

End Points in Computing

| Concepts | Early Years | Key Stage 1 (Years 1 & 2) | Lower Key Stage 2 (Years 3 & 4) | Upper Key Stage 2 (Years 5 & 6) |
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| Computer Science | <p>Navigate through apps or a simple program.</p> <p>Understand how to navigate a programmable toy.</p> <p>Talk about some technology used in their environment.</p> | <p>Under and explain that an algorithm is a set of instructions used to solve a problem or achieve an objective. Know that an algorithm written for a computer is called a program. (Y1) (Y2)</p> <p>Demonstrate an awareness of the need to be precise with algorithms. (Y2)</p> | <p>Turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Identify an error within a program that prevents it following the desired algorithm and debug it. (Y3)</p> | <p>Turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Test and debug programs and use logical methods to identify the approximate cause of any bug. (Y5)</p> <p>Use a systematic approach to try to identify a particular line of code causing a problem. (Y6)</p> |
| | | | <p>Demonstrate the ability to design and code a program that follows a simple sequence. Understand how variables can be used to store information while a program is executing. (Y3)</p> <p>Use and manipulate the value of variables. Make use of user inputs and outputs. (Y4)</p> | <p>Translate algorithms that include sequence, selection and repetition into code. Combining sequence, selection and repetition with other coding structures to achieve an algorithm design. (Y5)</p> <p>Use complex structures within coding. Use a range of variables in coding: outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions. (Y6)</p> |

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| | | <p>Identify the errors in an algorithm and make logical attempts to fix them. (Y1)</p> <p>Programs contain logical, programmable steps. (Y2)</p> | <p>Design programs that show a program in logical, achievable steps. Use some 'if' statements, repetition and variables in coding. Identify and correct errors in algorithms. Read programs with several steps and predict the outcome accurately. (Y3)</p> <p>Design programs that show a structure in logical, achievable steps. Identify errors in algorithms and correct them. Read programmes of several steps and predict the outcome accurately. (Y4)</p> | <p>To begin thinking about coding structures in terms of the ability to debug and interpret the code later. (Y5)</p> <p>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. (Y6)</p> |
| | | <p>Read code one line at a time and make predictions about the outcome. (Y1)</p> <p>Identify the parts of a program that respond to specific events and initiate specific actions. (Y2)</p> | <p>List a range of ways that the internet can be used to provide different methods of communication. Use some of these methods of communication. Describe appropriate email conventions when communicating in this way. (Y3)</p> <p>Recognise the main component parts of hardware which allow computers to join and form a network. Understand the online safety implications associated with the ways the internet can be used to provide different methods of communication. (Y4)</p> | <p>Understand the value of computer networks and have an awareness of the main dangers. Recognise what personal information is and explain how this can be kept safe. Select the most appropriate form of online communications contingent on audience and digital content. (Y5)</p> <p>Understand and can explain the difference between the internet and the World Wide Web. Know what a WAN and LAN are and how to access the internet in school. (Y6)</p> |

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| Information technology | <p>Recognise that a range of technology is used in places such as homes and schools Select and use technology for particular purposes.</p> | <p>Sort, collate, edit and store simple digital content. Retrieve and save work and follow simple instructions to access online resources. (Y1)</p> <p>Organise data and retrieve specific data for conducting simple searches. Edit more complex digital data. (Y2)</p> <p>Create, name, save and retrieve content. Use a range of media in digital content. (Y2)</p> | <p>On a range of digital devices design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. (Y3)</p> <p>Understand the function, features and layout of a search engine. Appraise selected webpages for credibility and information at a basic level. (Y4)</p> | <p>Search with greater complexity for digital content when using a search engine. Explain in some detail how credible a webpage is and the information it contains. (Y5)</p> <p>Apply filters when searching for digital content. Explain in detail how credible a webpage is and the information it contains. Compare a range of digital content sources. Use critical thinking skills in everyday use of online communication. (Y6)</p> |
| | | <p>Collect, analyse, evaluate and present data and information using a selection of software. Consider what software is most appropriate for a given task. Create purposeful content to attach to emails. (Y3)</p> <p>Make improvements to digital solutions based on feedback. Make informed software choices when presenting information and data. Create linked content using a range of software. Share digital content within the community. (Y4)</p> | <p>Make appropriate improvements to digital solutions based on feedback received and comment on the success of the solution. Review solutions from others. (Y5)</p> <p>Collaboratively create content and solutions using digital features within software. (Y5)</p> <p>Make clear connections to the audience when designing and creating digital content. Use criteria to evaluate the quality of digital solutions, identify improvement and make some refinements. (Y6)</p> | |

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| Digital Literacy | Talk about what they may use different technology for and how it might work (batteries or the need for putting the device on charge) | Understand what is meant by technology and identify a variety of examples both in and out of school. Make a distinction between objects that use modern technology and those that do not. (Y1) | Demonstrate the importance of having a secure password. Explain the negative implications of failure to keep passwords safe and secure. Understand the importance of staying safe when using communication tools. (Y3) | Have a secure knowledge of common online safety rules. To know the safe and respectful use of a few different technologies and online services. Understand what appropriate online behaviour is. (Y5) |
| | | Retrieve relevant, purposeful digital content using a search engine. Make links between technology used within school. (Y2) | Help others to understand the importance of online safety. Know a range of ways of reporting inappropriate content and contact. (Y4) | Demonstrate the safe and respectful use of a range of different technologies and online services. (Y6) |
| Online safety | Begin to understand the importance of online safety and who they can talk to if they need help. | Understand the importance of keeping information, such as their usernames and passwords, private. (Y1) | Understand the importance of a secure password and not sharing this with anyone else. (Y3) | Understand their responsibility to others as well as to themselves when communicating and sharing content online. (Y5) |
| | | Know the implications of inappropriate online searches. Understand how things are shared electronically. Develop an understanding of using email safely and know ways of reporting inappropriate behaviours and content. (Y2) | | |

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| | | | <p>relate online and off-line appropriate behaviour. (Y1) Suggest appropriate words to search with to find the results that they are looking for. (Y1)</p> <p>Know the implications of inappropriate searches. (Y2)</p> <p>Explain what a digital footprint is, that it is permanent and that online behaviour influences what it shows. (Y2) Give reasons for keeping passwords safe that include protecting their personal information. (Y2)</p> <p>Express the good and bad sides of digital technology. (Y2)</p> <p>Share work online safely. (Y2)</p> <p>Will open and send emails safely and responsibly. (Y2)</p> <p>Know how to report inappropriate content to their teacher. (Y2)</p> <p>To know that many search engine companies collect and sell information about users. (Y2)</p> | <p>trustworthy source of information. (Y3) Understand that it is not acceptable to use the work of others or post images of others without consent. (Y3)</p> <p>Recognise the PEGI ratings and can give examples of why content is rated and how this protects them. (Y3)</p> <p>Know they need tell a trusted adult if they are upset by anything online. (Y3)</p> <p>Understand the importance of staying safe when using email. (Y3)</p> <p>To explain to others the importance of online safety. (Y4)</p> <p>Reflect upon positive and negative aspects of a digital footprint. (Y4)</p> <p>Give reasons for taking care when installing apps or software. They know what Malware is and the possible impact of computer viruses. (Y4)</p> | <p>to using technology safely and respectfully. (Y5)</p> <p>Explain how to avoid plagiarism with citations. (Y5)</p> <p>Use search tools and routinely try to verify the validity and reliability of their sources. Look for corroborating sources for information and enter keywords that help them to choose the best results. (Y6)</p> <p>Demonstrate an understanding of their responsibility to others as well as to themselves when communicating and sharing content online. (Y6)</p> <p>Identify a variety of risks and benefits of technology identify location sharing as a risk to online safety. (Y6)</p> <p>Understand the impact of a positive and negative digital footprint and how to take control of their own online virtual image. (Y6)</p> <p>Balance the positive impact of technology with the reasons for</p> |
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| | | | | <p>give reasons for limiting screen time that include the effect on physical and mental health. (Y4)</p> <p>Aware that plagiarism is stealing. (Y4)</p> <p>To know how to report cyberbullying or inappropriate content. (Y4)</p> <p>To analyse the contents of a web page for obvious clues about the credibility of the information. (Y4)</p> | <p>limiting screen time that include the effect on physical and mental health. (Y6)</p> <p>Discuss the use of instant messaging in social contexts, aware of the pros and cons of using such tools. (Y6)</p> <p>Demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying. (Y6)</p> |
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