

Computing: Skills & Knowledge Progression

Skill	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science							
Computer Science (Programming and logical reasoning)	I can give commands/instructions e.g. forward, backwards, go, stop, when using simple software/hardware I can make choices about the buttons/icons to press, touch or click on when using simple software/hardware.	I can predict what will happen for a simple sequence of instructions (algorithm) I can investigate how algorithms work I can make an algorithm/program to achieve a simple outcome I can improve a simple algorithm by identifying basic errors (bugs) and correcting these (debugging)	I can predict what will happen in an algorithm using logical reasoning. I can investigate the way algorithms need precise, unambiguous instructions to work I can make algorithms that to achieve a simple outcome, using simple drawings or diagrams to plan the solution I can improve algorithms, using debugging skills such as checking back through the plan and algorithm.	I can predict what will happen for a more complex sequence of instructions which uses repetition. I can investigate how a problem can be solved by decomposing it into smaller steps and by planning a solution. I can make algorithms that solve problems which use sequences and repetition. I can improve more complex algorithms by identifying mistakes (bugs) and correcting (debugging)	I can plan the solution to a problem by decomposing into smaller parts e.g. with a flow diagram, storyboard or other plan I can investigate how algorithms work and identity the purpose of the different parts of an algorithm I can make programs which use sequences, repetition and inputs and outputs when necessary. I can improve a program by debugging it systematically	I can plan solutions to problems that include controlling or simulating physical systems, using decomposition to solve the problem I can make programs using more complex algorithms, selecting when to use sequences, selection, (if, then), repetition and a range of inputs and outputs I can investigate how algorithms work on different platforms, by comparing one block-based code language to another (e.g. Scratch with 2Code or Kodu) I can improve code by systematically testing and debugging it, with an understanding of logic and syntax bugs (error to a code)	I can plan efficient solutions to problems that include controlling or simulating physical systems, using decomposition to solve the problem I can confidently make programs using more complex algorithms, selecting when to use sequences, selection, (if, then), repetition and a range of inputs and outputs I can investigate how algorithms work on different platforms, by comparing one block-based code language to another (e.g. Scratch with 2Code or Kodu) and explain my preference I can confidently improve code by systematically testing and debugging it, with an understanding of logic and syntax bugs (error to a code)

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Information Technology							
Information Technology (Word processing, presentations, Graphs, Databases and Spreadsheets)	I can manage a device by correctly closing websites or apps and safely turning on and off. I can use finger to interact with a tablet (double tap, swipe) I can experience simple apps and software	I can save my work when the saving location has been set by an adult I can manage a device by logging in, logging out, ,shutting down, and knowing the main parts of a computer I can input commands using the space bar, backspace, enter, letters and numbers on a keyboard on a device (including on a tablet).	I can save and retrieve work using an appropriate file name I can manage a device by navigating a range of software and using simple passwords I can input commands by using both hands on a keyboard on any device (including on a tablet), using a wide range of letters, numbers and symbols. I can input commands using a mouse, with an understanding of the difference between left and right click	I can save and retrieve files on the school network I understand that information can be saved in different places (an individual device, a local network or the cloud) I can manage various devices correctly, navigating a wide range of apps and software and using individual passwords. I can input commands using a keyboard on any device (including on a tablet) with increased fluency, using efficient shortcuts where possible i.e. Shift + 'letter' instead of Caps Lock I can create, modify and present work using different software/apps. I can evaluate my work and improve its effectiveness. I can use technology to present and interpret given data, identifying simple patterns or trends.	I can save and retrieve work independently on the school network or a Cloud system like, using folders to organise work I can use a wide range of input devices fluently, such as keyboards, mice and/or touchscreens I can create, modify and present work to accomplish specific goals using a variety of software on a range of digital devices. I can evaluate my work and improve it, based on my own, and other people's views. I can use technology to collect, present and interpret data, using a range of different graphs/charts.	I understand the difference between cloud based saving and other programs, which need to be manually saved. I can use input devices fluently, such as keyboards, mice and/or touchscreens to navigate a system, using shortcuts on a keyboard Ctrl + B, U, I, S, P (<i>Bond, Underline, Italic, Save and Print</i>) I can create, modify and present work with a combination of software to achieve a specific goal, using built in functions that help the user such as spellchecker, dictate, immersive reader I can evaluate my work and improve it, understanding how various forms of media e.g. photos, video and sound, can aid this. I can use a range of tools within computer- based software to evaluate and analyse data	I can use search tools within a system to find saved work. I can use input devices fluently, such as keyboards, mice, touchscreens and voice command to enter data in a system. I can create, modify and present content using a combination of software (including internet service) on a range of digital devices which solves problems, with a regard to audience, atmosphere and user needs. I can evaluate and refine my work, explaining my choices and the impact it has. I can use different functions within computer-based software to present, evaluate and efficiently analyse data i.e. tables, charts, graphs and formula in a spreadsheet.

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Digital Arts							
Digital	Children take photographs with digital cameras, learning to focus & position what they see	Pupil learn to take photos with digital cameras taking care to frame the shot to capture the detail they want. They use simple software to edit and manipulate photos. Pupils have opportunities to make art using digital means; drawing & painting programmes, vector drawing, photo manipulation. I can make marks on a screen and explain which tools I used I can draw lines on a screen and explain which tools I used I can use the paint tools to draw a picture I can change the colour and brush sizes I can spot the differences between painting on a computer and on paper	Pupils learn how to use a digital camera to frame the shot to suit their purpose and can edit them using simple software for cropping. Pupils use painting software to edit and manipulate photos to create more complex images. Pupils have opportunities to make art using digital means; drawing & painting programmes, vector drawing, photo manipulation. I can choose appropriate shapes I can make appropriate colour choices I can create a picture in the style of an artist I can explain that different paint tools do different jobs I can spot the differences between painting on a computer and on paper and say whether I prefer painting using a computer or using paper	Pupils have opportunities to make art using digital means; drawing & painting programmes, vector drawing, photo manipulation.	Pupils have opportunities to make art using digital means; drawing & painting programmes, vector drawing, photo manipulation.	I can create digital media using video software and computing computers. I can edit and manipulate video content	I can create digital media using video software and computing computers. I can edit and manipulate video content

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Digital Literacy							
Digital Literacy Research and E-Safety	I can recognise technology that is used at home and in school. I understand what a computer is and the different uses of computers i.e. learning, communicating, finding information, playing games etc.	I recognise that devices can be connected I understand the ways devices are used in the classroom and at home I can use a search engine to find information I can use technology safely and respectfully, I know what personal details are and that I should not share them I know where to go for help and support if I'm worried about anything I see on the internet or other online technologies.	I recognise that devices can be connected via networks. I understand the ways devices are used in the workplace and the wider world. I can use key words in a search engine to find information. I can use technology safely and respectfully, I know ways to keep my personal information private I know where to go for help and support if I'm worried about anything I see on the internet or other online technologies.	I can begin to recognise the different parts of a school network e.g. WIFI point, server I can use search operators i.e. + - to filter information in a search engine I understand that information put online leaves a digital footprint or trail I can use technology safely, respectfully and responsibly I can recognise acceptable/unacceptable behaviour with online technologies I can identify trusted adults that I can go to raise concerns about content or contact	I can recognise different parts of a school or office network e.g. server, switch, router, client, WIFI point, I can use a wider range of search operators i.e. " " ~ define: to efficiently find information in a search engine I understand that information put online leaves a digital footprint or trail I can use technology safely, respectfully and responsibly I can recognise acceptable/unacceptable behaviour with online technologies I can identify trusted adults that I can go to raise concerns about content or contact	I recognise different parts of a school or office network e.g. server, switch, router, client, Wi-Fi point, and explain the purpose of each. I can use a search engine efficiently by filtering and begin to understand how results are selected and ranked I can use technology safely, respectfully and responsibly I can recognise acceptable/unacceptable behaviour with online technologies and know how to select appropriate content I can identify a range of ways to report concerns about content and contact	I can recognise the different services that computer networks can provide i.e. the World Wide Web I can use a search engine efficiently by filtering and deepen their understanding of how results are selected and ranked I understand that information put online leaves a digital footprint or trail I can use technology safely, respectfully and responsibly I can recognise acceptable/unacceptable behaviour with online technologies and know how to select appropriate content I can identify a range of ways to report concerns about content and contact