

| COMPUTING Year B | | | | |
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| EYFS | Y1 | Y2 | Y3/4 | Y5/6 |
| Procedural knowledge (from NC) | | | | |
| <p>E- Safety</p> <ul style="list-style-type: none"> Using technology safely <p>Computer Science</p> <ul style="list-style-type: none"> Introduction to the word Algorithm and what it means Following instructions and looking at order. Using simple commands to control a Beebot’s direction <p>Information Technology</p> <ul style="list-style-type: none"> Use technology purposefully to achieve a given objective Selecting the correct app | <p>E-safety</p> <ul style="list-style-type: none"> use technology safely and respectfully keeping personal information private recognise common uses of information technology beyond school <p>Computer Science</p> <ul style="list-style-type: none"> Understand what algorithms area Create and debug simple programs <p>Information Technology</p> <ul style="list-style-type: none"> use technology purposefully to create, store and retrieve digital content | <p>E-safety</p> <ul style="list-style-type: none"> use technology safely and respectfully identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. <p>Computer Science</p> <ul style="list-style-type: none"> Understands how they are implemented as programs on digital devices; That programs execute by following precise and unambiguous instructions create Debug simple programs Uses logical reasoning to predict the behaviour of simple programs <p>Information Technology</p> <ul style="list-style-type: none"> To learn the basics of photo editing and how images are layered. Uses technology purposefully to manipulate and organise digital content | <p>E-safety</p> <ul style="list-style-type: none"> identify a range of ways to report concerns about content and contact use technology safely, respectfully and responsibly recognises acceptable/unacceptable behaviour Recognises the opportunities they offer for communication and collaboration <p>Computer Science</p> <ul style="list-style-type: none"> use sequence in programs work with various forms of input and output design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems use repetition in programs use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs <p>Information Technology</p> <ul style="list-style-type: none"> Select, uses and combines internet services. 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 goal including collecting, analysing, evaluating and presenting data and information . understand computer networks including the internet; how they can provide multiple services, such as the world wide web; | <p>E-safety</p> <ul style="list-style-type: none"> Recognises the opportunities they offer for communication and collaboration Understands how to keep sensitive data private Understand, prevent and respond to Cyberbullying threats. To be discerning in evaluating digital content <p>Computer Science</p> <ul style="list-style-type: none"> 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 <p>Information Technology</p> <ul style="list-style-type: none"> Select, use and combine a variety of software on a range of digital devices to design and create a range of systems and content that accomplish given goals, including analysing, evaluating data. Create animations Create and manipulate 3D models |
| Unit and declarative knowledge (specific information we want children to know and remember) | | | | |
| <p>E-safety</p> <p><i>Using the internet safely</i></p> <ul style="list-style-type: none"> Understanding who our trusted adults are Understanding of only talking online to people we know How to deal with upsetting images <p>Information Technology</p> <p>Interactive Smartboard/Computer/IPAD</p> <ul style="list-style-type: none"> Learn how to use a mouse and keyboard Use different digital devices. Explore the Interactive Smartboard to create drawings, shapes, manipulate images to control size, colour, orientation. Recognise that you can access content on a digital device. Use a mouse, touchscreen, or appropriate access device to target and select options on screen. Recognise a selection of digital devices. <p>Computer Science</p> <ul style="list-style-type: none"> Explore age appropriate interactive games <p>CrickWeb</p> <p>Learn how to use computing basic skills linked to reading, writing and maths etc</p> <p>Computer Discovery – Early Years</p> | <p>E-safety</p> <p><i>Using the internet safely</i></p> <p>Private information includes names, addresses, dates of birth or schools and this information should not be shared online. That it is never Ok to share and that they have a right to say no. Any concerns or worries should be reported to a trusted adult.</p> <p>Discover that the internet can be used to visit faraway places and learn new things. - Compare how staying safe online is similar to staying safe in the real world. - Explain rules for traveling safely on the internet.</p> <p>Information Technology</p> <p><i>Using a computer and ipad</i></p> | <p>E-safety</p> <p><i>Sharing pictures and playing safely</i></p> <p>Digital technology is used in everyday life and can be used to support learning and connect with others.</p> <p>To understand what being online may look like, the different feelings we can experience online and how to identify adults who can help.</p> <p>To understand that photos can be shared online, the importance of seeking permission before sharing a photo.</p> <p>Information Technology</p> | <p>E-safety</p> <p><i>Google share with care</i></p> <p>Create and manage a positive reputation both online and offline. Respect the privacy boundaries of others, even if different from one’s own. Understand the potential impact of a mismanaged digital footprint. Ask for adult help when dealing with sticky situations.</p> <p><i>Don’t fall for fake</i></p> <p>Understand that what people tell you online isn’t necessarily true. Learn how scams work, why they’re a threat, and how to avoid them. Determine the validity of information and messages online and be wary of manipulation, unsubstantiated claims, fake offers or prizes and other online scams</p> <p>Information Technology</p> <p>Networks</p> <p>The World Wide Web is a collection of web pages that are run via the internet. The information requested can be displayed as text, images or videos.</p> | <p>E-safety</p> <p><i>Secure your secrets & Social media</i></p> <p>There are a wide variety of online communication platforms, such as social media, blogs, vlogs, email or messaging, which have different available features, including the option to comment. It is important to be aware of security settings, such as age restrictions or property right and to have strong passwords.</p> <p><i>Fake News</i></p> <p>Some websites have more reliable content than others and content should be verified with another independent source.</p> <p><i>It’s cool to be kind</i></p> <p>The positives of communicating online include the speed, low cost and ability to communicate globally. The negatives of communicating online include the threat to privacy, influencing of others, access to technology and anonymity.</p> |

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| <p>Children can learn how to use computers and digital devices but also understand how computers help us, the differences between different types of digital technology and recognise basic component</p> <p>2 Simple •2 Simple - using simple mouse controls to select and place items, draw/paint, select game options, exit program</p> <p>Beebot (Physical) Beebot (Interactive Game) •Explore Beebot commands and controls •Understanding simple computer commands to control Beebots direction and how this links to position</p> <p>Phonics Play Interact with and use IT skills linked to reading/writing</p> <p>Splat Interact with and use IT skills linked to Maths</p> <p>Digital Art Interactive Smartboard Everyone can create</p> <p>Digital Music Everyone can create</p> | <p>To log on to a windows computer To develop mouse and keyboard skills. To type, copy and paste and save work to a file. To explore how iPad touch, select, copy and paste is different to Windows functions.</p> <p>Potty painters To create and edit images. That software is the programs that are used by a computer, such as word processing software, presentation software or image editing software. It can be used to create and combine digital content for different audiences and purposes.</p> <p>Bug hunters Data can be collected manually or using digital technology. It can be represented in different electronic forms, including charts and tables. Saving images from the internet creating, moving and renaming files.</p> <p>Computer Science Tynker Jnr An algorithm is a sequence of steps, instructions or rules that is used to perform a specific task. Algorithms can be followed by people or digital equipment. For algorithms to achieve the end goal, instructions have to be accurate and followed sequentially. Mistakes are called bugs and finding and fixing them is called debugging. Scratch Jnr To add variables: movement, speed, sound and repeat a sequence of steps to perform tasks.</p> | <p>Using a computer Recognise why digital technology is used in the classroom, home and community. A device is online if it is connected to the internet or a network and can communicate with other devices. A device is offline if it is not connected to the internet or network and cannot connect to other devices. To type without looking at the keyboard with correct finger placement Each type of software, such as word processing, presentation and image editing, can be used for different purposes, including writing reports and creating slide shows or posters. Computers and devices can be linked in different ways, such as through a network, the internet and Bluetooth. This allows for the sharing of resources.</p> <p>Photo editing Multimedia components, such as text, images, audio and video clips, can be created, edited and combined to create content for a range of tasks. Hardware, such as cameras, can be used to collect data.</p> <p>Computer Science Scratch Jnr To use variables move, show, hide, wait, repeat, dialogue, size, broadcast and messaging to control a sprite. Computers' behaviour can be predicted and the outcome tested by following the steps of an algorithm and recognising that the computer will follow instructions precisely. Create a simple solution that tests an idea, predict the outcome and test and debug the solution to ensure that it works.</p> | <p>Email To communicate respectfully and safely using email. Identify risks such as spoofing, spam, viruses and impersonation. Powerpoint, animation, photo editing Text, images, animation, audio and video clips can be combined using tools within a piece of software or by using a range of software. For example, an image could be inserted into a word processing document or a video could be inserted into a presentation. Several pieces of software can be used together to complete one task, such as adding a video to a word processed document. Several pieces of hardware can be used together to complete one task, such as using a camera to take a photograph, uploading it to a computer and then printing it using a printer.</p> <p>Manipulating a range of text, images, sound or video clips and animation may include changing their style, size, colour, effect, shape, location or format.</p> <p>Interacting regularly with hardware enables users to recognise common features and become confident in working with new or unfamiliar hardware.</p> <p>New computing software commonly has features that should be familiar to users, such as icons or terminology.</p> <p>Computer Science Sequencing instructions is the step-by-step process that robots or other devices follow to achieve specific outcomes. This can be a single algorithm or series of algorithms called a program.</p> <p>Scratch To use variables x and y coordinates, 'if' statements, repeat, sensing, to create a controllable maze game.</p> | <p>Information Technology imovie – make a video Using prior knowledge and experience of computing skills can be applied to create content using unfamiliar programs or apps.</p> <p>Creating, selecting and combining a range of texts, images, sound clips and videos for given purposes could include creating a web page, slide show presentation, short film or an animation.</p> <p>Website design & Animation A variety of software, such as word processing software, image editing software or internet services, can be selected, used and combined to meet a goal.</p> <p>Some software or apps are designed to help increase creativity by saving time or making tasks easier, such as being able to combine text, images, audio or video content into one place.</p> <p>Creating, selecting and combining a range of texts, images, sound clips and videos for given purposes could include creating a web page, slide show presentation, short film or an animation.</p> <p>Goggle sketch up 3D Drawing & Excel spread sheets A range of technologies can be selected, used and combined, such as using different hardware and software to create a solution that will have an impact on others.</p> <p>Computer Science</p> <p>Networks Search Algorithms To understand how computer networks find data using different searches. To understand how hashtag searching works. Know networks search internally to return results.</p> |
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