

| Year Group | Information Technology | Digital Literacy | Computer Science |
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| EYFS | <p>Understanding the World: Foster the children’s understanding of a technologically diverse world.</p> | <p>Understanding the World: Foster the children’s understanding of a technologically diverse world.</p> | <p>Understanding the World: Foster the children’s understanding of a technologically diverse world.</p> |
| | <p>Children begin to understand that different types of technology can be used for different purposes. This includes computers, tablets, digital cameras and electronic toys. They can begin to choose an appropriate piece of technology for a given task (i.e. choosing a digital camera to take a photograph).</p> | <p>Children can switch a simple device on and off, and can use basic input functions such as switches, push-buttons, touch-screens, a keyboard and a mouse. They begin to understand that the Internet links devices the wider world, and they also know to tell a trusted adult if they see something on a device that upsets or frightens them, or that they don’t understand.</p> | <p>Children understand the relationship between an input and an output (i.e. if they move the mouse on the desk, they can control the cursor arrow on the screen), and can begin to plan, execute and debug simple programs to move a person or programmable robot between two points, step-by-step at first, then later using algorithms (a list of commands in a set order).</p> |

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| Year 1 | <p>Children can use technology purposefully to create, organise, store, manipulate and retrieve digital content. They can recognise common uses of information technology beyond school.</p> | <p>Children can 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.</p> | <p>Children understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. They can create and debug simple programs, and use logical reasoning to predict the behaviour of simple programs.</p> |
| | <p>Autumn: Throughout the year, children use iPads in the classroom for photographing and recording their work and uploading it to Seesaw, as well as for educational games. They use Beebots as an electronic educational toy.</p> <p>Spring: Alongside the iPads, children use desktop computers to access programming applications, as well as word processing applications.</p> <p>Summer: Alongside the iPads, children use desktop computers as a creative tool. They also learn about different types of technology they might find outside of school.</p> | <p>Autumn: We begin with year with Internet safety (Jessie and Friends) and our Internet Safety Charter, created together to ensure children know to tell a trusted adult if they see something on a device that upsets or frightens them, or that they don't understand. Children use push-buttons to control the Beebots</p> <p>Spring: Children use the mouse and keyboard to login to Purple Mash. They also use the mouse and keyboard to open a word processing program, becoming familiar with its basic functions, as well as saving, finding, reopening and editing their work, consisting of simple sentences. Safer Internet Day is also marked in February as a further focus on Internet safety.</p> <p>Summer: Children use the mouse and keyboard to login to Purple Mash. They also use the mouse and keyboard to create their animated stories, building on their word processing skills from the spring term, as well as applying the skills of saving, finding, reopening and editing their work on a different program.</p> | <p>Autumn: Having experimented with Beebots in EYFS, the children now use Beebots as an introduction to programming. They learn that an algorithm is a precise list of instructions in a set order. They write, execute and debug their own simple programs to move the Beebot between two points, and apply their understanding of algorithms in order to predict the outcomes of programs written by others.</p> <p>Spring: Children use 2Code on Purple Mash to expand their programming skills, with the push-button programming of the Beebot replaced by simple on-screen code blocks. These are used to create a program which moves an object (or objects) across a background scene.</p> <p>Summer: Children use simple commands on 2Create a Superstory in order to accurately and appropriately add movement and sound to their stories.</p> |

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| Year 2 | <p>Children can use technology purposefully to create, organise, store, manipulate and retrieve digital content. They can recognise common uses of information technology beyond school.</p> | <p>Children can 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.</p> | <p>Children understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. They can create and debug simple programs, and use logical reasoning to predict the behaviour of simple programs.</p> |
| | <p>Autumn: Children begin to learn about networks, and how computer networks, including the Internet, can be used for communication, sharing and finding information.</p> <p>Spring: Children use a computer as a tool for writing (word processing) as well as a means of sharing ideas (presentation software).</p> <p>Summer: Children use computers as a tool for storing, classifying and sorting information using a database. They also explore computers as a creative tool for making music.</p> | <p>Autumn: We begin with year with Internet safety (Jessie and Friends) and our Internet Safety Charter, created together to ensure children know to tell a trusted adult if they see something on a device that upsets or frightens them, or that they don't understand. Children then use Purple Mash to begin exploring the Internet, and how to share and communicate safely and responsibly over a local network (within their peer group). They learn about their digital footprint and how to keep personal information secure. They then look at using a global network, the Internet, in order to safely find information through effective Internet searches.</p> <p>Spring: Children build on their knowledge of word processing packages from last year, and should now be able to use them in a more structured and meaningful way. Their growing typing and keyboard skills, improved further this year using Dance Mat Typing, should enable them to write, save, retrieve and edit longer pieces of text. Children also learn the basic functions of presentation software as a means of sharing ideas. Safer Internet Day is also marked in February as a further focus on Internet safety.</p> <p>Summer: Children learn what a database is, and enter simple data into a database to create pictograms. They use a binary decision tree to categorise and sort information, and also use the search tool to find information within the database. Children are introduced to making music digitally, using 2Sequence on Purple Mash to combine sounds. They then add sounds to a tune in order to improve it, and finally record and upload their own sounds in order to create their own tune.</p> | <p>Autumn: Having used 2Code in Year 1, the children now build on their prior learning of algorithms and block coding to write more complex programs to a given brief that include collision detection, timed sequences and clickable on-screen buttons.</p> <p>Summer: Children learn to input simple information into a database, as well as how to use technology as a creative musical tool using sequencing.</p> |

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| Year 3 | <p>Children can 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>Children 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. They can use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. They can also use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; and identify a range of ways to report concerns about content and contact.</p> | <p>Children can design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. They can solve problems by decomposing them into smaller parts, use sequence, selection, and repetition in programs, and work with variables and various forms of input and output. They can also use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> |
| | <p>Autumn: Children consider the computer as a tool for communication Children use two different block coding platforms, 2Code and Micro:Bit, so explore different types of basic programming.</p> <p>Spring: Children use a computer as a tool for writing (word processing) as well as a means of communication (via email).</p> <p>Summer: Children learn to use computers as a tool for researching, analysing and managing data on a topic of their choosing, including using the Internet as a way of collecting, evaluating and checking information. They also use PowerPoint as a tool for presenting information to an audience using multiple media.</p> | <p>Autumn: We begin with year with Internet safety and our Internet Safety Charter, created together to ensure children know to tell a trusted adult if they see something on a device that upsets or frightens them, or that they don't understand. They also learn about safe passwords, build on their knowledge of effective Internet searches by learning to question the veracity of some Internet content, and learn what age restriction symbols mean and why they are important.</p> <p>Spring: Having built some keyboard skills in Year 2 using Dance Mat Typing, the children enhance their typing proficiency beginning to learn to touch type. They use a word processing package to write text, but also to capture, format and insert images, and format their documents using the most effective layout, including different types of text alignment, bullet points and numbering. Having briefly explored email as a form of communication in Year 2, the children learn to use email safely, including how to use an address book and add an attachment. Safer Internet Day is also marked in February as a further focus on Internet safety.</p> <p>Summer: Children use their previous learning about presenting ideas on Purple Mash, and use PowerPoint to create simple multimedia presentations. They also use previous learning about branching databases, to create a more complex branching database, using data collated by themselves on a topic of their choice.</p> | <p>Autumn: The children use 2Code, building on their block coding knowledge from last year as well as their knowledge of flowcharts from the database unit. They build a more complex scene, choosing an appropriate type of timer command to use, as well as being introduced to loops using the 'Repeat' command. They then transfer their block coding skills to the more complex Micro:Bit platform, where programs containing a wider range of commands can be transferred from the computer onto a physical object (the Micro:Bit).</p> |

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| Year 4 | <p>Children can 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>Children 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. They can use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. They can also use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; and identify a range of ways to report concerns about content and contact.</p> | <p>Children can design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. They can solve problems by decomposing them into smaller parts, use sequence, selection, and repetition in programs, and work with variables and various forms of input and output. They can also use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> |
| | <p>Autumn: Children use different programming platforms for different purpose: Logo for design and Micro:Bit for physical computing. They also think about how technology can affect their mental health and when and how to use it safely.</p> <p>Spring: Children learn about technology as a tool for communication, both in terms of writing for different audiences and creating multimedia presentations. They think about the best media, formats and applications to use for different purposes., including a news report and a community campaign.</p> <p>Summer: Having previously looked at databases, children learn about spreadsheets as a means of recording, managing and presenting data.</p> | <p>Autumn: We begin with year with Internet safety and our Internet Safety Charter, created together to ensure children know to tell a trusted adult if they see something on a device that upsets or frightens them, or that they don't understand. They also learn about copyright and plagiarism, treating others with respect, the effect of technology on their mental health and the importance of balancing screen time and time away from technology.</p> <p>Spring: Children build on their precious word processing knowledge, but use different applications, formats and designs in order to create content for different purposes: a news report and a community campaign leaflet. They also use PowerPoint to create more advanced multimedia presentations, including embedded video and audio. Safer Internet Day is also marked in February as a further focus on Internet safety.</p> <p>Summer: Having previously looked at databases as a means of data handling, the children now learn about spreadsheets, and how they can be used to collate, manage and present information. They also learn to use simple formulae in order to manipulate and evaluate the data collected.</p> | <p>Autumn: Children transfer their knowledge of algorithms using repeated instructions (loops) to the Logo program on Purple Mash. They also build on their introduction to the Micro:Bit last year by creating more complex programs using block coding.</p> |

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| Year 5 | <p>Children can 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>Children 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. They can use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. They can also use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; and identify a range of ways to report concerns about content and contact.</p> | <p>Children can design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. They can solve problems by decomposing them into smaller parts, use sequence, selection, and repetition in programs, and work with variables and various forms of input and output. They can also use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> |
| | <p>Autumn 1: Children use the Internet as a tool for research, as well as considering whether or not the information they find is trustworthy. They also build on their work with spreadsheets from last year, using more advanced functions in order to collate, evaluate, manage and present data.</p> <p>Spring: Children are introduced to Scratch as a creative and collaborative tool. They also learn about blogging as a means of sharing information with a wide audience via a network.</p> <p>Summer: Children use Flowol as a means of controlling devices electronically. They also learn to create a computer game for themselves and others to play.</p> | <p>Autumn: We begin with year with Internet safety and our Internet Safety Charter, created together to ensure children know to tell a trusted adult if they see something on a device that upsets or frightens them, or that they don't understand. They also learn to question the reliability of information and the ways in which images can be manipulated and for what purpose, as well as being reminded of their responsibilities towards each other online. They also revisit effective Internet research, checking information using multiple sources and learning to ensure it is trustworthy.</p> <p>Children also use spreadsheets as a means of collating, evaluating, managing and presenting data. They build on last year's work by using more advanced formulae in order to accomplish specific data management tasks.</p> <p>Spring: Children are introduced to Scratch as a further progression of their block coding journey. They also learn about blogging and how the Internet can be used to reach a wider audience. Safer Internet Day is also marked in February as a further focus on Internet safety.</p> <p>Summer: Children use Flowol as a means of controlling an external device using set timings and parameters. They also create a 3D maze game for themselves and others to play, deciding how the game should look as well as how different elements of the game will act and react during gameplay.</p> | <p>Spring: Children take their previous knowledge of block programming, including repeated commands, and apply it to the more complex Scratch program.</p> <p>Summer: Children use their sequencing skills to use Flowol in order to control an external device. They also create a game on Purple Mash for others to play, choosing the creative design elements of the game as well as defining the parameters for gameplay.</p> |

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| Year 6 | <p>Children can 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>Children 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. They can use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. They can also use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; and identify a range of ways to report concerns about content and contact.</p> | <p>Children can design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. They can solve problems by decomposing them into smaller parts, use sequence, selection, and repetition in programs, and work with variables and various forms of input and output. They can also use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> |
| | <p>Autumn: Children continue to explore Scratch as a means of using coding creatively.</p> <p>Spring: Children use a desktop publishing program to combine images and text, presenting information and ideas for printing and distributing.</p> <p>Summer: Children learn about podcasts as another way, alongside blogging from last year, of reaching a wider audience. They create their own podcast using Audacity, recording their own audio on different devices and using sound effects sourced from the Internet.</p> | <p>Autumn: We begin with year with Internet safety and our Internet Safety Charter, created together to ensure children know to tell a trusted adult if they see something on a device that upsets or frightens them, or that they don't understand.</p> <p>Spring: Children use the desktop publishing program Publisher to combine and manipulate images and text in order to create a printed finished product. They combine their word processing skills from Word and their presentation skills from PowerPoint to create a different end product for a different purpose and audience. Safer Internet Day is also marked in February as a further focus on Internet safety.</p> <p>Summer: Children use Audacity to create their own audio podcast. They record and edit the content on different devices, including adding sound effects from different sources, then edit the material together using Audacity.</p> | <p>Autumn: Having been introduced to Scratch last year, children have the opportunity to explore the functionality of its more complex features.</p> |