

Computing Whole-school curriculum map

Knowledge

Skills

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Early Years F1 and F2	<p>Ongoing use of technology embedded across the EYFS: <i>Technology used in role play to enhance provision and give real world contexts for technology uses. Examples may include...phones, cameras, tills, walkie talkies, washing machines, microwaves, laptops, iPads/tablets.</i></p> <p>I can press buttons to make things work. I can follow a sequence to make something happen. I recognise uses for technology in the world around me.</p> <p><i>Class laptops, iPads and large screen – used to carry out games and activities. CD players – to listen to story CDs. Beebots/remote control toys.</i></p> <p>I can use a remote to make things work. I can choose icons to open apps and games. I can follow the sequence of a program to complete an activity. I can press the correct buttons to make something play. I can explore how floor robots and remote control toys move. I can identify ways of making things work. I am beginning to problem solve if something doesn't move how I expect it to.</p>					
	<p>Explicit opportunities to teach specific skills: <i>Developing children's computational thinking skills through a wide range of activities covering multiple areas of the EYFS framework.</i></p> <p><i>This will be developed through the skills of:</i></p> <p><i>Logical reasoning – anticipating and explaining</i> <i>Abstraction – working out what is important and ignoring what is not important</i> <i>Pattern – comparing, spotting similarities and differences</i> <i>Algorithms – instructions and sequencing</i> <i>Decomposition – breaking down problems into steps</i> <i>Debugging – testing and making changes to achieve an outcome</i></p> <p>This will be achieved through the approaches of:</p> <p><i>Tinkering – playing and exploring</i> <i>Creating – making things, checking things and fixing things</i> <i>Collaboration – playing and working cooperatively</i> <i>Persevering – not giving up</i></p>					

	Busy Bodies	Awesome Autumn	Winter Warmers	Springtime	Boats Ahoy	Summer Fun
	<p>Refine information based on new information found – logical reasoning Recognising similarities and differences – identifying patterns Identifying important information – abstraction Decide what is important in their work – abstraction Follow instructions to complete a task – algorithms. Breaking down a task into smaller pieces – decomposition.</p>	<p>Recognising and creating patterns - pattern Predicting what comes next in a pattern sequence - pattern Explaining their own pattern – logical reasoning Explaining their journeys – logical reasoning Identifying best/quickest routes – logical reasoning Sequence movements to move on their journey – algorithm Break down the steps on the journey, checking the direction and movements – decomposition Create and test own routes – debugging. Ordering a process to make food e.g. soup – algorithm</p>	<p>Sequencing steps correctly – algorithm Recognising that a task is broken down into smaller steps – decomposition Follow instructions – algorithm Test out designs suggesting improvements - debugging Finding out information and building up their understanding to explain – logical reasoning Test different methods and make predictions – logical reasoning Break down a task into smaller steps (taking pictures of each stage) – decomposition Creating patterns and predicting what comes next – pattern</p>	<p>Identifying the most important features for a design – abstraction Try out different materials, making predictions and explaining what they have observed – logical thinking Create their design, breaking the process into smaller steps – decomposition Change or edit their creation as they go along to improve it – debugging Take pictures of each part of the process identifying and talking through the sequence of steps – algorithm Plan a route using symbols to show the instructions – algorithm Test and edit their sequence of</p>	<p>Understanding new information and refining it – logical reasoning Identifying similarities and differences – pattern Identifying what is important or not – abstraction Making predictions about objects and material, will they float – logical reasoning Make observations and identify what is the same or different – pattern Creating a role play resource e.g. boat, breaking down the task into smaller steps – decomposition Deciding what is important about their design – abstraction Follow instructions to make a boat – algorithm</p>	<p>Using objects create a pictogram identifying what is the same or different about the objects collected – pattern Explaining a journey and where different features should go – logical reasoning Sequencing objects in a journey – algorithm Retelling journeys, editing their maps as needed – debugging Use shapes to create images, checking and fixing their design – debugging</p>

	<p>Understanding sequences – algorithm Following and creating movement sequences – algorithms Breaking a sequence into smaller steps – decomposition Making changes or improvements to a sequence – debugging.</p>	<p>Recognising the sequence is in small steps – decomposition</p>	<p>Understanding and explaining patterns – logical reasoning</p>	<p>instructions – debugging Ordering a sequence of instructions – algorithm Recognising that the sequence is broken into smaller steps – decomposition</p>	<p>Suggest improvements to their design and edit it if needed - debugging</p>	
	<p>Self-image and Identity I can recognise, online or offline, that anyone can say ‘no’ / ‘please stop’ / ‘I’ll tell’ / ‘I’ll ask’ to somebody who makes them feel sad, uncomfortable, embarrassed or upset.</p>	<p>Online Relationships and Reputations I can recognise some ways in which the internet can be used to communicate. I can give examples of how I (might) use technology to communicate with people I know. I can identify ways that I can put information on the internet</p>	<p>Online Bullying, Health, Wellbeing and Lifestyle. I can describe ways that some people can be unkind online. I can offer examples of how this can make others feel. I can identify rules that help keep us safe and healthy in and beyond the home when using</p>	<p>Managing Online information. I can talk about how to use the internet as a way of finding information online. I can identify devices I could use to access information on the internet</p>	<p>Privacy and Security. I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location). I can describe who would be trustworthy to share this information with; I can explain why they are trusted.</p>	<p>Copyright and Ownership. I know that work I create belongs to me. I can name my work so that others know it belongs to me.</p>

			technology. I can give some simple examples of these rules.			
Year 1	<p>Technology Around us</p> <p>use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p>☑ recognise common uses of information technology beyond school</p> <p>☑ use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content</p>	<p>Digital Painting</p> <p>use technology purposefully to create, organise, store, manipulate and retrieve digital content</p>	<p>Digital Writing</p> <p>use technology purposefully to create, organise, store, manipulate and retrieve digital content use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p>	<p>Grouping Data</p> <p>use technology purposefully to create, organise, store, manipulate and retrieve digital content use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p>	<p>Moving a Robot</p> <p>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</p> <p>create and debug simple programs</p> <p>use logical reasoning to predict the behaviour of simple programs</p> <p>recognise common uses of information technology beyond school</p>	<p>Programming animations</p> <p>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</p> <p>☑ create and debug simple programs</p> <p>use logical reasoning to predict the behaviour of simple programs</p> <p>☑ use technology purposefully to create, organise, store, manipulate and</p>

	or contact on the internet or other online technologies.					retrieve digital content.
Self-image and Identity	Online Relationships and Reputations	Online Bullying, Health, Wellbeing and Lifestyle.	Managing Online information.	Privacy and Security.	Copyright and Ownership.	
I can recognise that there may be people online who could make someone feel sad, embarrassed or upset. If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust and how they can help.	I can give examples of when I should ask permission to do something online and explain why this is important. I can use the internet with adult support to communicate with people I know (e.g. video call apps or services). I can explain why it is important to be considerate and kind to people online and to respect their choices. I can explain why things one person finds funny or sad online may not always be seen in the same way by others. I can recognise that information can stay online and could be	I can describe how to behave online in ways that do not upset others and can give examples. I can explain rules to keep myself safe when using technology both in and beyond the home.	I can give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching). I know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke. I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened.	I can explain that passwords are used to protect information, accounts and devices. I can recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names). I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.	I can explain why work I create using technology belongs to me. I can say why it belongs to me (e.g. 'I designed it' or 'I filmed it'). I can save my work under a suitable title / name so that others know it belongs to me (e.g. filename, name on content). I understand that work created by others does not belong to me even if I save a copy.	

		copied. I can describe what information I should not put online without asking a trusted adult first.				
Year 2	<p>Information Technology around us</p> <p>use technology purposefully to create, organise, store, manipulate and retrieve digital content ☑ recognise common uses of information technology beyond school ☑ use technology safely and respectfully, keeping personal information private; identify where to go for help and support</p>	<p>Digital Photography</p> <p>use technology purposefully to create, organise, store, manipulate and retrieve digital content ☑ recognise common uses of information technology beyond school</p>	<p>Robot Algorithms</p> <p>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions ☑ create and debug simple programs ☑ use logical reasoning to predict the behaviour of simple programs ☑ use technology purposefully to create, organise, store, manipulate and retrieve digital content</p>	<p>Pictograms</p> <p>use technology purposefully to create, organise, store, manipulate and retrieve digital content</p>	<p>Making Music</p> <p>use technology purposefully to create, organise, store, manipulate and retrieve digital content</p>	<p>An Introduction to Quizzes</p> <p>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions ☑ create and debug simple programs ☑ use logical reasoning to predict the behaviour of simple programs</p>

	<p>when they have concerns about content or contact on the internet or other online technologies.</p>					
	<p>Self-image and Identity</p> <p>I can explain how other people may look and act differently online and offline. I can give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened; I can give examples of how they might get help</p>	<p>Online Relationships and Reputations</p> <p>I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country). I can explain who I should ask before sharing things about myself or others online. I can describe different ways to ask for, give, or deny my permission online and can identify who can help me if I am not sure. I can explain</p>	<p>Online Bullying, Health, Wellbeing and Lifestyle.</p> <p>I can explain what bullying is, how people may bully others and how bullying can make someone feel. I can explain why anyone who experiences bullying is not to blame. I can talk about how anyone experiencing bullying can get help. I can explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in</p>	<p>Managing Online information.</p> <p>I can use simple keywords in search engines. I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections). I can explain what voice activated searching is and how it might be used, and know it is not a real person (e.g. Alexa, Google Now, Siri). I can explain the difference between things that are imaginary, 'made up' or 'make believe'</p>	<p>Privacy and Security.</p> <p>I can explain how passwords can be used to protect information, accounts and devices. I can explain and give examples of what is meant by 'private' and 'keeping things private'. I can describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords). I can explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions).</p>	<p>Copyright and Ownership.</p> <p>I can recognise that content on the internet may belong to other people. I can describe why other people's work belongs to them.</p>

		<p>why I have a right to say 'no' or 'I will have to ask someone'. I can explain who can help me if I feel under pressure to agree to something I am unsure about or don't want to do. I can identify who can help me if something happens online without my consent. I can explain how it may make others feel if I do not ask their permission or ignore their answers before sharing something about them online. I can explain why I should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online. I can explain how information put online about someone can last for a long time. I can describe how anyone's online information could be</p>	<p>public places and the home environment. I can say how those rules / guides can help anyone accessing online technologies.</p>	<p>and things that are 'true' or 'real'. I can explain why some information I find online may not be real or true.</p>		
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		seen by others. I know who to talk to if something has been put online without consent or if it is incorrect.					
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