

Computing (including Online Safety)

Reception and Key Stage One Progression of Skills

Computing is embedded throughout school life at Springmead. We show pupils not only how to interact with software and hardware, but teach them the skills to help shape the innovations of the future. Discrete lessons teach pupils increasingly complex computing skills throughout their time in school and are always made relevant to the real world and cross-curricular learning. Using technology safely and respectfully is paramount in all computing at Springmead. We teach Online Safety so that our pupils have a solid foundation to navigate the online world in an effective and safe way.

	EYFS	Year 1	Year 2	Year 3
	Online Safety			
National Curriculum		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. Refer to Life Skills progression document for more informatin.		Refer to KS2 Computing curriculum.
Online Safety	- Recognise the impact of good choices and consequences of wrong ones. - Understand that they must ask an adult whether they can use a game or app. - Know that information can be retrieved from computers and can tell an adult if what they see makes them feel worried. - Recognise who they can ask for help and know when they need help. - Understand that they need to share equipment and take turns.	Self image and identity		
		Recognise that there may be people online who can make someone feel sad, embarrassed or upset	Give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened.	Explain what is meant by the term 'identity'
			Give examples of how they might get help	Explain hwo people can represent themselves in different ways online
				Explain way in which someone might change their identifiy depending on what they are doing online and why
		Online relationships		
		Give examples of when I should ask permission to do something online and explain why this is important	Explain who I should ask before sharing things about myself or others online	Describe ways pople who have similar likes and interstes get get together online
		Use the internet with adult support to communicate with people I know	Give examples of how someone might use technology to communicate with others they don't know offline and why this might be risky	Explain what it means to 'know someone' online and why this might be different from knowing them offline
		Explain why it is important to be considerate and kind to people online and respect their choices	Describe different ways to ask for, give or dny permission online and can identify who can help me if I am not sure	Explain what is meant by 'trusting someone online', why this is different from 'liking someone online' and why it is important to be careful about who to trust online including what information and content they are trsutud with
		Explain why things one person finds funny or sad online may not always be seen in th same way as others	Explain why I have a right to say 'no' or 'I will have to ask someone'	Explain why someone may change their mian about trusting anyone with something they feel nervous, worried or uncomfortable
			Identify who can help me if something happens online without my consent	Explain how someone's feelings can be hurt by what is said or written online

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			Explain how to make others feel if I do not ask their permission or ignore their answers before sharing something online	Explain the importance of giving and gaining permission before sharing things online	
			Explain why I should always ask a trusted adult before accepting or agreeing to something online		
		Online reputation			
		Recognise that information can stay online and could be copied	Explain how information put online about someone can last a long time	Explain how to search for information about others online	
		Describe what information I should not put online without asking a trusted adult first	Describe how anyone’s online information could be seen by others	Give examples of what anyone may or may not be willing to share online	
			Know who to talk to if something has been put online without consent or if it is incorrect	Explain the need to be careful before sharing anything personal	
				Explain who someone can ask if they are unsure about putting something online	
		Online bullying			
		Describe how to behave online in ways that do not upset others and give examples	Explain what bullying is, how people bully others and how bullying can make someone feel	Describe appropriate ways to behave towards other people online and why this is important	
			Explain why anyone who experiences bullying is not to blame	Give examples of how bullying behaviour could appear online and how someone can get support	
			Talk about how anyone experiencing bullying can get help		
		Managing online information			
		Give simple examples of how to find information using digital technologies, e.g., search engines, voice activated searching.	Use simple key words in search engines	Explain the difference between a ‘belief’, ‘opinion’ or ‘fact’ and give examples of how and where they might be shared online	
		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.	Demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections)	Explain that not all opinions shared may be accepted as true or fair to others	
		Know how to get help from a trusted adult if we see content that makes us feel sad,uncomfortable, worried or frightened.	Explain what voice activated searching is and how it might be used and know it is not a real person	Describe and demonstrate how we can get help from a trusted adults if we see content that makes us feel sad, uncomfortable, worried or frightened	
			Explain the difference between things that are imaginary, ‘make up’ or ‘make believe’ and things that are ‘true’ or ‘real’		
			Explain why some information I find online may not be real or true		
		Privacy and security			

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		Recognise more detailed examples of information that is personal to someone (e.g. address, school, family name.	Explain and give examples of what is meant by ‘private’ and ‘keeping things private’	Describe simple strategies for creating and keeping passwords private
		Explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others	Describe and explain some rules for keeping personal information	Give reasons why someone should only share information with people they choose to and can trust
				Explain that if they are not sure or feel pressured then they should tell a trusted adult
				Describe how connected devices can collect and share anyone’s information with others
		Health, wellbeing and lifestyle		
			Explain simple guidance for using technology in different environments and settings	Explain why spending too much time using technology can sometimes have a negative impact on anyone
			Say how rules and guides can help anyone accessing online technologies	Can examples of both positive and negative activities where it is easy to spend a long of time engaged
				Explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable
		Copyright and ownership		
			Recognise that content on the internet may belong to other people	Explain why copying someone’s work from the internet without permission isn’t fair and can explain what problems this might cause
			Describe why other people’s work belongs to them	

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Computing				
	EYFS	Year 1	Year 2	Year 3
National Curriculum	Taken from Development Matters: - Completes a simple program on a computer; - Uses ICT hardware to interact with age appropriate computer software. - Children recognise that a range of technology is used in places such as homes and schools. - They select and use technology for particular purposes.	- 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 - Recognise common uses of information technology beyond school		Refer to KS2 Computing curriculum.
Connecting Systems and networks	Role play using technology. Help adults operate equipment around school. Operate simple equipment independently. Begin to identify technology in their environment.	<u>Information around us</u>		
		Identify technology	Recognise the uses and features of information technology –	Explain how digital devices function
		Identify a computer and its main parts	Identify the uses of information technology in the school	Identify input and output devices
		Use a mouse in different ways	Identify information technology beyond school	Recognise how digital devices can change the way we work
		Use a keyboard to type on a computer	Explain how information technology helps us	Explain how a computer network can be used to share information
		Use the keyboard to edit text	Explain how to use information technology safely	Explore how digital devices can be connected
		Create rules for using technology responsibly	Recognise that choices are made when using information technology	Recognise the physical components of a network
Creating Media	Use age appropriate websites Use a mouse to arrange objects on a screen. With support, use a keyboard for simple typing. Interact and explore their environment using different ICT equipment e.g. cameras, microscopes, visualisers.	<u>Digital Painting</u>	<u>Digital photography</u>	<u>Stop frame animation</u>
		Compare painting a picture on a computer and on paper	Use a digital device to take a photograph	Explain that animation is a sequence of drawings or photographs
		Describe what different freehand tools do	Make choices when taking a photograph	Relate animated movement with a sequence of images
		Use the shape tool and the line tools	Describe what makes a good photograph	Plan an animation
		Make careful choices when painting a digital picture	Decide how photographs can be improved	Identify the need to work consistently and carefully

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Programming	Collect information, e.g., by taking photographs or collecting object	Explain why I chose the tools I used	Use tools to change an image	Review and improve an animation
		Use a computer on my own to paint a picture	Recognise that photos can be changed	Evaluate the impact of adding other media to an animation
		Digital writing	Digital music	Desktop Publishing
		Use a computer to write	Say how music can make us feel	Recognise how text and images convey information
		Add and remove text on a computer	Identify that there are patterns in music	Recognise that text and layout can be edited
		Identify that the look of text can be changed on a computer	Experiment with sound using a computer	Choose appropriate page settings
		Make careful choices when changing text	Use a computer to create a musical pattern	Add content to a desktop publishing publication
		Explain why I used the tools that I chose	Create music for a purpose	Consider how different layouts can suit different purposes
		Compare typing on a computer to writing on paper	Review and refine our computer work	Consider the benefits of desktop publishing
	Explore a variety of controlled and programmable devices. Explore simple simulations, finding out what happened. Discuss what happens when a floor robot is controlled.	Moving a robot	Robot algorithms	Sequencing Sounds
		Explain what a given command will do	Describe a series of instructions as a sequence	Explore a new programming environment
		Act out a given word	Explain what happens when we change the order of instructions	Identify that commands have an outcome
		Combine forwards and backwards commands to make a sequence	Use logical reasoning to predict the outcome of a program	Explain that a program has a start
		Combine four direction commands to make sequences	Explain that programming projects can have code and artwork	Recognise that a sequence of commands can have an order
		Plan a simple program	Design an algorithm	Change the appearance of my project
		Find more than one solution to a problem	Create and debug a program that I have written	Create a project from a task description
		Programming animations	Programming quizzes	Events and actions in programs
		Choose a command for a given purpose	Explain that a sequence of commands has a start	Explain how a sprite moves in an existing project
		Show that a series of commands can be joined together	Explain that a sequence of commands has an outcome	Create a program to move a sprite in four directions
		Identify the effect of changing a value	Create a program using a given design	Adapt a program to a new context
		Explain that each sprite has its own instructions	Change a given design	Develop my program by adding features
		Design the parts of a project	Create a program using my own design	Identify and fix bugs in a program
		Use my algorithm to create a program	Decide how my project can be improved	Design and create a maze-based challenge

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Data and Information	Begin to sort, classify or group various objects progressing from practical activities to the use of ICT e.g., practically sorting fruit into colours, types or shapes, and then on-screen. Use ICT to sort and sequence objects on a screen or interactive whiteboard. Produce simple pictograms with help	<u>Grouping data</u>	<u>Pictograms</u>	<u>Branching databases</u>
		Label objects	Explain that we can present information using a computer	Create questions with yes/no answers
		Identify that objects can be counted	Recognise that we can count and compare objects using tally charts	Identify the attributes needed to collect data about an object
		Describe objects in different ways	Recognise that objects can be represented as pictures	Create a branching database
		Count objects with the same properties	Create a pictogram	Explain why it is helpful for a database to be well structured
		Compare groups of objects	Select objects by attribute and make comparisons	Plan the structure of a branching database
		Answer questions about groups of objects	Recognise that people can be described by attributes	independently create an identification tool

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	Autumn		Spring		Summer	
EVFS	On, off, switch, backwards, forwards, instruction, sound, moving, buttons, collect, command, computer, count, equipment, keyboard, keys, monitor, mouse, movement, organise, phone, camera, remote, choices, create. Internet, information, share, technology, website.					
Year 1	Connecting systems and networks Technology around us Technology Desktop Laptop Computer Mouse Trackpad Login Username Password Keyboard Edit Spacebar	Creating Media Digital painting Paint tools- fill, brush, shape, line Undo Save Retrieve	Creating Media Digital writing Word processor Keys Space Backspace Caps lock Bold Italic Underline Double click Font Undo	Data and information Grouping data Object Lable Group Data Properties Classify	Programming Block A Moving a robot Robot Direction Command Sequence Predict Program Run	Programming Block B Programming animations Sprite Programming Start block Algorighm Value Programming area Programming block Animation
Year 2	Connecting systems and networks Information technology around us Information Technology Device Examples of IT e.g. barcode scanner, printer, tablet, chip and pin machine, card reader	Creating Media Digital photography Capture Digital photograph Portrait Landscape Format Phtography Composition Retake Artificial light Natural light Camera focus Effects Edit Adjust	Creating Media Digital music Rhythm Rhythm pattern Pitch Musical pattern Sequence of notes	Data and information Pictograms Pictogram Tally Count Compare Attribute Block diagram	Programming Block A Robot algorithms Outcome Algorighm Execute	Programming Block B Programming quizzes Grren flag (within Scratch) Background Modify Debug

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	Autumn		Spring		Summer	
EYFS	Online Safety Self-image and identity Online reputation Understanding the world	Online Safety Online Bullying Understanding the world	Online Safety Online Relationships Understanding the world	Online Safety Managing online information Privacy and Security Understanding the world	Online Safety Health, Well-being and lifestyle Understanding the world	Online Safety Copyright and ownership Understanding the world
Year 1	Online Safety Health, wellbeing and lifestyle	Online Safety Self image and identity Online reputation	Online Safety Online relationships Online bullying	Online Safety Copyright and ownership	Online Safety Privacy and security Online relationships	Online Safety Managing online information
	Connecting systems and networks Technology around us Recognising technology in school and using it responsibly (Paintz.app)	Creating Media Digital painting Choosing appropriate tools in a program to create art and making comparisons with working non-digitally. (Microsoft Paint or similar)	Creating Media Digital writing Using a computer to create and format text, before comparing to writing non-digitally. (Google Docs or Microsoft Word)	Data and information Grouping data Exploring object labels, then using them to sort and group objects by properties. (Google slides or Powerpoint)	Programming Block A Moving a robot Writing short algorithms and programs for floor robots and predicting program outcomes. (Bee-bot, blue-bot)	Programming Block B Programming animations Designing and programming the movement of a character on screen to tell stories. (Scratch Jnr)
Year 2	Online Safety Online bullying	Online Safety Self image and identity	Online Safety Online reputation	Online Safety Online relationships	Online Safety Privacy and security Managing online information	Online Safety Health, wellbeing and lifestyle Copyright and ownership
	Connecting systems and networks Information technology around us Identifying IT and how its responsible use improves our world in school and beyond. (Google Slides/ PowerPoint)	Creating Media Digital photography Capturing and changing digital photographs for different purposes. (Ipad)	Creating Media Digital music Using a computer as a tool to explore rhythms and melodies, before creating a musical composition. (Chrome Music Lab)	Data and information Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer. (j2data pictogram)	Programming Block A Robot algorithms Creating and debugging programs and using logical reasoning to make predictions. (Bee-bot)	Programming Block B Programming quizzes Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz. (Scratch Jnr)