

## Computing Knowledge, Skills, Sequencing and Progression

	EYFS	Key Stage 1	Lower Key Stage 2	Upper Key Stage 2
<b>Technology in the real world</b>		Use different font sizes, colours and images to communicate meaning. Use appropriate language in an email.	Use search technologies safely and effectively.  Use different font sizes, colours and images purposefully. Open, send and save emails. Know how to use digital tools responsibly to communicate.	Use search technologies effectively to collect, analyse and evaluate digital content. Use digital devices to combine different software and present data and information.
<b>Programming</b>		Know what algorithms are and how they are used.  Write and test simple programs.  Use logical reasoning to make predictions.	Design and write programs, including decomposing, to achieve specific goals.  Use logical reasoning to explain simple algorithms.	Design, write and debug programs to solve problems, control simulations and physical systems. Use sequences, repetition, variables, inputs and outputs. Detect and correct errors in algorithms and programs.
<b>Purposeful Application</b>		Use technology to create, organise, store, manipulate and retrieve data.  Recognise how IT is used beyond school.	Select and use technology to collect and present data and information.  Create and implement a range of programs to accomplish given goals. Understand computer networks including the internet.	Select, use and combine software to collect, analyse, evaluate and present data appropriately.  Design a range of programs.  Understand computer networks for collaboration and communication.
<b>Online Safety</b>		Know what to do if they need help because of something online.  Know what personal information is and why they need to keep it private. Use technology safely and respectfully.	Recognise unacceptable behaviour online. Know how to deal with and report inappropriate content and contact.  Continue to use technology safely and responsibly.	Use technology safely, respectfully responsibly, recognising appropriate behaviour and knowing how to report concerns.

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Key Stage 1						
Technology in the Real World Use different font sizes, colours and images to communicate meaning. Use appropriate language in an email.		Programming Respond to a range of stimuli. Create art from imagination. Begin to give reasons for choices.		Purposeful Application Develop techniques of colour, pattern, texture, line, shape, form and space.  Use line to represent objects seen, remembered or imagined. Experiment and enjoy colour using a variety of tools to spread paint. Experiment with different materials, textures and patterns.		Online Safety Learn about a range of artists, craftsmen and designers. Be able to give their opinion and say what they like / dislike. Make links to their own work.
Year B						
	Prior Learning	Intent (children will learn)	Unit	Sequence of Lessons WALT (children will...)	Vocabulary	Outcome / Composite
Autumn	Y2: My Online Life; Modern Tales	Children will learn about the different parts of a computer and iPad. They will learn new skills, tips and tricks.	My Online Life / Y1.2 What is a Computer?	1. WALT: learn who can help us online and how to communicate appropriately (children will learn who can help them if they feel upset or worried and etiquette for online communication; children will send an email) 2. WALT: know what we can and can't share online (children will sort information that should and should not be shared) 3. WALT: understand online bullying (children will learn what it is and how to approach it) 4. WALT: who owns the information on the internet (children will learn who owns internet content and if and how it can be removed) 5. WALT: what a computer is (children will discuss hardware and software and use technology to take images) 6. WALT: understand what is inside technology (children will follow and create simple algorithms) 7. WALT: understand what programs are (children will create an algorithm that could be turned into a program) 8. WALT: learn who can help us online and how to communicate	Algorithm Camera CD-DVD Data Debug Drive DVD/CD email Hard Drive Hardware Instructions Keyboard Monitor Mouse Printer Processor Program QR Code Robot Send/Receive Sign-in Sequence Software Speakers Sprite Wireless	Children will create an algorithm that could be turned into a program.
Spring	Y1 My Online Life; What is a computer?	The children will write a basic story with illustrations. They will then turn this into an animated story using visual coding. The activity will introduce new concepts such as conditional language,	Knowsley: Y2 My Online Life / Y2.2 Code a Story	1. WALT: understand whether you can trust everyone you meet online (children will learn that users can hide their identity; learn how to keep their personal information safe) 2. WALT: understand the impact of online behaviour (children will discuss and role-play situations which may affect them) 3. WALT: question whether everything seen online is true/real and who owns/creates it (children will evaluate digital resources and content)	Bullying Copyright Empathy Identity Image Online Password Private Profile Reputation Risks Self Trust  Backdrop Book Browser Characters Code Computational	Children will create their own coded animated story.

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		repeat loops and debugging.		4. WALT: write an algorithm (children will use Scratch to create a sequence of commands) 5. WALT: learn to debug an algorithm (children debug offline/online algorithms) 6. WALT: create a coded animated story (children will use Scratch to create their own story)	Debug Digital Execute/Run Images Loops Password Program Repeat Sequence Thinking Username WWW	
<b>Summer</b>	Knowsley: Y2 My Online Life; Code a Story	Children take the role of authors to write the sequel to popular children's stories. They then create illustrations for their story and record them self reading it in order to create an audiobook to publish online.	Y2 My Online Life / Y2.3 Story Land	1. WALT: recap who can help us online and how to communicate appropriately (children will send an email) 2. WALT: recap what we can and can't share online 3. WALT: create and photograph a page layout 4. WALT: turn pencil drawings into digital artwork 5. WALT: create a story using text, audio and illustrations	Author Chat Download Landscape Publish Sequel Storymap Stroke Template	Children will create pages for an online book

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Lower Key Stage 2						
<b>Technology in the Real World</b> Use search technologies safely and effectively. Use different font sizes, colours and images purposefully. Open, send and save emails. Know how to use digital tools responsibly to communicate.		<b>Programming</b> Design and write programs, including decomposing, to achieve specific goals. Use logical reasoning to explain simple algorithms.		<b>Purposeful Application</b> Select and use technology to collect and present data and information. Create and implement a range of programs to accomplish given goals. Understand computer networks including the internet.		<b>Online Safety</b> Recognise unacceptable behaviour online. Know how to deal with and report inappropriate content and contact. Continue to use technology safely and responsibly.
Year B						
	Prior Learning	Intent (children will learn)	Unit	Sequence of Lessons WALT (children will...)	Vocabulary	Outcome / Composite
Autumn	In KS1: My Online Life Children will have been taught what personal information is and why they need to keep it private. Use technology safely and respectfully. Know what to do if they need help because of something online.	<b>Chat It:</b> We use respectful words when we chat to people (online and offline). <b>Mind It:</b> We are kind and honest online. <b>Secure It:</b> We keep ourselves safe online by using privacy settings and common sense.	<b>Online safety</b> <b>Natterhub:</b> Y4 Chat it Y4 Mind it Y4 Secure it	<b>Chat It</b> To know how to communicate what I am doing online and explain why I have chosen to do so. To know how to create a safe screen name. To understand ways to communicate online. To describe how others can find out information about me by looking online. <b>Mind It</b> To describe how others can find out information about me by looking online. To explain ways that information about me online could have been copied, changed or shared. To understand how online posts last forever. <b>Secure It</b> To explain the ways people can and should protect their personal information online. To understand how personal information can be used by others. To explain how internet use can be monitored.		Children complete a range of activities, discussions and quizzes which result in a badge for each unit.
	KS1 – My Online Life	Children will explore a range of questions & scenarios to build on prior knowledge and develop further their understanding of online safety.	Y4 My Online Life	1. What is your online identity? 2. Can you control your own online reputation? 3. How do you build safe online relationships? 4. What can you do to stop online bullies? 5. How do you interpret online information? 6. How can you ensure technology does not take over your life? 7. How can you protect your online information and accounts?	Copyright Identity Online Bullying Password Private Profile Reputation Risks Self Image	In both units children will work through and complete a digital workbook to evidence understanding.

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	Y2.2 Code a Story	Children will look at different aspects of programming as well as considering the impact technology can have on health, well being and lifestyle. The children will learn all about the career of games designer. They will play games, write reviews and then design and prototype their own game.	Y4.6 Games Designer	<p>8. Who owns content online?</p> <ol style="list-style-type: none"> <li>1. What is a video game?</li> <li>2. What makes a good video game?</li> <li>3. How can you program a computer game?</li> <li>4. What is a flowchart?</li> <li>5. Can you create programs in Scotch?</li> <li>6. Can you add improvements to programs in Scratch?</li> </ol>	<p>Trust</p> <p>Age-appropriate Algorithm Animation App Application Audio Axis X &amp; Y Bluetooth Cloud Conditional Console Coordinates Costume Debugging Files Flow Chart Folders Griefing Hardware Illustration Input Loop Output PEGI Program Publish Repetition Scene Screencast Screenshot Screen time Selection Sensors Sequence Software Tablet Variable Video Game</p>	
Spring	Natterhub Unit Y4 Question It	To understand and identify what is fake news and why it is produced (Fake or Real).	Y4.1 Fake or Real?	<ol style="list-style-type: none"> <li>1. What is fake news?</li> <li>2. Identify fake news</li> <li>3. Can you identify fake news using search engines?</li> <li>4. Make informed choices</li> <li>5. Reflect session on fake news</li> </ol>	<p>Fake News Reporting Skeptical Verify Media</p>	Children work through and complete a digital workbook to evidence understanding.
	Y1.2 What is a computer Y2.2 Code a Story	To use online research skills to research endangered animal species. Pupils will make a class film to inform about how making small changes can help.	Y4.7 Endangered Species	<ol style="list-style-type: none"> <li>1. Create a digital workbook</li> <li>2. Understand how technology can be used to explore the world</li> <li>3. Understand copyright when creating illustrations</li> <li>4. Use technology to make a poster</li> <li>5. Make a class film</li> </ol>	<p>App Application Audio Filters Hashtag Illustration Publish Scene Screencast Screenshot Script Shot Storyboard</p>	
	KS1 My Online Life Y4 Natterhub Units	<p><b>Balance It:</b> We take care of our minds and bodies to stay healthy.</p> <p><b>Feel It:</b> We are kind and thoughtful and learn from our mistakes.</p>	<p><b>Online safety</b> <b>Natterhub:</b> Y4 Balance it Y4 Feel it Y4 Do it</p>	<p><b>Balance It</b> To consider how time spent on technology can affect other activities. To understand the importance of sleep for our physical and mental health. To understand why limits are needed on screen time.</p> <p><b>Feel It</b></p>		

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				To identify some online technologies where bullying might take place. To understand the behaviours that are considered online bullying. To understand the effect an online post can have.		badge for each unit.
<b>Summer</b>	Y2.2 Code Story Y4.6 Games Designer Children will have been taught what algorithms are and how they are used.	Children will explore the history of robots for developing programming skills to then programme a robot to move around a maze (Programming with Robots)	Y3.6 Programming with Robots	1. Understand what robots are. 2. Understand what is meant by programming a robot. 3. Consider whether you would trust a driverless. 4. Create a driverless car simulator in scratch. 5. Create a programme for a driverless car simulator in scratch. 6. Debug a programme.	Algorithm Apps Backdrop Block Browser Command Condition Content Debug Decomposition Digital Electronics Engine Engineering Evaluation Facts Fake News File Flow Chart Folder Font Hardware Illustration Images Input Internet Multimedia Network Output Palette Password PDF Post Private Profile Program Reliable Repeat/Loop Robot Screenshot Search Sequence Simulation Software Sprite Stage Technology Template Username Variables WWW X/Y Axis Code	In both units children will work through and complete a digital workbook to evidence understanding.
	Write and test simple programs. Use logical reasoning to make predictions and design a game.	Children will look at different aspects of programming with a specific focus on animation (Hour of Code)	Y4.2 Hour of Code	1. Understand what is meant by hour of code. 2. Give instructions to an on screen sprite. 3. Use computing vocabulary. 4. Use code to animate. 5. Use code to animate. 6. Use code to animate.		

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### Upper Key Stage 2

<b>Technology in the Real World</b> Use search technologies effectively to collect, analyse and evaluate digital content. Use digital devices to combine different software and present data and information.	<b>Programming</b> Design, write and debug programs to solve problems, control simulations and physical systems. Use sequences, repetition, variables, inputs and outputs. Detect and correct errors in algorithms and programs.	<b>Purposeful Application</b> Select, use and combine software to collect, analyse, evaluate and present data appropriately. Design a range of programs. Understand computer networks for collaboration and communication.	<b>Online Safety</b> Use technology safely, respectfully responsibly, recognising appropriate behaviour and knowing how to report concerns.
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### Year B

	Prior Learning	Intent (children will learn)	Unit	Sequence of Lessons WALT (children will...)	Vocabulary	Outcome / Composite
<b>Autumn</b>	<b>Natterhub:</b> Y4 Chat it Y4 Mind it Y4 Secure it My Online Life: Recognise unacceptable behaviour online; know how to deal with and report inappropriate content and contact	<b>Chat It</b> – We use respectful words when we chat to people (online and offline) <b>Think It</b> – we think carefully about what we do online <b>Balance It</b> – We take care of our minds and bodies to stay healthy	Online Safety Natterhub Y6 Chat it Y6 Think it Y6 Balance it	<b>Chat It</b> To reflect on my own screen time and understand how to make a change. To understand the importance of respectful communication. To recognise the problems that can come with sharing information online. To know how to report problems and support others when I am working online. <b>Think It</b> To understand inequality, prejudice and discrimination online. To understand what positive and negative online interactions look like and how we can respond to them To identify places to get help when faces with a difficult situation <b>Balance It</b> To identify and resist online temptations and pressures To identify decision that come with responsible internet use		
	Design and write programs and understand computer networks including the internet.	To explore Virtual Reality (VR) and how it can be used in the classroom. The children will also build their own VR.  To explore coding and use Hopscotch to create	Y6.3 VR Worlds  Y6.2 Crossy Roads	1.What is VR? 2.What is an online account? 3.What are scenes in my VR world? 4.How can we record our script and add it to our VR world? 5.How do we review our VR worlds? 6.Reflect, feedback in improve.  1.What is coding? 2.What is the key vocabulary you need to use? 3.How are games made using visual coding?	Cloud MP3 Password Story Map Visual coding Virtual world VR Server Z-Axis  Coding Command Loop	Create own VR world  Child will be able to play and share

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		a game that can be shared online.		4.What extra elements should we code into our game? 5.How can I share my game?	Decompose Variable Publish	their own Crossy Roads game
<b>Spring</b>	<p>My Online Life <b>Natterhub:</b> Y4 Balance It Y4 Feel it Y4 Do it</p> <p>Recognise unacceptable behaviour online; know how to deal with and report inappropriate content and contact; design and write programs and understand computer networks including the internet.</p>	<p><b>Mind It:</b> We are kind and honest online. <b>Question It:</b> We ask questions and are open-minded. <b>Feel It:</b> We use our empathy and resilience to learn from our mistakes.</p> <p>Children will explore the world of AR, play, write reviews for AR games and create multi-media content and QR codes to link the physical and digital world.</p> <p>Children will produce their own digital guide to being Maths genius.</p>	<p>Online Safety Natterhub Y6 Mind it Y6 Question it Y6 Feel it</p> <p>Y5.3 Making AR Games</p> <p>Y6.4 Maths Solve It</p>	<p><b>Mind It</b> -To understand how to create a positive online reputation. -To understand how an information trail is created and how that contributes to my digital footprint.&amp;... -To understand how our digital actions now can impact on our future. <b>Question It</b> -To explore how search engines work and how results are selected and ranked. -To consider the difference between facts and opinions in digital content. -To learn how to be a discerning consumer of digital content. <b>Feel It</b> -To understand how to react to concerns online and what help is available if we have a concern. To know how to gather evidence of online bullying and what to do with the evidence. To understand that we can all make a positive difference when it comes to stamping out bullying.</p> <p>1.What is AR? 2.Can you create a vlog review? 3.How can we use AR to present our research? 4.Can you design and create your own AR content? 5.Can you present information using AR?</p> <p>1.What is collaboration? 2.How can we create content? 3.How can we share content? 4.How to create screen casts. 5.How to give feedback. 6.How to publish books with book creator.</p>	<p>Augmented reality Bit &amp; bytes Copyright Download Edit Multimedia Plagiarism Podcast Record Score Upload Vlog Vlogger YouTuber</p> <p>Collaboration Feedback New Media Screencast Storyboard</p>	<p>Children complete a range of activities, discussions and quizzes which result in a badge for each unit.</p> <p>Produce graphics and illustrations as part of a AR exhibition of computer scientists.</p> <p>Produce a digital guide.</p>
<b>Summer</b>	<p><b>Natterhub:</b> Y4 Think it Y4 Question it</p>	<p><b>Secure It:</b> We are wise users of the world wide</p>	<p>Online Safety Natterhub Yr 6 Secure it</p>	<p><b>Secure it</b> To understand how to use, manage and remember passwords. To describe and identify some types of cybercrime.</p>		<p>Children complete a range of activities,</p>



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	<p>Y4 Learn it</p> <p>Music Express Units using Garageband.</p> <p>Recognise unacceptable behaviour online; know how to deal with and report inappropriate content and contact.</p>	<p>web who know how to stay secure online. <b>Learn It:</b> We use technology to help us in different ways.</p> <p>Children will learn about what being a music composer means and use Garageband to create their own jingle for an App.</p> <p>To improve children's knowledge of the risks of their online lives and develop skills when using online services.</p>	<p>Yr 6 Learn it Yr 6 Do it</p> <p>Y5.4 Video Games Music Composer</p> <p>Y6 My Online Life</p>	<p><b>Learn It</b> To understand how the internet can be used as a tool for opening our minds. To understand the positive differences technology makes throughout the world.</p> <p>1.What is a music composer? 2.What is a brief? 3.How is digital music made? 4.What is an audio loop?</p> <p>1.Balance it- Online temptations and pressures. 2. Balance it 2 - You decide. 3. Balance IT 3 - Screen time and self-regulation. 4. Balance it 4 Badge roundup</p>	<p>App Audio Brief Composer Design Jingle Loop Music</p> <p>Copyright Empathy Identity Online bullying Password Private Profile Reputation Risks Self-image Trust</p>	<p>discussions and quizzes which result in a badge for each unit.</p> <p>Compose a jingle for an APP.</p>
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