

Computing has deep links with mathematics, science, and design and technology, and these subjects provides valuable opportunities to consolidate learning of key knowledge and skills.

	Autumn	Spring	Summer
R	<p>Identifying things they see on a screen and explore using iPads. Within this unit the children learn to identify things they see on a screen. They will understand that they must ask an adult whether they can use a game or an app on iPad devices. They will interact and explore their environment using a range of multimedia equipment, including cameras, microscopes and the use of iPad to capture still and moving pictures. With help, they will be able to play back captured still or moving images, becoming familiar with the control buttons, e.g., using play, stop and pause.</p> <p>Digital Literacy: We will link to Anti Bullying Day and children will learn that sometimes people cannot be kind online. We will look at what this means, and what to do if this happens.</p>	<p>Use a mouse or keypad to make marks. In this unit the children will be able to select and use technology for a purpose. They will explore using ipads, computer and laptops and will being to use the mouse to achieve effect and the keypad to make marks. The children will interact and explore their environment using the interactive screen, learning the different functions/options to mark make – changing colour, erasing etc. They will learn to know that information can be retrieved from different technology sources.</p> <p>Digital Literacy: We will link to Safer internet day in February, looking at how to keep safe on iads/computers if 'pop ups' come onto our screen. We will look at what this means, and what to do to keep safe if this happens.</p>	<p>Enjoy simple computer games and programmable toys. In this unit we will enjoy accessing simple computer games to support our learning. We will use buttons to play back sounds on a computer, iPad and sound player.</p> <p>We will also use programmable/electronic toys in play situations such as dance mats, bee-bots, and remote-control toys, using basic directional language to find out what happens when we programme in directions. They will explore the commands needed to control a range of electrical toys.</p> <p>Digital Literacy: Linking to the children understanding that they need to share equipment and take turns when using electronic toys within their play situations. Children to also recognise when they need help and act upon this.</p>
Y1	<p>Beebot Programming In this unit we will begin to look at Beebots. Children will learn how to program a robot to follow simple sequence of instructions (1- 2 turns) to move objects around. All pupils will be introduced to the correct terminology (such as algorithm and debug). Children will need to know which button on a device represents which action e.g. Bee Bot. They will have the opportunity to make a simple sequence of instructions / algorithm. During the unit they will be able to make simple predications about an algorithm and a program. As we continue children will be able to change (debug) the program to improve the route and explain how they debugged the algorithm. Children will complete these activities first with the Beebots and then on the Beebot game on the iPads. As the unit progresses children will be able to use their knowledge to recognise things around them that respond to signals and instructions. DIGITAL LITERACY: Children will be taught that the internet is accessed all over the world and that some devices are connected to the internet,</p>	<p>Puppet Pal – Fairy Tales In this unit we will continue our work on the iPads. Children will learn how to Play computer games by imputing information into the iPad. In this unit children will have a character on the screen which they will have to program instructions for (Repeat a series of actions for a purpose). Children will then need to use the app to record their character while imputing the algorithm. Pupils will then be able to share their work with others. As by the end of the unit children will be able to independently find and use an app on an iPad and share/explain what they are now able to do. During the unit children will also begin to recognise ICT around them and explore information from various ICT sources DIGITAL LITERACY: Children will be taught that they should always ask a responsible adult if they want to use a device and ask for help if they see anything that worries them. Pupils will learn that they can go to exciting places online, but they need to follow certain rules to remain safe</p>	<p>George Stephenson In this unit children will have their first opportunity to work on Microsoft power point which will be built on further up the school. This will help children understand that information comes in different forms as previously we have worked with Beebots and iPads. During the unit children will cover a range of skills. As they will learn to remember and recall information they have seen on screen, log onto a computer, navigate around the screen with a mouse or touchpad using correct name for components and how to type text using space bar for separate words to create something meaningful. This will all be completed through creating a power point on our theme of George Stephenson and his impact on the railway industry. DIGITAL LITERACY: This terms link to digital literacy will progress from previous terms as children will learn that with support from an adult they are able to find information on the internet.</p>

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<p>Y2</p>	<p>Pic College Posters In this unit of work the children will understand the importance of ICT and recognise different ways of using ICT to build on skills from Year 1. The children will be introduced to a new app - Pic Collage on the iPad. The children will be familiar with finding apps on the iPad from Year 1. They will use the in-app features to practise their ICT skills such as typing and adding images into their posters. Pupils will learn how to take digital photographs as well as how to combine simple text and images to create a Pic Collage poster. They will develop skills across the unit to change the size of photographs in their posters. They will learn how to save and print work from the iPad. Digital Literacy: Children will recap from Year 1 that the internet is used all around them and will learn that devices enable direct communication between people through images and text. Internet Safety work will link to Anti Bullying Day and pupils will be introduced to the term cyberbullying. They will understand what this means and what to do if they encounter it.</p>	<p>Castle Building In this unit the children will be finding out information using the Internet for their history topic. In order to do this they will recap their basic computer skills from Year 1. They will confidently be able to use a mouse or keypad by the end of the unit. The pupils will use their typing skills to present the information they find out including basic punctuation features. This can be using Word or Clicker. They will learn to save their work on a PC and retrieve it again at another time. They will learn how to print from a PC. Pupils will create their own pictures on a PC using Paint tools. They will use the shape tool to draw their picture. This will link into work on shape in Maths. Digital Literacy: Within the unit the children will, with adult support, be able to use a safe search engine using key words e.g. swiggle. Internet Safety: Children will join in with activities for Safer Internet Day in February. As part of this the key message will focus on what personal information is and that they should never share this with anyone they don't know. Pupils will recap from Year 1 that they should tell a trusted adult if they are upset or worried about anything on a device.</p>	<p>Preparing for Programming In this unit the children will recap programming Beebots from Year 1 before being introduced to programming an onscreen turtle. They will recap understanding how things such as Beebots can move and give an instruction to make this happen. They will build on their skills to program a Beebot with up to 6-7 instructions. Children will begin to use block programming such as Scratch Junior or iPad apps such as Daisy Dino to complete a simple program. They will begin to debug more complex problems using either Beebots on the floor or an onscreen turtle. Children will begin to explain what has happened and predict what will happen as they program and debug. Across other subject areas there will be opportunities for the children to consolidate their typing skills and format texts on programmes such as Word and Clicker to present their work. Digital Literacy: Pupils will be introduced to the term 'digital footprint'. They will learn that the information they put online leaves a digital footprint or "trail." This trail can be big or small, helpful or hurtful, depending on how they manage it.</p>
<p>Y3</p>	<p>Coding in Scratch – Maze Game In this unit of work the children will begin by recapping the coding work that they have done so far in Years 1 and 2 (Beebots + Scratch Junior/Daisy Dino). From this prior work they will then move onto using the full scratch programme which builds on their knowledge of block programming. They will complete tasks that will reinforce the need for clear and precise instructions. They will begin by learning to use the programming language and environment in scratch including repeat loops to draw regular 2D shapes. They will build on their debugging skills and practice debugging basic mistakes independently. This unit will build to the children creating their own working maze game in scratch that will use conditional blocks as well as the standard movement blocks. Digital Literacy: Children will recap from Year 2 that the internet allows direct communication between people through images and text and look at this in relation to online gaming. Digital Literacy: They will build on their Year 2 work on cyberbullying and understand that if they see anything online that concerns them they should report it to a trusted adult. They will also know that some people on the internet should not be trusted and that they need to keep their personal information private. Across the whole year they will continue to develop their ability to log in and out of websites used as online</p>	<p>Using Computer Software – PowerPoint In this unit the children will be focusing on how to use the software PowerPoint to create a branching story. They will also begin to recognise the importance of ICT in the real world and will discuss the uses of PowerPoint in possible future job roles. In order to do this they will recap their basic computer skills from Year 1 and 2. The pupils will continue to develop their typing skills on a laptop and use spell checker to present the information for their branching story. They will be introduced to how to use the shift buttons to access further punctuation marks such as: ? and !. They will recap how to save their work to a personal and shared drive and then retrieve it again at another time. They will learn how to insert new slides, text boxes, pictures from a shared file and sounds. They will be taught how to alter the text size, colour and font. They will also be shown how to add in hyperlinks, animations and transitions. Digital Literacy: Pupils will explore the similarities and differences between in-person and online communications, and then learn how to write clear and respectful messages. Digital Literacy: Children will join in with activities for Safer Internet Day in February. As part of this, the key focus will be on powerful passwords. It will show the importance of keeping your passwords safe,</p>	<p>Using Computer Software - Publisher In this unit the children will recap and build upon the ICT skills from Spring that they used while working on their PowerPoint branching story. The children will be introduced to the Publisher Software and will use this to create a simple brochure/poster possibly linked to the history topic of Ancient Egypt. They will develop their abilities to navigate websites to retrieve information. Within Publisher they will look at how to change the page layout, add text boxes, navigate between pages, add pictures, tables and graphs. Children will then learn about different ways to send messages and be able to recognise email addresses. They will use the @ symbol to send and receive an email. Digital Literacy: They will build on the DIGITAL LITERACY work they did in Year 2 about using safe search engines by using them find key information from given key words to put in their brochures. They will begin to know which websites are useful and begin to understand all might not be trustworthy.</p>

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	<p>resources (Active Learn, Conquer Maths, TTR, Numbots, Lexia, Spelling Shed and Fiction Express) Across other subject areas there will be opportunities for the children to consolidate their typing skills and format texts on programmes such as Word and Clicker to present their work.</p>	<p>not writing them down and how to create a strong password that they are still able to remember. Across other subject areas there will be opportunities for the children to consolidate their typing skills and format texts on programmes such as Word and Clicker to present their work.</p>	<p>Digital Literacy: The children will build on their work from Year 2 about how the internet links people by looking specifically at emails. They will know how to recognise an email address, how to write an appropriate email (link to letter writing from English) and understand the importance of email safety (link to Year 2 work on digital footprints).</p> <p>Across other subject areas there will be opportunities for the children to consolidate their typing skills and format texts on programmes such as Word and Clicker to present their work.</p>
<p>Y4</p>	<p>Bridge Design (CAD) – Design and present designs in a range of ways. In this unit, children will use Paint 3d to support them with the design of their bridge. This will build on the work completed in Year 2 and 3 when children buildings castles. They will work to develop 3d sketches of their bridge from their original sketches in Art and DT. Children will think carefully about the benefits of using such packages when designing and making structures like these. References will be made throughout to architecture and how architects develop their designs and plans. Digital Literacy: Rings of Responsibility - Pupils explore what it means to be responsible to and respectful of their offline and online communities as a way to learn how to be good digital citizens Links will be made to SEAL work in the it's This work will link to our in SEAL 'Good to be me". Digital Literacy: Private and Personal Information – In this unit pupils will consider how they can protect themselves from online identity theft? c This will link to the work in PSHE when thinking about Personal Wellbeing.</p>	<p>Saxon Invasion Game - Scratch In this unit children will continue learn to the importance of clear and precise instructions when making animation game using Scratch which builds upon the skills learnt on the program in Year 3. Children use Scratch to sequence, use conditionals and use a variety of inputs and outputs (Scratch-steer an object by using keys to draw shapes). Pupils will modify their program and be able to predict the effects of any changes. Children will learn to break sets of instructions into short steps to achieve goal (For instance drawing repeated squares to make a pattern). When programs go wrong children will debug their algorithms to ensure they achieve the desired result. This unit will link to historical work on the Anglo-Saxons. Digital Literacy: The Power of Words – In this unit pupils consider that they may get online messages from other kids that can make them feel angry, hurt, sad, or fearful. Pupils identify actions that will make them Upstanders in the face of cyberbullying. This links to the PSHE/SEAL Year 4 will be completing on 'Getting on and falling out' and 'Bullying'. Digital Literacy: The Key to Keywords - Pupils learn strategies to increase the accuracy of their keyword searches and make inferences about the effectiveness of the strategies. This links the ICT work searching for information and Literacy when pupils consider what the reader needs to know and include relevant details adapt style and language appropriately for a range of forms, purposes and readers.</p>	<p>Presenting in word In this unit children will learn to use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally. This will build upon the skills in Year 2 when children develop their keyboard skills using Word and Pic Collage. Pupil will learn how to change font size and style; include shapes and backgrounds, use the Spellcheck function, use word counts, bullets and numbering. Children will order and organise text using a range of word processing programs including Word, Clicker and Apps on the iPads. Pupil will be able to save a document in a shared folder and retrieve this to continue working on it when on a computer and on an iPad work could be shared by Airdrop. Children will learn to organise their personal folder effectively for instance by organising work into folders for each year at school. Pupils will use these ICT skills across a range of subjects to present information using different types of software. Children will build upon the skills they learned in Year 3 on emails and learn how to add their word document as an attachment. Digital Literacy: Whose is it anyway? - Pupils learn that copying the work of others and presenting it as one's own is called plagiarism. They also learn about when and how it's ok to use the work of others. This will link to work in SEAL when we consider Relationships.</p>

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<p>Y5</p>	<p>Autumn- Publisher – Mayan Temple In this unit children will expand their knowledge of different ICT packages for specific purposes. They will look in depth at the features of Microsoft Publisher and use this to design and produce a poster or leaflet about the Maya after carrying out their own research. This links to the work children have completed in Year 4 on Microsoft Word and they will use these skills to support them. They will identify which software packages are best suited to specific purposes. Furthermore, they will prepare a Powerpoint presentation about the Maya that includes sounds, still images and videos, sharing their work with others and working collaboratively. Children will develop an understanding of how to save and organise their work in the most effective way and show that they can save documents and images in different formats depending on their purpose.</p> <p>Digital Literacy Strong Passwords- Throughout this unit Pupils learn how to create secure passwords in order to protect their private information and accounts online. This links to the work children have completed in Year 3 and Year 4 about their personal information online. Digital Literacy: Digital Citizenship Pledge- Throughout this unit pupils will learn about how to be a responsible citizen online. They will understand that it is irresponsible to share images of friends online without their permission. Pupils will work together to outline common expectations in order to build a strong digital citizenship community. Each member of the class signs a We the Digital Citizens Pledge. This builds on the work in Year 4 where pupils learnt how to be a good digital citizen and supports the PSHE unit 'Good to be Me'. Pupils will also gain an understanding of how maintaining a balance of on and offline activities is essential for good mental health.</p>	<p>Spring- Design Ancient Greek Programme In this unit pupils will build on the work they completed to produce their Saxon invasion game in Year 4. They will further develop their skills by using customisation to adapt and modify a working program to change its effect (for instance backgrounds and sprite in Scratch) They will use simulations to explore patterns and relationships. Pupils will work with variables, conditional sentences (when/then), external triggers and loops to achieve set goals (creating a game in Kodu with a scoring system). They will make predictions about what might happen in a game program and debug algorithms.</p> <p>Digital Literacy You've won a prize! - During this unit pupils will know how to report concerns on-line For Example SPAM. They will distinguish between good and bad information found on the internet and understand how to evaluate whether information they find online is reliable or not. Digital Literacy: How to Cite a Site- Children will learn to effectively use a search engine to find multiple criteria using AND/OR to refine searches for speed and accuracy. They will know how to compare information from different websites and understand that some sites may show bias. They will distinguish between good and bad information found on the internet and rank information found on the internet in order of importance and relevance. This follows on and develops the work children completed in Year 3 when they began to use a search engine to find specific information.</p>	<p>Summer- Design Space buggy In this unit children will use simulations to explore patterns and relationships. They will use variables, conditional sentences (when/then), external triggers and loops to achieve set goals and develop their own space buggy linking to our work on space exploration in Science. This will follow on from thar 4e work pupils completed in Year 4 when they were introduced to CAD. Reference will be made throughout the unit to the work that engineers have done in order to design and make a space buggy that works within the constraints of outer space.</p> <p>Digital Literacy Picture Perfect- During this unit pupils will learn how photos can be altered digitally. They will consider the creative upsides of photo alteration, as well as its power to distort our perceptions of beauty and health. They will make links between this and knowing the risks posed to them by using Social Media, including understanding that people may not be who they say they are. They will understand the use of sensors to monitor and measure and identify real-life examples of where this is needed. In links to other curriculum areas, children will use Excel to record and analyse the data they collect in Geography about our local area.</p>
<p>Y6</p>	<p>IT- Excel to create budgets using formulas In this unit, pupils will build upon their knowledge of formatting using Microsoft programs including PowerPoint in year 3, Word in year 4 and also Publisher in year 5. Pupils will extend the learning by formatting cells in an Excel document to create an aesthetic and purposeful design to calculate budgets. Pupils will learn how to use formulas to efficiently calculate totals, differences, products and shares of amounts. They will</p>	<p>Computer science - Programming a pedometer In this unit, pupils will build on their understanding of using electrical variables in year 5 by programming a microbit to create a pedometer. Pupils will learn how to use conditional sentences (when/then), sequences, selection and repetition to program a microbit. They will understand that poor input choices equal unreliable results. Pupils will use mathematical expressions when constructing conditionals to measure movement to calculate</p>	<p>Computer science - Coding using Kodu – Iceberg crash animation This unit will develop the pupil's prior knowledge of coding programs in year 4 and 5 but will be extended by using the Kodu program. Pupils will be creating an animation using code using conditional sentences to program objects. They will develop their use of mathematical expressions when constructing conditionals when specific options are selected in the animation. Pupils will</p>

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	<p>understand the importance of using this program in real-life contexts for a desired purpose.</p> <p><u>Digital literacy</u> <u>Talking Safety Online</u> Pupils and students learn that the Internet is a great place to develop rewarding relationships. But they also learn not to reveal private information to a person they know only online. Pupils know that it is illegal to post or view 'rude' images of children. They know that hacking or misusing someone else's account is illegal.</p> <p><u>Super Digital Citizen</u> Pupils and students explore Spider-Man's motto, "with great power comes great responsibility" through the lens of digital citizenship. They create comic strips show a digital superhero who witnesses an act of poor digital citizenship, and then helps resolve it. Pupils will be able to maintain a healthy balance of online and offline activities and know that some activities may affect their emotional wellbeing.</p>	<p>the number of steps a person has completed. They will be able to explain what a program will do and accurately predict the effect of changes. Pupils will be able to make an efficient program by using an effective algorithm and techniques such as loops and procedures – Make the microbit have more than one pre-determined action.</p> <p><u>Digital literacy</u> <u>Privacy Rules</u> Pupils learn that children's websites must protect their private information. They learn to identify these secure sites by looking for their privacy policies and privacy seals of approval. Pupils know how to reduce the risks posed by using Social Media by managing their friend lists and privacy settings to develop rewarding relationships.</p> <p><u>What is cyberbullying?</u> Pupils explore how it feels to be cyberbullied, how cyberbullying is similar to or different than in-person bullying, and learn strategies for cyberbullying when it arises</p>	<p>know that devices can have more than one pre-determined action depending on the choices of the recipient. Children will then use their knowledge of the internet to make a home page to promote their game. They will research current web pages to explore the content and layout before creating their own page.</p> <p><u>Digital literacy</u> <u>Selling Stereotypes</u> Pupils explore how the media can play a powerful role in shaping our ideas about girls and boys. They practice identifying messages about gender roles in two online activity zones for kids Pupils know that search results can be manipulated by sponsorship and advertising – selling stereotypes. They know how to validate information found through searches by checking more than one source. Pupils know that some news is 'fake' and use information to hypothesise and speculate in a range of everyday situations.</p>
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