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| **Key Stage 1** Pupils should be taught to: |
| * 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.
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| **Key Stage 2**  Pupils should be taught to: |
| * 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.
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| C:\Users\LGregory2\OneDrive\Documents\Desktop\Federation logo 7 (2).png | **Digital Literacy – E Safety** See [Teach Computing](https://teachcomputing.org/curriculum) |
| YR | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 |
| See [Education for a Connected World](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896323/UKCIS_Education_for_a_Connected_World_.pdf)• recognise simple examples of personal information and trusted people • recognise it’s OK to say no to someone who asks me to do something I don’t want to do • recognise some ways the internet can be used to communicate. • identify ways that people can be unkind online • understand a list of rules to help keep us safe and healthy in when using technology. • begin to use the internet to find things out, with support. | • identify a set of rules to keep everyone safe online • recognise more detailed examples of personal information • recognise that there may be people online who could make me feel sad, embarrassed or upset and what do to if this happens • use the internet, with adult support, to communicate with known people • understand how to behave online in a way that will not upset others • recognise that information can stay online and could be copies, as well as which information should not be put online • use the internet to find things out. | • recognise that online information about me can be seen by others • use passwords to protect accounts and devices • recognise that other people’s identity online can be different to their identity in real life • recognise that information put online can last for a long time • recognise how someone who is bullied online would feel, and how to get help for myself or others. • use keywords in search engines • begin to recognise that some information found online may not be true | • know that some people on the internet should not be trusted • know that concerns should be reported to a trusted adult • understand what is meant by the term ‘identity’ and how it is possible to represent yourself in different ways online • identify benefits and risks of communicating online • identify how people may be hurt by what is said online • understand that too much time using technology can have a negative impact • use a Search engine to find information given key words • know which websites are useful and identify the difference between a ‘belief’ an ‘opinion’ and a ‘fact’ | • recognise what a strong password is and how to keep personal information private • understand how online and ‘real life’ identities can differ • identify how to be respectful to others online • identify where bullying might take place online • identify strategies to help limit the use of technology • to analyse information and differentiate between ‘opinions’, ‘beliefs’ and ‘facts’ • understand that lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true | • recognise that apps or services may read and share private information, and may take payment for additional content • understand how identity online can be copied, modified or altered and to identify responsible choices about online identity • recognise that some people online may want to do harm • identify how to get help for myself or others who are being bullied online • identify strategies to promote healthy sleep with regards to technology • understand how to use different search technologies, evaluate digital content and explain how to make choices from search results. • understand the difference between mis-information and dis-information, what a ‘hoax’ is and why it is important to be ‘sceptical’ online | • recognise the importance of using different passwords for a range of online services, and how to manage these • identify ways in which media can shape ideas about gender, identify and challenge messages about gender roles • understand that we are all responsible for the wellbeing of others in our online social groups and to identify how to report problems online for myself and others • understand how to capture bullying content as evidence and how to report concerns • describe common systems that regulate age-related content • use search technologies effectively and to explain how search engines work and how results are selected and ranked |

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| **Digital Literacy – Computer Systems and Networks** See [Teach Computing](https://teachcomputing.org/curriculum) |
| YR | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 |
| • begin to identify with support, examples of technology in the classroom | • identify (in simple terms) what technology is • recognise ways we use technology in the classroom • recognise ways we use technology at home • identify a computer and its main parts | • describe how networks physically connect to other networks • recognise how networked devices make up the internet • outline how websites can be shared via the World Wide Web • describe how content can be added, accessed and shared on the World Wide Web | • describe how networks physically connect to other networks • recognise how networked devices make up the internet • outline how websites can be shared via the World Wide Web • describe how content can be added, accessed and shared on the World Wide Web | • describe how networks physically connect to other networks • recognise how networked devices make up the internet • outline how websites can be shared via the World Wide Web • describe how content can be added, accessed and shared on the World Wide Web | • recognise that computers can be connected together to form systems• recognise the role of computer systems in our lives • recognise how information is transferred over the internet • explain how sharing information online lets people in different places work together • contribute to a shared project online • evaluate different ways of working together online | • explain why internet search terms need to be chosen carefully • explain why the order of internet search results is important and to whom • discuss the opportunities that technology offers for communication • evaluate different methods of communication on the internet |

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| **Information Technology – Creating Media** See [Teach Computing](https://teachcomputing.org/curriculum) |
| YR | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 |
| • explore mark marking on iPads/IWB • experiment with using keyboard to make marks on a page | • log into a computer • use a mouse to click and drag, highlight and select, open and navigate around programs • use a keyboard to type (including using letter, number, space and backspace keys and shift/caps lock to type capital letters, bold, italic and underline tools) • purposefully select tools to create a digital picture – e.g. spray, lines, shapes, brush etc • use technology purposefully to create media • save and retrieve work with support | • use technology to purposefully create a piece of music • use a device to take photographs and establish what makes a good photograph • use tools to edit photographs to achieve desired effects • save, retrieve and evaluate work | • recognise how text and images communicate information • recognise that text and layout can be edited • change page orientation, font style, size and colour for a given purpose • add content to a desktop publishing document • recognise that an animation is a sequence of pictures • identify what makes a good animation • plan and create an animation • evaluate and improve an animation • use a second piece of software to improve an animation | • identify that sound can be digitally recorded • use a digital device to record and play back sound • plan, write, record and evaluate a podcast • save a digital recording as a file • combine software to edit and improve a digital recording • identify changes that can be made to an image • make changes to an image to achieve a particular goal • identify positive and negative effects of retouching an image | • identify that drawing tools can be used to produce different outcomes • recognise that vector drawings consist of layers • create a vector drawing by combining shapes, and evaluate it • recognise that videos include both visual and audio media • plan a video • select a suitable device and software to capture video • recognise the features of an effective video • store and retrieve video for editing • evaluate video project | • use a computer to create and manipulate 3D digital objects • use digital tools to modify a 3D object • identify that physical objects can be broken down into a collection of 3D shapes • design a digital model by combining 3Dobjects• develop and improve a digital 3D model |

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| **Information Technology – Handling Data** See [Teach Computing](https://teachcomputing.org/curriculum) |
| YR | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 |
|  |  | • record and represent data manually • use technology to organise and present data in different ways • begin to analyse data - make comparisons and answer simple questions about the graphs and charts created | • decide what data needs to be collected to answer a specific question • create physical and onscreen branching databases • retrieve information from a branching database • evaluate the effectiveness of branching databases | • use a digital device (data logger) to collect data automatically • identify the data needed to answer a question • interpret data collected and draw conclusions | • identify how databases help us to answer questions • use computer programs to visually compare data • ask and answer questions using an existing database • present findings | • build a data set in a spreadsheet application • create a formula which includes a range of cells in a spreadsheet • apply formula to calculate data required to answer a question • produce a graph to show the answer to a question |

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| **Computer Science** See [Teach Computing](https://teachcomputing.org/curriculum) |
| YR | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 |
| • explore floor robots such as Bee-Bots | • give and follow precise and unambiguous instructions • begin to recognise that programs require precise and unambiguous instructions and that these are called algorithms • plan and create a simple program for a Bee-Bot and a sprite (in Scratch Jr) • debug a simple program | • recognise that programs require precise and unambiguous instructions and that these are called algorithms • describe a series of instructions as a sequence • explain what happens when the order of instructions changes • use logical reasoning to predict the outcome of a program • design, create and debug a program with two parts | • explain what a sequence is • identify that commands have an outcome • use logical reasoning to explain how some simple algorithms work and begin to recognise errors in simple algorithms • design, write and debug programs in a block-based language which accomplishes a given goal (creating a musical instrument and a maze-based challenge – both in Scratch) | • recognise the importance of accuracy in programming • understand the meaning of repetition in programming • decompose a problem into parts • identify infinite loops and count-controlled loops • design, create and debug a program using count-controlled loops to accomplish a specific goal (in both a text-based and block-based programming environment) | • program various outputs (e.g. LEDs and motors) using a microcontroller • design, write and debug a program that controls a physical system (Crumble controller) • use a condition in an if…then… statement to produce a given outcome • design and create a physical project which includes selection • explain how selection is used in computer programs • design, create and debug a program in a block-based programming environment (Scratch) which uses selection and accomplishes a given goal | • understand the meaning of ‘variable’ in programming • design, create and debug a program in a block-based programming environment (Scratch) which uses variables and accomplishes a given goal • experiment with different physical inputs • design and develop a project which uses inputs and outputs on a controllable device (micro:bit) |