing, before they move on to the makeup and structure of data packets. Learners then look at how the internet facilitates online communication and collaboration; they complete shared projects online and evaluate different methods of communication. Finally, they learn how to communicate responsibly by considering what should and should not be shared on the internet.</p>	<p>Online Safety DL 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.</p>	<p>Coding CS Children will explore the concept of variables in programming through games in Scratch. First, learners find out what variables are and relate them to real-world examples of values that can be set and changed. Then they use variables to create a simulation of a scoreboard following the Use-Modify-Create model, children experiment with variables in an existing project, then modify them, before they create their own project focussing on design. Children apply their knowledge of variables and design to improve their games in Scratch.</p>	<p>Coding CS Children will use physical computing to explore the concept of selection in programming through the use of the Crumble programming environment. Learners will be introduced to a microcontroller and learn how to connect and program components (including output devices- LEDs and motors) through the application of their existing programming knowledge. Learners are introduced to conditions as a means of controlling the flow of actions and make use of their knowledge of repetition and conditions when introduced to the concept of selection (through the if, then structure).</p>	<p>Music IT Children are able to use a widely available music generating programme to create and publish music. Once children have learned how to use the basic features of Garage Band using step by step instructions, they will have the opportunity to explore its features more fully and create their own pieces of music from scratch using Garage Band's capabilities including recording live instruments and vocals.</p>