



## Knowledge, Skills and Understanding Curriculum for Computing

Our school curriculum is bespoke and is designed to develop curious, kind and courageous pupils. Where possible computing learning links with the IPC unit for the term/half term and cross-curricular links are made to a variety of other subjects. Units have been chosen from the IPC to ensure a broad and balanced curriculum which covers the National Curriculum but goes beyond this so that the content is pertinent to their lives, our local context and international issues. Providing opportunities for children to understand and use a wide range of computing equipment is fundamental to our computing curriculum.

In EYFS and Key Stage One children begin by developing an understanding of technology around them, both at home and at school. They build on this understanding through exploring a wide variety of computing equipment, including iPads, beebots, blue-bots, OSMO, interactive whiteboards, SMART table and Purple Mash. In Key Stage Two children apply and deepen their knowledge, skills and understanding using chromebooks, pro-bots and Sphero robots. We are constantly striving to update the equipment used to teach the curriculum in order to reflect technological advancements and best equip the children to be ready for life in the 21<sup>st</sup> Century.

Blue - Using Computers, Gold - Coding, Pink – Digital Literacy, Green – Online Safety

	Autumn	Spring	Summer
YR	<p><b>EYFS Framework Links</b></p> <p><b>Playing and Exploring</b>  <b>Finding out and exploring:</b> showing curiosity about object, events and people; showing particular interests  <b>Playing with what they know:</b> representing their experiences in play  <b>Being willing to ‘have a go’:</b> showing a ‘can do’ attitude; taking a risk, engaging in new experiences, and learning by trial and error</p> <p><b>Active Learning</b>  <b>Being involved and concentrating:</b> maintaining focus on their activity for a period of time; paying attention to details  <b>Keeping on trying:</b> persisting with activity when challenges occur; showing a belief that more effort or a different approach will pay off; bouncing back after difficulties  <b>Enjoying achieving what they set out to do:</b> showing satisfaction in meeting their own goals</p> <p><b>Creating and Thinking Critically</b>  <b>Having their own ideas:</b> finding ways to solve problems; finding new ways to do things  <b>Making Links:</b> Making links and noticing patterns in their experience; making predictions; testing their ideas, developing ideas of grouping, sequences, cause and effect.  <b>Choosing ways to do things:</b> planning, making decisions about how to approach a task, solve a problem and reach a goal; changing strategy as needed</p>		
	<p><b>Autumn 1</b>  Be able to show an interest in and explore technology through play.</p> <p>Know how to operate simple technological equipment (iPads, Smartboard)</p>	<p><b>Spring 1</b>  Be able to recognise technology for different purposes (e.g. Home: Alexa, Sonos, Smart TV).</p> <p>Be able to explore technology in the locality (e.g. pedestrian crossing, school/home intercom, CCTV)</p>	<p><b>Summer 1</b>  Know that a range of technology is used in places such as homes and schools.</p> <p>Know that information can be retrieved from computers (iPads, Smart Table).</p> <p>Be able to independently select and use technology to interact with age appropriate software (iPads, <b>Beebots</b>).</p>
		<p><b>Online safety day – Feb</b>  <a href="https://www.saferinternet.org.uk/safer-internet-day/2021">https://www.saferinternet.org.uk/safer-internet-day/2021</a></p>	<p><b>Online Safety</b>  <a href="https://www.thinkuknow.co.uk/parents/jessie-and-friends-videos/">https://www.thinkuknow.co.uk/parents/jessie-and-friends-videos/</a>  Episode 1 – Jessie and Friends (I know who to speak to if I have any worries about what I have seen online)</p>

	<p><b>Autumn 2</b> <b>Online Safety</b> Smartie the Penguin (<a href="https://www.childnet.com/resources/smartie-the-penguin">https://www.childnet.com/resources/smartie-the-penguin</a> - see for lesson plan and resources) Begin to develop an understanding of how to stay safe online</p>	<p><b>Spring 2</b> Know that information can be retrieved from computers (smart board, iPads).  Know how to operate hardware such as <b>Beebots</b>, iPads with headphones, Smart Board, walkie talkies, recordable whiteboards.  Be able to log on to an iPad using the 4-digit code</p>	<p><b>Summer 2</b> Be able to log on to Purple Mash using their own username and password  Be able to access a 2do on Purple Mash</p>			
	Be able to use the iPads to create a video (Naughty Bus)	Be able to create an animal picture on Purple Mash (EYFS paint project – Big Cats)	Be able to create a dinosaur picture on Purple Mash			
	<p><b>KS1 National Curriculum</b></p> <ul style="list-style-type: none"> <li>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>Create and debug simple programs</li> <li>Use logical reasoning to predict the behaviour of simple programs</li> <li>Use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>Recognise common uses of information technology beyond the school</li> <li>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</li> </ul> <p><i>Key Vocabulary: computer, technology, online, internet, online safety, iPad, login, logout, username, password, personal, private, app, icon, picture, text, type, keyboard, save, print, open, new, search, ebook, colour, font, size, animation, sound, image, record, background, character, copy, paste, keys, direction, forward, backward, left, right, instruction, debug, code, coding, block, algorithm, program, file, click, input, event, object, collision, data, pictogram</i></p>					
Y1	<p><b>Autumn 1</b> <b>Computers</b> Recognise common uses of technology at home, school and beyond school. e.g At home (washing machine, oven, Alexa, Tablet/Phone)</p>	<p><b>Autumn 2</b> <b>Online Safety and Exploring Purple Mash. (Lessons 1-4)</b> To know behaviours expected of them when using iPads. To log in safely and know what to do if they find someone else’s log in card.</p>	<p><b>Spring 1</b> <b>Animated Story Books PM – lessons 1-5 link to English.)</b> To introduce ebooks and to create an online story. To continue a previously saved story. To add animation to a story.</p>	<p><b>Spring 2</b> <b>Coding</b> <b>Maze explorers (PM lessons 1-4)</b> To understand the functionality of the basic direction keys in challenges 1, 2 3 and 4.</p>	<p><b>Summer 1</b> <b>Coding</b> <b>Osmo</b> How to set up, use and pack away OSMO safely and respectfully. In pairs to create an OSMO log in and</p>	<p><b>Summer 2</b> <b>Pictograms. (Link to Maths/Science)</b> <b>Purple Mash lessons 1-3.</b> To understand that data can be represented in data format. To contribute to a class pictogram</p>

		To start to understand the idea of ownership of their creative work by adding their name to a picture (using a CL) and saving their work.	To add sound to a story the children have created including voice recording and music. To work on a more complex story including adding backgrounds, copying and pasting pages. To use additional features to enhance their stories (e.g animations). To share their ebooks on a class display board.	To be able to use the direction keys to complete the challenges successfully. To understand how to create and debug a set of instructions (algorithm). To use the additional direction keys as part of their algorithm. To understand how to change and extend the algorithm list. To create a longer algorithm for an activity. To provide an opportunity for the children to set challenges for each other. To provide an opportunity for the teacher to set these new challenges as 2do's for all the class to try.	Avatar. (See guide to OSMO) Use the coding blocks to create a few lines of code and to begin to use logical reasoning to predict where Awbie will end up and how many strawberries he will eat. Explain that a bug is a problem with the computer's program.	To use a pictogram to record the results of an experiment.
	<b>Coding - beebot</b> To program a beebot to move forwards, backwards and change direction	To learn how to find saved work in the online work area and see teacher comments. How to search PM in order to find resources. To become familiar with the types of resources available in the topics sections.				
	<b>Online Safety Episode 2 Jessie and Friends</b> <a href="https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/">https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/</a> To know what to do and where to go for help and support over any concerns. Explain what it means to stay safe online (with support).	To become more familiar with the icons used in the resources in the topic section. To start to add pictures and text to work (using keyboard to type name) To explore the tools section of PM and to learn about the common icons used in PM for save, print, open and new. To explore the games section of PM. To understand the importance of logging out when they have finished.	<b>Online safety day – 9<sup>th</sup> Feb 2021</b> <a href="https://www.saferinternet.org.uk/safer-internet-day/2021">https://www.saferinternet.org.uk/safer-internet-day/2021</a>			<b>Online Safety Episode 2 Jessie and Friends</b> <a href="https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/">https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/</a> To know what to do and where to go for help and support over any concerns. Explain what it means to stay safe online (with support).
	<b>KS1 National Curriculum</b> <ul style="list-style-type: none"> <li>• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>• Create and debug simple programs</li> <li>• Use logical reasoning to predict the behaviour of simple programs</li> </ul>					

- Use technology purposefully to create, organise, store, manipulate and retrieve digital content
- Recognise common uses of information technology beyond the 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

*Key Vocabulary: instruction, debug, code, coding, lines of code, block, algorithm, program, predict, action, login, logout, private, personal, username, password, search, text, type, share, communicate, internet, online, email, open, send, save, digital, information, background, character, image, photograph, camera, record, voice, sound, effect, stop motion animation, turtle, object, action, event, input, output, command, repeat, timer, picture, paint, art, impressionist, pointillism, style, repeating pattern, surrealism, mind map, quiz, ebook, factfile, digital content, clipart, table, collect, organise, present, support, concern, technology, spreadsheet, row, column, edit, copy, paste tools*

Y2	<p><b><u>Autumn 1</u></b> <b><u>OSMO</u></b> How to set up, use and pack away OSMO safely and respectfully. To explain what an algorithm is. To understand that programs (OSMO) work by following precise and unambiguous instructions. Use the coding blocks to create a few lines of code and use logical reasoning to predict where Awbie will end up clearly relating each action to each part of their algorithm.</p>	<p><b><u>Autumn 2</u></b> <b><u>Online Safety (Purple Mash lessons 1-3)</u></b> To know how to refine searches using the search tool. To know how to share work electronically using the PM display boards. To use digital technology to share work on PM to communicate and connect with others locally. To have some knowledge and understanding about sharing more globally on the internet. To introduce email as a communication tool using 2respond simulations. To understand how we talk to others when they aren't there in front of us.</p>	<p><b><u>Spring 1</u></b> <b><u>Online safety day – 9<sup>th</sup> Feb 2021</u></b> <a href="https://www.saferinternet.org.uk/safer-internet-day/2021">https://www.saferinternet.org.uk/safer-internet-day/2021</a></p>	<p><b><u>Spring 2</u></b> <b><u>Spreadsheets (Purple Mash lessons 1-4)</u></b> <b><u>Link to maths or science in order to make it more relevant to the children.</u></b> <i>To review what rows and columns are.</i> <i>To add images to a spreadsheet.</i> <i>To explain and use copy and pasting.</i> <i>To use the totalling tools.</i></p>	<p><b><u>Summer 1</u></b> <b><u>Presenting Ideas (PM lessons 1-4)</u></b> To explore how a story can be presented in different ways. To make a quiz about a class story or topic. To make a fact file on a non - fiction topic. To make a presentation to a class.</p>	<p><b><u>Summer 2</u></b> <b><u>Creating pictures – PM lessons 1-5.</u></b> <i>Link to Art</i> To be introduced to 2Paint a Picture. To look at the impressionist style of art (Monet, Degas, Renoir) To recreate pointillist art and look at the work of pointillist artists such as Seurat. To look at the work of Piet Mondrian and recreate it using the Lines template. To look at the work of William Morris and recreate it using the patterns template. To explore surrealism and ECollage.</p>
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	<p><b>BIG PICTURE:</b> Plan and put together an OSMO algorithm</p> 	<p>To open and send simple online communications in the form of email. To understand that information put online leaves a digital footprint or trail. To begin to think critically about the information they leave online. To identify the steps that can be taken to keep personal data and hardware secure.</p>				
		<p><b><u>Stop Motion animation (Link to English and Art)</u></b> Create a background and characters to retell a story. Set up a recording space to take photos (See hints and tips doc) Use the SM app to take a sequence of pictures retelling the story. Use the SM app to add voice and sound effects.</p>	<p><b><u>Coding – 2Code (Purple Mash lessons 1-5)</u></b> To compare the turtle and character objects. To use the button object. To understand how to use the repeat command. To understand how to use the timer command. To know what debugging means. To understand the need to test and debug a program repeatedly To debug simple programs. To create programs using different kinds of objects whose behaviours are limited to specific actions. (e.g a character performing an action or changing a costume)</p>	<p><b><u>Online Safety Episode 3 Jessie and Friends</u></b> <a href="https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/">https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/</a> I can start to develop strategies to manage concerns about content on the internet or other online technologies and know where to seek support and help.</p>	<p><b><u>Effective Searching Purple Mash lessons 1-3.</u></b> To understand the terminology associated with searching. To gain a better understanding of searching on the internet. To create a leaflet to help someone search for information on the internet.</p>	

			<p>To use logical reasoning to predict what objects will do in other programs based on their knowledge of what the object is capable of.</p> <p>To discuss how logic helped them understand that they could only predict specific actions, as that is what the objects were limited to.</p> <p>To use all their previously learnt knowledge of coding to create a more complex program that tells a story.</p>			
<p><b><u>KS2 National Curriculum:</u></b></p> <ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>• Use sequence, selection and repetition in programs; work with variables and various forms of input and output</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>• Understand computer networks including the Internet; how they can provide multiple services, such as the worldwide web; and the opportunities they offer for communication and collaboration</li> <li>• Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>• 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</li> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</li> </ul> <p>Key vocabulary: online safety, e-safety, username, password, confidential, personal, internet, blog, website, true, false, digital media, age restriction, device, content, simulation, probot, technology, charge, battery, coding, code, object, action, output, control, event, debug, debugging, bug, fix, algorithm, program, repetition, logical reasoning, prediction, stop motion animation, background, character, photograph, record, voice, sound, effect, app, email, communication, address, attachment, if command, timer, variable, design, X and Y properties, save, edit, open, new, positive digital footprint, Google, cyberbullying, digital literacy</p>						

Y3	<p><b>Autumn 1</b></p> <p><b><u>Online Safety PM lessons 1-3</u></b>  Understand what makes a safe password, how to keep passwords safe and the consequences of giving passwords away.  Understand that for most people the internet is an integral part of life and has many benefits.  Understand how a blog can be used to help us communicate with a wider audience.  Consider if everything that is written on website is true.  To begin to think about why fake information/websites might exist and how to check if information is accurate.  To learn about the meaning of age restrictions symbols on digital media and</p>	<p><b><u>Autumn 2</u></b></p> <p><b><u>Coding: Probots</u></b>  Use technology safely, respectfully and responsibly by unpacking, packing away and ensuring the Probots go on charge ready for next class.  Being to use coding vocabulary relating to Object, Action, Output, Control and Event.  To understand what debugging means.  Design, write and begin to debug simple algorithms.  Write programs using repetition.  Use logical reasoning to explain how simple algorithms work.</p> <p><b>Check Probot charging cables.</b></p>	<p><b><u>Spring 1</u></b></p> <p><b>Online safety day – 9<sup>th</sup> Feb 2021</b>  <a href="https://www.saferinternet.org.uk/safer-internet-day/2021">https://www.saferinternet.org.uk/safer-internet-day/2021</a></p>	<p><b><u>Spring 2</u></b></p> <p><b><u>Email: 2Email PM lessons 1-6</u></b>  <i>Using the 2Email settings class teacher to set the level of use they want to give pupils e.g emailing other pupils, teachers and whether emails need to be approved by an adult (See PM 2email scheme of work for details).</i></p> <p>To think about different methods of communication.  To open and respond to an email.  To write an email to someone using an address book.  To learn how to use email safely.  To add an attachment to an email.  To explore a simulated email scenario.</p>	<p><b><u>Summer 1</u></b></p> <p><b><u>Coding – 2Code PM lessons 1-6)</u></b>  To review coding vocabulary relating to Object, Action, Output, Control and Event.  Use 2Chart to represent a sequential program design.  Use the design to write the code for a program.  To design and write a program that represents a physical system.  To look at the grid that underlies the design and relate to X and Y properties.  To introduce selection in their programming by using the ‘if’ command.  To combine a timer in a program with selection.  To understand what a variable is within a program and use one to create a timer.  To create a program with an object that repeats actions indefinitely.</p>	<p><b><u>Summer 2</u></b></p> <p><b><u>Online safety – Google Internet Legends Planning Be Internet Sharp: Think Before You Share (p 4- 11 &amp; 52-55)</u></b>  Understand what having a positive digital footprint means.  Know some ways in which they can build a positive digital footprint.</p>
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	<p>devices. To discuss why PEGI restrictions exist. To know where to turn for help if they see inappropriate content or have inappropriate contact from others.</p>				<p>To use a timer that makes characters repeat actions. To explore the use of the repeat command and how it differs from the timer. To explain what debugging means. Understand the importance of repeatedly testing and debugging programs. To understand the importance of saving their work after writing each section of the program.</p>	
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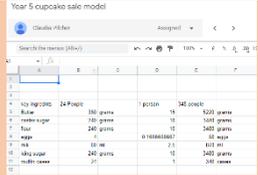
<p><b><u>Simulations (PM lessons 1-3)</u></b>          Consider what simulations are.          Explore a simulation          Analyse and evaluate a simulation.</p>		<p><b><u>Animation: Stop Motion App (Link to Science or English)</u></b>          To know about the origins of animation (Show children the images of Sally Gardner, the horse Edward Muybridge photographed and then animated into moving images.)          To work in groups to create a 6-panel storyboard to be animated.          Create a background and characters to retell a story.          Set up a recording space to take photos (See hints and tips doc)          Use the SM app to take a sequence of pictures retelling the story using small movements between each shot.          Use the SM app to add voice and sound effects – need to upgrade the app</p>			<p><b><u>Digital Literacy</u></b>          Use Toontastic to create video/book (Link with English) to tell a story          Create a sequence of images to create a short animation/film. Check app is updated and on all devices.</p>
<p><b><u>KS2 National Curriculum:</u></b></p> <ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>• Use sequence, selection and repetition in programs; work with variables and various forms of input and output</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>• Understand computer networks including the Internet; how they can provide multiple services, such as the worldwide web; and the opportunities they offer for communication and collaboration</li> <li>• Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>• 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</li> </ul>					

	<ul style="list-style-type: none"> <li>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</li> </ul> <p>Key vocabulary: online safety, e-safety, username, password, confidential, personal, internet, blog, website, true, false, digital media, age restriction, device, content, simulation, probot, technology, charge, battery, coding, code, object, action, output, control, event, debug, debugging, bug, fix, algorithm, program, repetition, logical reasoning, prediction, stop motion animation, background, character, photograph, record, voice, sound, effect, app, email, communication, address, attachment, if command, timer, variable, design, X and Y properties, save, edit, open, new, positive digital footprint, Google, cyberbullying, digital literacy</p>					
Y4	<p><b>Autumn 1</b> <b>Using Computers (1 lesson)</b> Using technology safely and respectfully. (Getting out, using and putting away chromebooks) Logging onto chromebooks Printing from Chromebooks.</p> <p><b>Keyboard Skills: (Year 3 PM Touch Typing lessons 1-4)</b> To introduce typing terminology. Understand the correct way to sit at the keyboard. To learn how to use the home, top and bottom row keys. To practice and improve typing for home, bottom and top rows.</p>	<p><b>Autumn 2</b> <b>Coding: Logo 2Go (PM lessons 1-4)</b> To learn the language of Logo. To input simple instructions in Logo. Using 2Logo to create letter shapes. Use Repeat function in Logo to create shapes. To use and build procedures in Logo.</p> <p>BIG PICTURE: Create a Christmas Card</p> 	<p><b>Spring 1</b> <b>Coding: Tynker</b> Review coding vocabulary (Use PM Quiz or create your own! <a href="https://www.purplemash.com/app/games/2diy/coding_vocab_quiz_y3">https://www.purplemash.com/app/games/2diy/coding_vocab_quiz_y3</a>) Design, write and debug programs that accomplish specific goals (e.g dragon eating the treasure). Use logical reasoning to detect and correct errors in algorithms. To decompose programs into smaller parts.</p>	<p><b>Spring 2</b> <b>Animation (PM lessons 1-3)</b> To discuss what makes a good animated film or cartoon and what their favourites are. To learn how animations are created by hand. (Look at original Disney sketches and animations) Start by making a flip book using PostIT To find out how 2Animate can be created in a similar way using the computer. To learn about onion skinning in animation. To add backgrounds and sounds to animations. To be introduced to 'stop motion' animation. To share animation on the class display board and by blogging.</p> <p><b>BIG PICTURE</b></p>	<p><b>Summer 1</b> <b>Coding – 2Code PM lessons 1-6</b> To use a sketch or storyboard to represent a program design and algorithm. Use the design to create a program. Introduce variables and the If/else statement and use it in a program. Explore a flowchart design for a program with an if/else statement. Create a program which responds to the If/else command, using the value of the variable Create a program with a character that repeats actions. Use the Repeat Until command to make characters repeat actions. Program a character to respond to user keyboard input.</p>	<p><b>Summer 2</b> <b>Effective Searching (PM lessons 1-3)</b> To locate information on the search results page. To use search effectively to find out information. To assess whether an information source is true and reliable</p>
		<p><b>Online Safety (PM lessons 1-4)</b> To understand how children can protect themselves from online identity theft. Understand that information put online leaves a digital</p>	<p><b>Online safety day – 9<sup>th</sup> Feb 2021</b> <a href="https://www.saferinternet.org.uk/safer-internet-day/2021">https://www.saferinternet.org.uk/safer-internet-day/2021</a></p>			<p><b>Effective Searching (PM lessons 1-3)</b> To locate information on the search results page. To use search effectively to find out information.</p>

<p>To practice the keys typed with the left hand. To practice the keys typed with the right hand.</p>	<p>footprint or trail and that this can aid identity theft. To Identify risks and benefits of installing software including apps. Identify positive and negative influences of technology on health and the environment. Understand importance of balancing screen time with other parts of their lives.</p>		<p><b><u>Writing for Different Audiences (PM lessons 1-5 - can be done in 3 lessons)</u></b> To explore how font size and style can affect the impact of a text. To use a simulated scenario to produce a news report. To use a simulated scenario to write for a community campaign (link to topic).</p>	<p>Make timers and counting machines using variables Explore how 2Code can be used to investigate control by creating a simulation. Know what decomposition and abstraction are in computer science. To take a real-life situation, decompose it and think about the level of abstraction. To design a decomposed feature of a real-life situation.</p> <p><b>BIG PICTURE</b> Create your own simulation</p> 	<p>To assess whether an information source is true and reliable</p>
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	<ul style="list-style-type: none"> <li>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</li> <li>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</li> </ul> <p>Key vocabulary: online safety, e-safety, username, password, confidential, personal, internet, blog, website, true, false, digital media, age restriction, device, content, simulation, probot, technology, charge, battery, coding, code, object, action, output, control, event, debug, debugging, bug, fix, algorithm, program, repetition, logical reasoning, prediction, stop motion animation, background, character, photograph, record, voice, sound, effect, app, email, communication, address, attachment, if command, timer, variable, design, X and Y properties, save, edit, open, new, positive digital footprint, Google, cyberbullying, digital literacy</p>					
Y5	<p><b>Autumn 1</b> <b>Spreadsheets PM lessons 1-5</b> Conversions of measurements. Novel use of the count tool. Formulae including the advanced mode. Using text variables to perform calculations. Using a spreadsheet to plan an event. Use Google Sheets to apply knowledge and challenge – set as assignment in Classroom</p> <p><b>BIG PICTURE</b> Use Google Sheets to plan your cake sale</p>	<p><b>Autumn 2</b> <b>Online Safety (PM lesson 3)</b> To learn about how to reference sources in their work. To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information. Ensuring reliability through using different methods of communication.</p>	<p><b>Spring 1</b> <b>Online safety day – 9<sup>th</sup> Feb 2021</b> <a href="https://www.saferinternet.org.uk/safer-internet-day/2021">https://www.saferinternet.org.uk/safer-internet-day/2021</a></p>	<p><b>Spring 2</b> <b>Coding – Sphero</b> To design, input and test an increasingly complex set of instructions. Design and write programmes that control physical systems. Debug programs that accomplish specific goals. To use logical reasoning to explain how increasingly complex algorithms solve a given problem.</p> <p><i>DT: apply their understanding of computing to program, monitor and control their products</i></p>	<p><b>Summer 1</b> <b>Online Safety – Google Be Internet Legends Lesson Planning Be Internet Sharp – Think Before You Share (p.62 – 65)</b> Understand what having a positive digital footprint means and know why it is important. Explain ways in which they can build a positive digital footprint.</p> <p><b>Be Internet Secure – Protect Your Stuff (p. 68 – 71)</b> Find ways to develop safe habits online, including the importance of protecting personal information.</p>	<p><b>Summer 2</b> <b>Coding 2Code</b> To review coding vocabulary. To use a sketch or storyboard to represent a program design and algorithm. To use the design to create a program To design and write a program that simulates a physical system. To review the use of number of variables in 2Code (e.g either number of text) To explore text variables To create a playable, competitive game. To combine the use of variables, If/else statements and Repeats to achieve the desired effect in code.</p>

				<p>How to respect online privacy boundaries for themselves and others. Name ways to seek or ask for help if they or others feel unsafe online.</p>	<p>To read code so that it can be adapted, personalised and improved. To explore the launch command and use buttons within a program that launch other programs or open websites.</p>
<p><b><u>Online Safety PM Lessons 1- 2</u></b> To gain a greater understanding of the impact that sharing digital content can have. To review sources of support when using technology. To review children’s responsibility to one another in their online behaviour To know how to maintain secure passwords. To understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this. To be aware of appropriate and inappropriate text, photographs and videos and the impact</p>	<p><b><u>Game Creator (PM lessons 1-5)</u></b> To set the scene by reviewing and analysing a computer game. To create a game environment. To create a game quest. To finish and share the game. To evaluate their and peers’ games.</p>	<p><b><u>Databases (PM lessons 1-4)</u></b> To learn how to search for information in a database. Children understand the different ways to search a database. Children can search a database in order to answer questions correctly. To contribute to a class database. Children have designed an avatar for a class database. Children have successfully entered information into a class database. To create a database around a chosen topic.</p> <p><b><u>Concept Maps (2 lessons adapt PM planning lessons 1-4)</u></b> To understand the need for visual representation when generating and discussing complex ideas. To understand and use the correct vocabulary when creating a concept map. To create a concept map.</p>		<p><b><u>3D modelling (PM lessons 1-4)</u></b> To explore and understand the different functions of 2Design and 2Make To explore the effects of moving points when designing. To understand printing and making.</p>	<p>To explore the launch command and use buttons within a program that launch other programs or open websites. To create a program to inform others.</p>

	of sharing these online.		To understand how a concept map can be used to retell stories and information. To create a collaborative concept map and present this to an audience.			
<p><b>KS2 National Curriculum:</b></p> <ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>• Use sequence, selection and repetition in programs; work with variables and various forms of input and output</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>• Understand computer networks including the Internet; how they can provide multiple services, such as the worldwide web; and the opportunities they offer for communication and collaboration</li> <li>• Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>• 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</li> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</li> </ul> <p>Key vocabulary: online safety, e-safety, username, password, confidential, personal, internet, blog, website, true, false, digital media, age restriction, device, content, simulation, probot, technology, charge, battery, coding, code, object, action, output, control, event, debug, debugging, bug, fix, algorithm, program, repetition, logical reasoning, prediction, stop motion animation, background, character, photograph, record, voice, sound, effect, app, email, communication, address, attachment, if command, timer, variable, design, X and Y properties, save, edit, open, new, positive digital footprint, Google, cyberbullying, digital literacy</p>						
Y6	<p><b>Autumn 1</b> <b>Coding – PM 2Code lessons 1-6</b> To review good planning skills. To design programs using their choice of objects, attributing specific actions to</p>	<p><b>Autumn 2</b> <b>Online Safety – PM lessons 1-3</b> Identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g. apps accessing location.</p>	<p><b>Spring 1</b> <b>Online safety day – 9<sup>th</sup> Feb 2021</b> <a href="https://www.saferinternet.org.uk/safer-internet-day/2021">https://www.saferinternet.org.uk/safer-internet-day/2021</a></p>	<p><b>Spring 2</b> <b>Toontastic Digital Story Making/Animation</b> Use Toontastic to create video/book (Link with English) to tell a story</p>	<p><b>Summer 1</b> <b>Blogging (PM lessons 1-5)</b> To identify the purpose of writing a blog. To identify the features of successful blog writing.</p>	<p><b>Summer 2</b> <b>Online Safety</b> <b>Be Internet Legends: Be internet alert – Check it’s for real (Lesson 6)</b> Demonstrate ways to build positive and healthy online relationships and friendships.</p>

<p>each using their new programming knowledge. To use variables within a game to keep track of the properties of objects. To use functions and understand why they are useful in 2Code. To debug a program and organise the code into tabs. To organise code into functions and Call functions to eliminate surplus code in the program.</p> <p><b>BIG PICTURE:</b> Create our own playable game</p> 	<p>Identify secure sites by looking for privacy seals of approval, e.g. https, padlock icon. Identify the benefits and risks of giving personal information and device access to different software. To review the meaning of a digital footprint and understand how and why people use their information and online presence to create a virtual image of themselves as a user. To have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour. Discuss the negative impact this can have on mental health. To begin to understand how information online can persist and give away details of those who share or modify it. To understand the importance of balancing game and screen time with other parts of their lives, e.g. explore the reasons why they may be tempted to</p>		<p>Create a sequence of images to create a short animation/film.</p> <p><b>Online Safety</b> <b>Be Internet Legends: Be internet alert – Check it's for real (Lesson 4)</b> Describe ways to critically evaluate what we see on social media. Explain how social media can mislead or misrepresent reality. Identify different types of line scams children may experience including 'phishing'. Identify sources of support for someone who is worried about anything online.</p>	<p>To plan the theme and content for a blog To understand how to write a blog. To consider the effect upon the audience of changing the visual properties of the blog. To understand the importance of regularly updating the content of a blog. To understand how to contribute to an existing blog. To understand how and why blog posts are approved by the teacher. To understand the importance of commenting on blogs. To peer-assess blogs against the agreed success criteria.</p>	<p>Describe strategies they can use to respond to hurtful online behaviour in ways that keep them safe Identify sources of support that can help friends and peers if they are experiencing hurtful behaviour online.</p> <p><b>Coding Sphero</b> To solve problems by decomposing them into smaller parts. Include use of sequences, variables, selection and repetition in programs and to explore real world problems. To debug easily and quickly by using decomposition. Use logical reasoning to explain how increasingly complex algorithms work.</p> <p><i>DT: apply their understanding of computing to program, monitor and control their products</i></p>
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		<p><b><u>Digital Literacy – Text Adventurers</u></b>  <b><u>PM lessons 1-4) Link to English</u></b>          To find out what a text adventure is. To plan a story adventure.          To make a story-based adventure.</p>	<p><b><u>Networks, Searching and How Computers Work.</u></b>   <u>See MTP unit saved on VLE.</u></p>			