| Computing Progression | | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|---|---|
| **Computer Science** | *Computational thinking* | | • understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions<br>• use logical reasoning to predict the behaviour of simple programs | | • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs | | | |
| | | | Introduction to what an algorithm is, relating to BeeBots. | Algorithms, unplugged then relating to Micro:bits. Predicting what a program will do before testing. | While creating programs, use appropriate vocabulary to discuss what they are doing (algorithm, sequence, selection, repetition, variable, input and output – all vocabulary to be covered by year 6). Programming projects include opportunities to debug work. | | | |
| | *Programming* | | • create and debug simple programs | | • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts<br>• use sequence, selection, and repetition in programs; work with variables and various forms of input and output | | | |
| | | Exploring how to give instructions to a BeeBot. | Programming BeeBots to follow a route using multiple steps. | Creating a simple program in Makecode for Microbits and debugging. | Using Scratch to draw shapes and make patterns, including repeat command. | Using Scratch to create a game, repetition and selection (if.. then), input (when…) (e.g. obstacle game) | Using Scratch to create a game, revise commands so far and introduce variables (e.g. collecting game). | Scratch game – choice of format. Experience of another programming language (e.g. Python for Micro:bits) |
| **Information Technology** | *Using technology* | | • use technology purposefully to create, organise, store, manipulate and retrieve 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 | | | |
| | | Introduction to laptops – using a mouse. | Logging into the laptops. Using a Keyboard and mouse. | Logging in to the laptops. Creating a simple document combining text and image. | Word - present written work. Copy and paste images. Saving work. Recording and editing sound. | Powerpoint – to support a presentation. Images, text, transitions, links, animations. Recording and editing sound. | Excel – creating a table and using simple calculations and graphs. Working with text and images. Image editing. | Using Word, PowerPoint and Excel together on a project. Image editing. |

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| **Digital Literacy** See also relevant objectives from the PSHE curriculum below | *Understanding networks and the internet* | | • recognise common uses of information technology beyond school | | • 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<br>• use search technologies effectively, appreciate how results are selected and ranked<br>• be discerning in evaluating digital content | | | |
| | | | Discussion as part of the wider curriculum – how technology is used beyond school. | Knowing that the internet can be used to gather information. | Simple Internet search to find and navigate appropriate content. Linking all relevant work to real word equivalents. | Introduction to search engines to find relevant websites. Knowing that not everything online is true. | Understanding the Internet, World Wide Web, browser, website, search engine. Using a search engine, including rankings and paid for ads. | More advanced searches. Different ways of communicating (e.g. email, messages, social media). Hidden bias and manipulated images (e.g. airbrushing) | Publishing online (social media, posts, comments etc) Working collaboratively using Teams (e.g. Edmodo, 2Blog) |
| | *E-safety* | | • 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. | | • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | | | |
| | | | What to do if they have concerns. | Keeping personal information private, awareness that people may not be who they seem online, treating others with respect online and what to do if they have concerns to be covered on e-safety day and throughout the year in relevant computing and PSHE lessons an age-appropriate way in all year groups. | | | | |

| | Key Stage 1 | Key Stage 2 |
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| **Links to PSHE Curriculum**<br><br>These objectives from the PSHE curriculum could be jointly covered with the Digital Literacy objectives above. | **H34.** basic rules to keep safe online, including what is meant by personal information and what should be kept private; the importance of telling a trusted adult if they come across something that scares them<br>**R10.** that bodies and feelings can be hurt by words and actions; that people can say hurtful things online<br>**R14.** that sometimes people may behave differently online, including by pretending to be someone they are not<br>**L7.** about how the internet and digital devices can be used safely to find things out and to communicate with others<br>**L8.** about the role of the internet in everyday life<br>**L9.** that not all information seen online is true | **H13.** about the benefits of the internet; the importance of balancing time online with other activities; strategies for managing time online<br>**H37.** reasons for following and complying with regulations and restrictions (including age restrictions); how they promote personal safety and wellbeing with reference to social media, television programmes, films, games and online gaming<br>**H42.** about the importance of keeping personal information private; strategies for keeping safe online, including how to manage requests for personal information or images of themselves and others; what to do if frightened or worried by something seen or read online and how to report concerns, inappropriate content and contact<br>**R12.** to recognise what it means to 'know someone online' and how this differs from knowing someone face-to-face; risks of communicating online with others not known face-to-face<br>**R15.** strategies for recognising and managing peer influence and a desire for peer approval in friendships; to recognise the effect of online actions on others<br>**R23.** about why someone may behave differently online, including pretending to be someone they are not; strategies for recognising risks, harmful content and contact; how to report concerns<br>**R30.** that personal behaviour can affect other people; to recognise and model respectful behaviour online<br>**L11.** recognise ways in which the internet and social media can be used both positively and negatively<br>**L12.** how to assess the reliability of sources of information online; and how to make safe, reliable choices from search results<br>**L13.** about some of the different ways information and data is shared and used online, including for commercial purposes<br>**L14.** about how information on the internet is ranked, selected and targeted at specific individuals and groups; that connected devices can share information<br>**L15.** recognise things appropriate to share and things that should not be shared on social media; rules surrounding distribution of images<br>**L16.** about how text and images in the media and on social media can be manipulated or invented; strategies to evaluate the reliability of sources and identify misinformation |