

Preston Primary School

Curriculum Design for Computing



Computing INTENT

At Preston Primary School we want our pupils to understand that they are creators and masters of technology, not solely consumers. Technology is everywhere and it will play a pivotal role in their lives as they grow older. Therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our pupils to be creators not consumers and our broad curriculum encompassing computer science, information technology and digital literacy reflects this. We want our pupils to understand that there is always a choice with using technology and as a school we utilise technology (especially social media – Seesaw mimics a social media experience) to model positive use. We recognise that the best prevention for a lot of issues we currently see with technology/social media is through education. Building our knowledge in this subject will allow pupils to effectively demonstrate their learning through creative use of technology.




We recognise that technology can allow pupils to share their learning in creative ways. We also understand the accessibility opportunities technology can provide for our pupils. Our knowledge rich curriculum must be balanced with the opportunity for pupils to apply their knowledge creatively which will in turn help our pupils become skilful computer scientists.

We encourage staff to try and embed computing across the whole curriculum to make learning creative and accessible. We want our pupils to be fluent with a range of tools to best express their understanding and hope by Upper Key Stage 2, children have the independence and confidence to choose the best tool to fulfil the task and challenge set by teachers. Staff are also encouraged to experiment and use new technologies that can better the overall learning experience of children and support staff with delivering our wider curriculum.

We recognise that within our local community, there are many companies and organisations that are utilising technology in new and innovative ways, so we encourage the development of such partnerships (The Institution of Engineering and Technology, First Lego League and Digital Schoolhouse are current examples) to again broaden and enrich the overall learning experience of our children.

Computing Implementation

To implement this intent, we have used the Computing Curriculum created by Mr P ICT. Staff across school use the units within the D.A.R.E.S. projects and adapt them to fit in with the long/short enquiry that is taking place. The coverage of skills, across our Computing Curriculum, is as follows:

Information Technology	Computer Science	Digital Literacy
		
Word Processing/Typing Data Handling Presentations, Web design and eBook Animation Video Creation Photography and Digital Art Augmented Reality and Virtual Reality Sound	Computational Thinking Programming Computer Networks	Self-Image and Identity Online Relationships Online Reputation Online Bullying Managing Online Information Health, Wellbeing and Lifestyle Privacy and Security Copyright and Ownership

At Preston Primary School, we believe that the majority of computing should be embedded across the curriculum to further encourage the childrens' understanding that computing technologies can be used to enhance learning. Computing sessions are timetabled weekly, but the nature of the content allows staff to bring technologies covered into other curriculum areas. Timetabled computing sessions are used to focus on one of three elements: An Explicit Computer Science lesson, A Tinkering Session or a D.A.R.E.S project. The computer science part of the computing curriculum will often, but not always, need a more explicit approach. That is not to say it cannot be embedded across the curriculum. A tinkering session looks at introducing a new app or tool and giving children opportunity to experiment and familiarise themselves with the different elements and tools before it can be applied in a more focused approach across the curriculum. Some weeks computing can be covered by using technology to demonstrate learning in other subjects. This is the way we want computing delivered in our school, embedded to allow learning to be more accessible and allow learners to be more creative in demonstrating their learning.

Computing IMPACT

We encourage our children to enjoy and value the curriculum we deliver. We will constantly ask the WHY behind their learning and not just the HOW. We want learners to discuss, reflect and appreciate the impact computing has on their learning, development and well-being. Finding the right balance with technology is key to an effective education and a healthy life-style. We feel the way we implement computing helps children realise the need for the right balance and one they can continue to build on in their next stage of education and beyond. We encourage regular discussions between staff and pupils to best embed and understand this. The way pupils showcase, share, celebrate and publish their work will best show the impact of our curriculum. We also look for evidence through reviewing pupil's knowledge and skills digitally through Seesaw and observing learning regularly. Progress of our computing curriculum is demonstrated through outcomes and the record of coverage in the process of achieving these outcomes.

Meeting the needs of our disadvantaged children, including Children Looked After, those eligible for Pupil Premium funding and those with SEND

The IT tools used within computing have a unique ability to enable children to achieve their full potential, not just in computing but across the wider curriculum. At Preston Primary School, we recognise this and encourage staff and children to use technologies available and emerging technologies to give our children the best chance at achieving what they are capable of. Computing sessions are unique in the way that challenges that children may face in literacy and maths do not necessarily apply and children are more able to express themselves.

Our computing curriculum for KS1-KS2 follows a progression of skills, outlines by Mr P ICT, which is organised into the following main themes: information Technology, Computer Science and Digital Literacy. There is an expectation that children will use their prior learning and build upon this as they journey through Preston Primary School. Children will reach an **end point** where their understanding has been strengthened and deepened through this purposefully mapped out Computing Curriculum.

Cycle A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit 1 FS	Follow simple instructions for part of a daily routine. Sort and categorise different objects.	Environmental walk to record different sounds and take photos.	Sequence a morning routine. Play a touch screen game on an Ipad. Scan QR codes to access videos.	Traditional tales drama and images.	Programming a BeeBot.	Use the internet to research an animal.
Unit 2 Year 1 & 2	Programming - Robot Maze Game in ScratchJr.	Programming - Animations in ScratchJr.	Video Creation - Creating Our Own Video.	Animation - Creating a Cartoon.	Data Handling - Digital Pictograms.	Animation - Bringing Character to Life.
Unit 3 Year 3 & 4	Programming - Animations in Scratch.	Physical Computing - Crumble powered historical scenes.	AR & VR - Creating 360 Images.	Data Handling - Interactive Story Graphs.	Presentation - Interactive Comics.	Video Creation - Voiceover Film.

Unit 4 Year 5 & 6	Programming - Quizzes in Scratch.	Programming - Yr 5 Scratch Platform Game.	Animation - Character Interviews.	AR & VR - Interactive Displays.	Sound - Four Chord Remix.	Video Creation - Greenscreen News Report.
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Curriculum Organisation 2021-22

End Point	By the end of Key Stage 1, children will:	By the end of Key Stage 2, children will build on their prior knowledge of human and physical geography and extend this further. Children will:
	<p><u>Taken from the National Curriculum</u></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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 • 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><u>Taken from MR P ICT</u></p> <p><u>Information Technology</u></p> <p><u>Word Processing/Typing</u></p> <ul style="list-style-type: none"> • Use the space bar only once between words and use touch to navigate to words letter to edit • copy and paste images and text • Use caps locks for capital letters. • Add images alongside text in a word-processed document. 	<p><u>Taken from the National Curriculum</u></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • use sequence, selection, and repetition in programs, work with variables and various forms of input and output • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • 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 • use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact <p><u>Taken from MR P ICT</u></p> <p><u>Information Technology</u></p> <p><u>Word Processing/Typing</u></p> <ul style="list-style-type: none"> • Confidently choose the best application to demonstrate learning. • Format text to suit a purpose. • Publish documents online regularly and discuss the audience and purpose of content.

- dictate longer passages into a digital device with accurate punctuation.

Data Handling

- Sort digital objects into a range of charts such as Venn diagrams, carroll diagrams and bar charts using different apps and software.
- Orally record myself explaining what the data shows me.
- Create a branching database using questions

Presentations, web design and eBook Creation

- Add voice labels to an image.
- Add a voice recording to a storyboard.
- Add speech bubbles to an image to show what a character thinks.
- Import images to a project from the web and camera roll

Animation

- Create multiple animations of an image and edit these together.
- Create a simple stop motion animation.
- Explain how an animation/flip book works

Video Creation

- Write and record a script using a teleprompter tool.
- Use tools to add effects to a video
- Begin to use green screen techniques with support

Photography and Digital Art

- Edit a photo (crop, filters, mark up etc)
- Select and use tools to create digital imagery - controlling the pen and using the fill tool
- Cut images with accuracy to layer on other images.

Augmented Reality and Virtual Reality

- Draw my own 360 image and explore it in VR.
- Bring objects into my surroundings using Augmented Reality.

Data Handling

- Write spreadsheet formula to solve more challenging maths problems.
- Create and publish online a quiz with a range of media (images and video)

Presentations, web design and eBook Creation

- Create a web site which includes a variety of media.
- Design an app prototype that links multimedia pages together with hyperlinks.
- Choose applications to communicate to a specific audience.
- Evaluate my own content and consider ways to improvements.

Animation

- Mix animations and videos recordings of myself to create video interviews.
- Plan, script, create a 3D animation to explain a concept or tell a story.
- Choose and create different types of animations to best explain my learning.

Video Creation

- Use the green screen masking tool with more than one character. Use picture in picture tools in iMovie.
- Add animated subtitles to my film to further enhance my creation.
- Create videos using a range of media - green screen, animations, film and image.

Photography and Digital Art

- Edit a picture to remove items, add backgrounds, merge 2 photos
- Evaluate and discuss images explaining effects and filters that have been used to enhance the media.
- Use a 3D drawing app to create a realistic representation of world objects

Augmented Reality and Virtual Reality

- Edit a picture to remove items, add backgrounds, merge 2 photos
- Evaluate and discuss images explaining effects and filters that have been used to enhance the media.
- Use a 3D drawing app to create a realistic representation of world objects

Sound

- Add voice over and edit sound clips (volume, pitch, fade, effect) to use in a film or radio broadcast (podcast)
- Compose a soundtrack that can be added to a film project.

Computer Science

<ul style="list-style-type: none"> • Create my own QR code. <p><u>Sound</u></p> <ul style="list-style-type: none"> • Create a musical composition using software • Record my own sound effects. • Record my voice over a compositions to perform a song. <p><u>Computer Science</u></p> <p><u>Computational Thinking</u></p> <ul style="list-style-type: none"> • Write algorithms for everyday tasks • Use logical reasoning to predict the outcome of algorithms • Understand decomposition is breaking objects/processes down • Implement simple algorithms on digital devices (Bee Bots, Apps: Daisy the Dino) • Debug algorithms <p><u>Coding and Programming</u></p> <ul style="list-style-type: none"> • Understand programs execute by following precise and unambiguous instructions • Create programs on a variety of digital devices • Debug programs of increasing complexity • Use logical reasoning to predict the outcome of simple programs <p><u>Digital Literacy</u></p> <p><u>Self Image and Identity</u></p> <ul style="list-style-type: none"> • Explain how other people’s identity online can be different to their identity in real life. • Describe ways in which people might make themselves look different online. • Give examples of issues online that might make me feel sad, worried, uncomfortable or frightened; I can give examples of how I might get help. 	
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<p><u>Computational Thinking</u></p> <ul style="list-style-type: none"> • Recognise, and make use, of patterns across programming projects • Write precise algorithms for use when programming • Identify variables needed and their use in selection and repetition • Decompose code into sections for effective debugging • Critically evaluate my work and suggest improvements <p><u>Coding and Programming</u></p> <ul style="list-style-type: none"> • Use a range of sequence, selection and repletion commands combined with variables as required to implement my design • Create procedures to hide complexity in programs • Identify and write generic code for use across multiple projects • Critically evaluate my work and suggest improvements • Identify and use basic HTML tags (See Computer Networks objectives) <p><u>Computer Networks</u></p> <ul style="list-style-type: none"> • Understand what HTML is and recognize HTML tags • Know a range of HTML tags and can remix a web page • Create a webpage using HTML <p><u>Digital Literacy</u></p> <p><u>Self-Image and Identity</u></p> <ul style="list-style-type: none"> • Describe ways in which media can shape ideas about gender. • Identify messages about gender roles and make judgements based on them. • Challenge and explain why it is important to reject inappropriate messages about gender online. • Describe issues online that might make me or others feel sad, worried, uncomfortable or frightened. I know and can give examples of how I might get help, both on and offline. • Explain why I should keep asking until I get the help I need. <p><u>Online Relationships</u></p> <ul style="list-style-type: none"> • Show I understand my responsibilities for the well-being of others in my online social group. • Explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming). 	
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<p>Online Relationships</p> <ul style="list-style-type: none"> • Use the internet to communicate with people I do not know well (e.g. email a pen pal in another school/ country). • Give examples of how I might use technology to communicate with others, I do not know well. <p>Online Reputation</p> <ul style="list-style-type: none"> • Explain how information put online about me can last for a long time. • Know who to talk to if I think someone has made a mistake about putting something online. <p>Online Bullying</p> <ul style="list-style-type: none"> • Give examples of bullying behaviour and how it could look online. • Understand how bullying can make someone feel. • Talk about how someone can/would get help about being bullied online or offline. <p>Managing Online Information</p> <ul style="list-style-type: none"> • Use keywords in search engines. • Demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections). • Explain what voice activated searching is and how it might be used (e.g. Alexa, Google Now, Siri). • Explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real.' • Explain why some information I find online may not be true. <p>Health, Well-being and Lifestyle</p> <ul style="list-style-type: none"> • Explain simple guidance for using technology in different environments and settings. • Say how those rules/guides can help me <p>Privacy and Security</p>	<ul style="list-style-type: none"> • Demonstrate how I would support others (including those who are having difficulties) online. • Demonstrate ways of reporting problems online for both myself and my friends. <p><u>Online Reputation</u></p> <ul style="list-style-type: none"> • Explain how I am developing an online reputation which will allow other people to form an opinion of me. • Describe some simple ways that help build a positive online reputation <p><u>Online Bullying</u></p> <ul style="list-style-type: none"> • Describe how to capture bullying content as evidence (e.g. screengrab, URL, profile) to share with others who can help me. • Identify a range of ways to report concerns both in school and at home about online bullying. <p><u>Managing Online Information</u></p> <ul style="list-style-type: none"> • Use search technologies effectively. • Explain how search engines work and how results are selected and ranked. • Demonstrate the strategies I would apply to be discerning in evaluating digital content. • Describe how some online information can be opinion and can offer examples. • Explain how and why some people may present 'opinions' as 'facts'. • Define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online (e.g. advertising and 'ad targeting'). • Demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and explain why using these strategies are important. • Identify, flag and report inappropriate content. <p><u>Health, Well-being and Lifestyle</u></p> <ul style="list-style-type: none"> • Describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose. • Assess and action different strategies to limit the impact of technology on my health (e.g. nightshift mode, regular breaks, correct posture, sleep, diet and exercise). • Explain the importance of self-regulating my use of technology; I can demonstrate the strategies I use to do this (e.g. monitoring my time online, avoiding accidents).
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	<ul style="list-style-type: none"> Describe how online information about me could be seen by others Describe and explain some rules for keeping my information private. Explain what passwords are and can use passwords for my accounts and devices. Explain how many devices in my home could be connected to the internet and can list some of those devices. <p><u>Copyright and Ownership</u></p> <ul style="list-style-type: none"> Describe why other people's work belongs to them. Recognise that content on the internet may belong to other people 	<p><u>Privacy and Security</u></p> <ul style="list-style-type: none"> Use different passwords for a range of online services. Describe effective strategies for managing those passwords (e.g. password managers, acronyms, stories). Know what to do if my password is lost or stolen. Explain what app permissions are and can give some examples from the technology or services I use. Describe simple ways to increase privacy on apps and services that provide privacy settings. Describe ways in which some online content targets people to gain money or information illegally Describe strategies to help me identify such content (e.g. scams, phishing) <p><u>Copyright and Ownership</u></p> <ul style="list-style-type: none"> Demonstrate the use of search tools to find and access online content which can be reused by others. Demonstrate how to make references to and acknowledge sources I have used from the internet
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Cycle B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit 2 Year 1 & 2	Programming - My Robot Helper ScratchJr	Programming - Knock Knock Joke	Data Handling - Digital Venn Diagrams	Photography - Simple Photoshopping	Presentations - Interactive Images	Video Creation - Masking Storytime
Unit 3 Year 3 & 4	Physical Computing - Crumble powered robot orchestra	Programming - Makey Makey Games Controller	Data Handling - Online Questionnaire	Presentation - Digital Posters	Sound - Movie Soundtrack	Video Creation - Visual Storytelling
Unit 4 Year 5 & 6	Programming - 3D Letters Beetle Blocks	Programming - Scratch Game	Animation - 3D Animated Cartoon	AR & VR - Interactive VR Experience	Presentation - App Prototype	Video Creation - Greenscreen Special Effects
Cycle B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit 2 Year 1 & 2	Programming - My Robot Helper ScratchJr	Programming - Knock Knock Joke	Data Handling - Digital Venn Diagrams	Photography - Simple Photoshopping	Presentations - Interactive Images	Video Creation - Masking Storytime
Unit 3 Year 3 & 4	Physical Computing - Crumble powered robot orchestra	Programming - Makey Makey Games Controller	Data Handling - Online Questionnaire	Presentation - Digital Posters	Sound - Movie Soundtrack	Video Creation - Visual Storytelling
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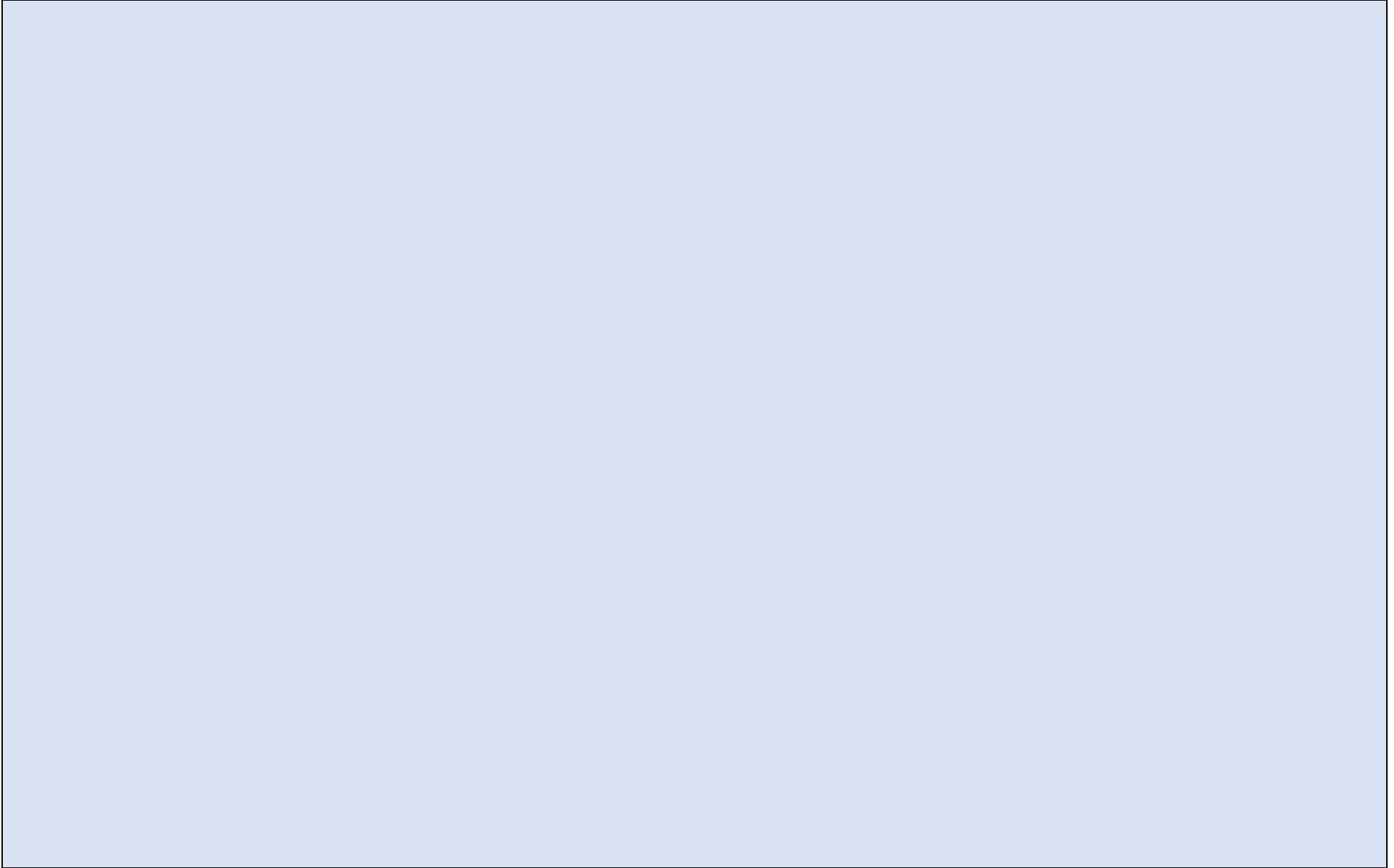
Early Years Foundation Stage

In EYFS, teachers deliver a curriculum guided by 'Development Matters' and much of their experience with computing and IT is delivered through a continuous provision approach. Below is a break down of the EYFS curriculum and objectives covered using the Mr P ICT progression charts.

<u>Computing</u> <u>Computer</u> <u>Science and</u> <u>Information</u> <u>Technology</u>	1.Follow simple oral algorithms. 2.Sort physical objects, take a picture and discuss what I have done.	1.Take a photo on an ipad. 2.Record sounds with different resources.	1.Sequence familiar tasks. 2.Play a touch screen game. 3.Dictate short sentences into a digital device. 4. Can scan a QR code.	1.Record my voice over a picture. 2.Record a short film using an ipad. 3.Use a painting app and explore the paint and brush tools. 4.Record sounds/voices	1.Input a simple sequence of commands to control a digital device (Bee Bot). 2. Know the difference between photography and video.	1.I can spot simple patterns. 2.Use an ipad and internet browser to find out more information. 3.Suggest what we can use the internet for (finding information, watching videos,
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				in storytelling and explanations.		communicating with people)
<u>Digital Literacy/ESafety</u>	<p>1.Recognise that I can say ‘no’/‘please stop’ to somebody who asks me to do something that makes me feel sad, embarrassed or upset. Can explain how this could be in real life or online.</p> <p>2.Can give examples of how they might use technology to communicate with people they know (walkie talkies, sound buttons). Know that what is said needs to make people feel happy not sad.</p> <p>3.Can describe ways that some people can be unkind online. Can offer examples of how this can make others feel.</p> <p>4.Can talk about how to use the internet to find things out.</p> <p>5.Can identify rules that help keep us safe and healthy in and beyond the home when using technology and can give some examples.</p> <p>6.Can identify some simple examples of my personal information (age, date of birth, address) and describe the people I can trust and share this information with.</p> <p>7.Name my work so that others know it belongs to me.</p>					

<u>Computing in continuous provision</u>	<p>Children will be able to access and use a variety of technological equipment throughout their time in foundation.</p> <p>Walkie talkies, headphones, CD player, AR globe, sound buttons/clips, ipads, Bee bots, role play laptop with keyboard.</p>
<u>Seesaw</u>	<ol style="list-style-type: none"> 1. I can use Seesaw at home with my family 2. I can use the drawing tools on Seesaw 3. I can take a photo 4. I can record my voice over a picture







Knowledge, Skills and Understanding breakdown for Computing

Unit 2 (Year 1 & 2)

Year Group	Strand	Focus	Device Required	App or Software
1	Animation	Creating a Cartoon	iPad	Puppetpals (Paid)
	Video Creation	Animated Character	iPads	Chatterpix Kids (Free)
	Video Creation	Video	iPads	Shadow Puppets Edu (Free)
	Data Handling	Pictograms	iPad or Chromebooks	Pic Collage or Seesaw (Free)
	Programming	Robot Maze Game	All Devices	Scratch Jnr (Free)
	Programming	Animations	All Devices	Scratch Jnr (Free)
2	Presentations	Interactive Image	All Devices	Thinglink (Free)
	Photo & Dig Art	Photoshopping	iPad	Pic Collage
	Data Handling	Venn Diagram	iPad or Chromebooks	Pic Collage or Seesaw (Free)
	Video Creation	Masking Storytime	iPad	Doink Greenscreen (Paid)
	Programming	Knock Knock Joke	All Devices	Scratch Jnr (Free)
	Programming	Robot Helper	All Devices	Scratch Jnr (Free)

Cycle A Year 1 (A)

Programming – Robot Maze Game in ScratchJr

Programming – Animations in ScratchJr

Video creation – Creating Our Own Video

Animation – Creating a Cartoon

Data handling – Digital Pictograms

Animation – Bringing a Character to Life

Year 1 Computing Overview - Information Tech

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Word Processing/ Typing	Co2/I.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content	<ul style="list-style-type: none"> I can confidently type words quickly and correctly on a digital device. I can use the space bar to make space and delete to delete letters/ words I can make a new line using enter/return I can dictate into a digital device more accurately and with punctuation. 				
Data Handling		<ul style="list-style-type: none"> I can sort images or text into two or more categories on a digital device. I can collect data on a topic. I can create a tally chart and pictogram. I can record myself explaining what I have done and what it shows me. 				
Presentations, web design and eBook Creation		<ul style="list-style-type: none"> I can add voice labels to an image. I can add a voice recording to a storyboard. I can add speech bubbles to an image to show what a character thinks. I can import images to a project from the web and camera roll 				
Animation		<ul style="list-style-type: none"> I can add filters and stickers to enhance an animation of a character. I can create an animation to tell a story with more than one scene. I can add my own pictures to my story animation. 				
Video Creation		<ul style="list-style-type: none"> I can record a film using the camera app. I can select images and record a voiceover. I can highlight and zoom into images as I record. 				
Photography and Digital Art		<ul style="list-style-type: none"> I can edit a photo with simple tools I can use a paint/drawing app to create a digital image I can begin to cut out an image to layer on another image. 				
Augmented Reality and Virtual Reality		<ul style="list-style-type: none"> I can explore an interactive 360 image. I can scan a trigger image to begin a AR experience. I can pretend to interact with AR objects. 				
Sound		<ul style="list-style-type: none"> I can create a sequence of sounds (instruments, apps/software) I can explore short and long sounds. I can record my voice and add different effects. 				

Year 1 Computing Overview - Computer Science

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Computational Thinking	<ul style="list-style-type: none"> Co2/I.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions 	<ul style="list-style-type: none"> I understand what algorithms are I can write simple algorithms I understand the sequence of algorithms is important I can debug simple algorithms I understand that algorithms are implemented as programs on digital devices 				
Coding and Programming	<ul style="list-style-type: none"> Co2/I.2 create and debug simple programs Co2/I.3 use logical reasoning to predict the behaviour of simple programs 	<ul style="list-style-type: none"> I can create a simple program e.g. sequence of instructions for a Bee Bot I can use sequence in programs I can locate and fix bugs in my program 				

Digital Literacy/ESafety - Education For a Connected World Objectives						
NC Objectiv	Year 1	Skills			Date Covered	
Co2/I.5 recognise common uses of information technology beyond school Co2/I.6 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies	Self Image and Identity	<ul style="list-style-type: none"> I can recognise that there may be people online who could make me 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. 				
	Online Relationships	<ul style="list-style-type: none"> I can use the internet with adult support to communicate with people I know. I can explain why it is important to be considerate and kind to people online. 				
	Online Reputation	<ul style="list-style-type: none"> I can recognise that information can stay online and could be copied. I can describe what information I should not put online without asking a trusted adult first 				
	Online Bullying	<ul style="list-style-type: none"> I can describe how to behave online in ways that do not upset others and can give examples. 				
	Managing Online Information	<ul style="list-style-type: none"> I can use the internet to find things out. I can use simple keywords in search engines I can describe and demonstrate how to get help from a trusted adult or helpline if I find content that makes me feel sad, uncomfortable worried or frightened. 				
	Health ,Well-being and Lifestyle	<ul style="list-style-type: none"> I can explain rules to keep us safe when we are using technology both in and beyond the home. I can give examples of some of these rules. 				
	Privacy and Security	<ul style="list-style-type: none"> I can recognise more detailed examples of information that is personal to me (e.g. where I live, my family's names, where I go to school). I can explain why I should always ask a trusted adult before I share any information about myself online. 				
	Copyright and Ownership	<ul style="list-style-type: none"> I can explain why work I create using technology belongs to me. I can say why it belongs to me (e.g. 'it is my idea' or 'I designed it'). I can save my work so that others know it belongs to me (e.g. filename, name on content). 				

© ICT With Mr P

Cycle B Year 2 (B)

Programming – My Robot Helper ScratchJr

Programming – Knock Knock Joke

Data handling – Digital Venn Diagrams

Photography – Simple Photoshopping

Presentations – Interactive Images

Video creation – Masking Storytime

Year 2 Computing Overview - Information Tech

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Word Processing/ Typing	Co2/I.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content	<ul style="list-style-type: none"> I can use the space bar only once between words and use touch to navigate to words letter to edit I can copy and paste images and text Use caps locks for capital letters. I can add images alongside text in a word processed document. I can dictate longer passages into a digital device with accurate punctuation. 				
Data Handling		<ul style="list-style-type: none"> I can sort digital objects into a range of charts such as Venn diagrams, carroll diagrams and bar charts using different apps and software. I can orally record myself explaining what the data shows me. I can create a branching database using questions 				
Presentations, web design and eBook Creation		<ul style="list-style-type: none"> I can add voice labels to an image. I can add a voice recording to a storyboard. I can add speech bubbles to an image to show what a character thinks. I can import images to a project from the web and camera roll 				
Animation		<ul style="list-style-type: none"> I can create multiple animations of an image and edit these together. I can create a simple stop motion animation. I can explain how an animation/flip book works 				
Video Creation		<ul style="list-style-type: none"> I can write and record a script using a teleprompter tool. I can use tools to add effects to a video I can begin to use green screen techniques with support 				
Photography and Digital Art		<ul style="list-style-type: none"> I can edit a photo (crop, filters, mark up etc) I can select and use tools to create digital imagery - controlling the pen and using the fill tool I can cut images with accuracy to layer on other images. 				
Augmented Reality and Virtual Reality		<ul style="list-style-type: none"> I can draw my own 360 image and explore it in VR. I can bring objects into my surroundings using Augmented Reality. I can create my own QR code. 				
Sound		<ul style="list-style-type: none"> Create a musical composition using software I can record my own sound effects. I can record my voice over a compositions to perform a song. 				

Year 2 Computing Overview - Computer Science

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Computational Thinking	<ul style="list-style-type: none"> Co2/I.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions 	<ul style="list-style-type: none"> I can write algorithms for everyday tasks I can use logical reasoning to predict the outcome of algorithms I understand decomposition is breaking objects/processes down I can implement simple algorithms on digital devices (Bee Bots, Apps: Daisy the Dino) I can debug algorithms 				
Coding and Programming	<ul style="list-style-type: none"> Co2/I.2 create and debug simple programs Co2/I.3 use logical reasoning to predict the behaviour of simple programs 	<ul style="list-style-type: none"> I understand programs execute by following precise and unambiguous instructions I can create programs on a variety of digital devices I can debug programs of increasing complexity I can use logical reasoning to predict the outcome of simple programs 				

Digital Literacy/ESafety - Education For a Connected World Objectives						
NC Objectiv	Year 2	Skills	Date Covered			
Co2/I.5 recognise common uses of information technology beyond school Co2/I.6 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies	Self Image and Identity	<ul style="list-style-type: none"> I can explain how other people's identity online can be different to their identity in real life. I can describe ways in which people might make themselves look different online. I can give examples of issues online that might make me feel sad, worried, uncomfortable or frightened; I can give examples of how I might get help. 				
	Online Relationships	<ul style="list-style-type: none"> I can use the internet to communicate with people I don't know well (e.g. email a penpal in another school/ country). I can give examples of how I might use technology to communicate with others I don't know well. 				
	Online Reputation	<ul style="list-style-type: none"> I can explain how information put online about me can last for a long time. I know who to talk to if I think someone has made a mistake about putting something online. 				
	Online Bullying	<ul style="list-style-type: none"> I can give examples of bullying behaviour and how it could look online. I understand how bullying can make someone feel. I can talk about how someone can/would get help about being bullied online or offline. 				
	Managing Online Information	<ul style="list-style-type: none"> I can use 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 (e.g. Alexa, Google Now, Siri). I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'. I can explain why some information I find online may not be true. 				
	Health ,Well-being and Lifestyle	<ul style="list-style-type: none"> I can explain simple guidance for using technology in different environments and settings. I can say how those rules/guides can help me 				
	Privacy and Security	<ul style="list-style-type: none"> I can describe how online information about me could be seen by others I can describe and explain some rules for keeping my information private. I can explain what passwords are and can use passwords for my accounts and devices. I can explain how many devices in my home could be connected to the internet and can list some of those devices. 				
	Copyright and Ownership	<ul style="list-style-type: none"> I can describe why other people's work belongs to them. I can recognise that content on the internet may belong to other people. 				

Knowledge, Skills and Understanding breakdown for Computing

Unit 3 (Year 3 & 4)

Cycle A (A)

Programming – Animations in Scratch

Physical computing – Crumble Powered Historical Scenes

AR and VR – Creating 360 Images

Data handling – Interactive Story Graphs

Presentation – Interactive Comics

Video creation – VoiceOver Film

Year 3 Computing Overview - Information Tech

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Word Processing/ Typing	Co2/1.6 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.	<ul style="list-style-type: none"> I can use index fingers on keyboard home keys (f/j), use left fingers for a/s/d/f/g, and use right fingers for h/j/k/l I can edit the style and effect of my text and images to make my document more engaging and eye-catching. For example, borders and shadows. I can use cut, copy and paste to quickly duplicate and organise text. 				
Data Handling		<ul style="list-style-type: none"> I can create my own sorting diagram and complete a data handling activity with it using images and text. I can start to input simple data into a spreadsheet. I can create a feelings chart exploring a story or character's feelings. 				
Presentations, web design and eBook Creation		<ul style="list-style-type: none"> I can create an interactive comic with sounds, formatted text and video. I can annotate an image with videos I can create a simple web page. I can create a simple digital timeline/mindmap 				
Animation		<ul style="list-style-type: none"> I can create animations of faces to speak in role with more life-like realistic outcomes. I can improve stop motion animation clips with techniques like onion skinning. I can use animation tools in presenting software to create simple animations. 				
Video Creation		<ul style="list-style-type: none"> I can sequence clips of mixed media in a timeline and record a voiceover I can trim and cut film clips and add titles and transitions I can independently create a green screen clip. I can create my own movie trailer. 				
Photography and Digital Art		<ul style="list-style-type: none"> I can confidently take and manipulate photos I can create a digital image using a range of tools, pens, brushes and effects I can create transparent images with Instant Alpha 				
Augmented Reality and Virtual Reality		<ul style="list-style-type: none"> I can create my own digital 360 image and explore it in VR I can create my own images and bring it into my surroundings through AR. 				
Sound		<ul style="list-style-type: none"> I can create and edit purposeful compositions using music software to create mood or a certain style I can experiment with live loops to create a song. 				

Year 3 Computing Overview - Computer Science

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Computational Thinking	<ul style="list-style-type: none"> Co2/I.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Co2/I.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output 	<ul style="list-style-type: none"> I can create algorithms for use when programming I can decompose tasks (such as animations) into separate steps to create an algorithm I understand abstraction is focusing on important information I can identify patterns in an algorithm I can use repetition in algorithms 				
Coding and Programming	<ul style="list-style-type: none"> Co2/I.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Co2/I.4 understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration 	<ul style="list-style-type: none"> I can design and create programs I can write programs that accomplish specific goals I can use repetition in programs I can work with various forms of input 				
Computer Networks	<ul style="list-style-type: none"> Co2/I.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 	<ul style="list-style-type: none"> I understand that computers in a school are connected together in a network I understand why computers are networked I understand the difference between the Internet and the World Wide Web (WWW) 				

Digital Literacy/ESafety - Education For a Connected World Objectives

NC Objectives	Year 3	Skills	Date Covered			
Co2/I.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Self Image and Identity	<ul style="list-style-type: none"> I can explain what is meant by the term 'identity'. I can explain how I can represent myself in different ways online. I can explain ways in which and why I might change my identity depending on what I am doing online (e.g. gaming; using an avatar; social media). 				
	Online Relationships	<ul style="list-style-type: none"> I can describe ways people who have similar likes and interests can get together online. I can give examples of technology-specific forms of communication (e.g. emojis, acronyms, text speak). I can explain some risks of communicating online with others I don't know well. I can explain how my and other people's feelings can be hurt by what is said or written online. I can explain why I should be careful who I trust online and what information I can trust them with. I can explain why I can take back my trust in someone or something if I feel nervous, uncomfortable or worried. I can explain what it means to 'know someone' online and why this might be different from knowing someone in real life. I can explain what is meant by 'trusting someone online'. I can explain why this is different from 'liking someone online'. 				
	Online Reputation	<ul style="list-style-type: none"> I can search for information about myself online. I can recognise I need to be careful before I share anything about myself or others online. I know who I should ask if I am not sure if I should put something online. 				
	Online Bullying	<ul style="list-style-type: none"> I can explain what bullying is and can describe how people may bully others. I can describe rules about how to behave online and how I follow them. 				

Digital Literacy/ESafety - Education For a Connected World Objectives

<u>NC Objectives</u>	<u>Year 3</u>	<u>Skills</u>	<u>Date Covered</u>		
<p>Co2/I.4 understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration</p> <p>Co2/I.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>	Managing Online Information	<ul style="list-style-type: none"> I can use key phrases in search engines. I can explain what autocomplete is and how to choose the best suggestion. I can explain how the internet can be used to sell and buy things I can explain the difference between a 'belief', an 'opinion' and a 'fact'. 			
	Health ,Well-being and Lifestyle	<ul style="list-style-type: none"> I can explain why spending too much time using technology can sometimes have a negative impact on me; I can give some examples of activities where it is easy to spend a lot of time engaged (e.g. games, films, 			
	Privacy and Security	<ul style="list-style-type: none"> I can give reasons why I should only share information with people I choose to and can trust. I can explain that if I am not sure or I feel pressured, I should ask a trusted adult. I understand and can give reasons why passwords are important. I can describe simple strategies for creating and keeping passwords private. I can describe how connected devices can collect and 			
	Copyright and Ownership	<ul style="list-style-type: none"> I can explain why copying someone else's work from the internet without permission can cause problems. I can give examples of what those problems might be. 			

Cycle B (B)

Physical Computing – Crumble Powered Robot Orchestra

Programming – Makey Makey Games Controller

Data-Handling – Online Questionnaire

Presentation – Digital Posters

Sound – Movie Soundtrack

Video Creation – Visual Storytelling

Year 4 Computing Overview - Information Tech

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Word Processing/ Typing	Co2/1.6 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.	<ul style="list-style-type: none"> I can combine digital images from different sources, objects, and text to make a final piece of a variety of tasks: posters, documents, eBooks, scripts, leaflets. Confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text Use font sizes appropriately for audience and purpose.\Use spell check and thesaurus including through Siri and other AI technology 				
Data Handling		<ul style="list-style-type: none"> I can create my own online multiple choice questionnaire. I can input data into a spreadsheet and export the data in a variety of ways: charts, bar charts, pie charts. I understand how data is collected. 				
Presentations, web design and eBook Creation		<ul style="list-style-type: none"> I can create an interactive quiz eBook introducing hyperlinks. I can create an eBook with text, images and sound. I can create a presentation demonstrating my understanding with a range of media. I can create a digital timeline/mindmap and include different media - sound and video. 				
Animation		<ul style="list-style-type: none"> I can take multiple animations of a character I have created and edit them together for a longer video. I can use software to create a 3D animated story. I can use line draw tool to create animations. 				
Video Creation		<ul style="list-style-type: none"> I can add music and sound effects to my films I can add animated titles and transitions I can add simple subtitles to a video clip. I can use confidently use green screen adding animated backgrounds. 				
Photography and Digital Art		<ul style="list-style-type: none"> I can enhance digital images and photographs using crop, brightness, contrast & resize I can manipulate shapes to create digital art. I can draw a series of images and export as an animated GIF 				
Augmented Reality and Virtual Reality		<ul style="list-style-type: none"> I can create my own 360 video. I can use the camera to create a 360 image. I can add multiple objects into my surroundings through AR to explain a concept. 				
Sound		<ul style="list-style-type: none"> Edit sound effects for a purpose. Create a simple four chord song following the correct rhythm. I can record a radio broadcast or audiobook. 				

Year 4 Computing Overview - Computer Science

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Computational Thinking	<ul style="list-style-type: none"> Co2/I.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Co2/I.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output 	<ul style="list-style-type: none"> I can use abstraction to focus on what's important in my design I can write increasingly more precise algorithms for use when programming. I can use simple selection in algorithms I can use logical reasoning to detect and correct errors in programs 				
Coding and Programming	<ul style="list-style-type: none"> Co2/I.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Co2/I.4 understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration 	<ul style="list-style-type: none"> I can use simple selection in programs I can work with various forms of output I can use logical reasoning to systematically detect and correct errors in programs I can work with various forms of output 				
Computer Networks	<ul style="list-style-type: none"> Co2/I.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 	<ul style="list-style-type: none"> I understand that servers on the Internet are located across the planet I understand how email is sent across the Internet I understand how the Internet enables us to collaborate 				

Digital Literacy/ESafety - Education For a Connected World Objectives

<u>NC Objectives</u>	<u>Year 4</u>	<u>Skills</u>	<u>Date Covered</u>			
Co2/I.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Self Image and Identity	<ul style="list-style-type: none"> I can explain how my online identity can be different to the identity I present in 'real life' Knowing this, I can describe the right decisions about how I interact with others and how others perceive me. 				
	Online Relationships	<ul style="list-style-type: none"> can describe strategies for safe and fun experiences in a range of online social environments I can give examples of how to be respectful to others online. 				
	Online Reputation	<ul style="list-style-type: none"> I can describe how others can find out information about me by looking online. I can explain ways that some of the information about me online could have been created, copied or shared by others. 				
	Online Bullying	<ul style="list-style-type: none"> I can identify some online technologies where bullying might take place. I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat). I can explain why I need to think carefully about how content I post might affect others, their feelings and how it may affect how others feel about them (their reputation). 				

Digital Literacy/ESafety - Education For a Connected World Objectives

<u>NC Objectives</u>	<u>Year 4</u>	<u>Skills</u>	<u>Date Covered</u>		
<p>Co2/I.4 understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration</p> <p>Co2/I.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>	Managing Online Information	<ul style="list-style-type: none"> I can analyse information and differentiate between 'opinions', 'beliefs' and 'facts'. I understand what criteria have to be met before something is a 'fact'. I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites). I can describe some of the methods used to encourage people to buy things online (e.g. advertising offers; in-app purchases, pop-ups) and can recognise some of these when they appear online. I can explain that some people I 'meet online' (e.g. through social media) may be computer programmes pretending to be real people. can explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true. 			
	Health ,Well-being and Lifestyle	<ul style="list-style-type: none"> I can explain how using technology can distract me from other things I might do or should be doing. I can identify times or situations when I might need to limit the amount of time I use technology. I can suggest strategies to help me limit this time. 			
	Privacy and Security	<ul style="list-style-type: none"> I can explain what a strong password is. I can describe strategies for keeping my personal information private, depending on context. I can explain that others online can pretend to be me or other people, including my friends I can suggest reasons why they might do this I can explain how internet use can be monitored. 			
	Copyright and Ownership	<ul style="list-style-type: none"> When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. I can give some simple examples. 			

Knowledge, Skills and Understanding breakdown for Computing

Unit 4 (Year 5 & 6)

Cycle A (A)

Programming – Quizzes in Scratch

Programming – Y5 Scratch Platform Game

Animation – Character Interviews

AR and VR – Interactive Displays

Sound – Four Called Remix

Video creation – Green Screen News Report

Year 5 Computing Overview - Information Tech

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Word Processing/ Typing	Co2/1.6 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, evalu ating and presenting data and information.	<ul style="list-style-type: none"> I can start to apply other useful effects to my documents such as hyperlinks. I can import sounds to accompany and enhance the text in my document. I can organise and reorganise text on screen to suit a purpose 				
Data Handling		<ul style="list-style-type: none"> I can create and publish my own online questionnaire and analyse the results. I can use simple formulae to solve calculations including =sum and other statistical functions I can edit and format difference cells in a spreadsheet. 				
Presentations, web design and eBook Creation		<ul style="list-style-type: none"> I can collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365 I can create and export an interactive presentation including a variety of media, animations, transitions and other effects. I can create an interactive guide to a image by embedding digital content and publishing it online. I can create a webpage and embed video. 				
Animation		<ul style="list-style-type: none"> I can record animations of different characters and edit them together to create an interview. I can add green screen effects to a stop motion animation. I can create flip book animation using digital drawings and export as a Gif or video 				
Video Creation		<ul style="list-style-type: none"> I can use cutaway and split screen tools in iMovie. I can evaluate and improve the best video tools to best explain my understanding. I can further improve green screen clips using crop and resize and explore more creative ways to use the tool - wearing green clothes and the masking tool. 				
Photography and Digital Art		<ul style="list-style-type: none"> I can make a digital photo using camera settings I can enhance digital photos and images using crop, brightness and resize tools I can link and explain how to photoshop images and how this is used in the media 				
Augmented Reality and Virtual Reality		<ul style="list-style-type: none"> I can create an interactive VR experience. I can create an animated object and bring it into my surroundings through AR I can create an AR experience using objects I have created to explain a concept. 				
Sound		<ul style="list-style-type: none"> Add voice over and edit sound clips (volume, pitch, fade, effect) to create a podcast. Create a remix of a popular song. 				

Year 5 Computing Overview - Computer Science

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Computational Thinking	<ul style="list-style-type: none"> Co2/I.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Co2/I.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output 	<ul style="list-style-type: none"> I can solve problems by decomposing them into smaller parts I can use selection in algorithms I can recognise the need for conditions in repetition within algorithms I can use logical reasoning to explain how a variety of algorithms work I can use logical reasoning to detect and correct errors in algorithms I can evaluate my work and identify errors 				
Coding and Programming	<ul style="list-style-type: none"> Co2/I.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Co2/I.4 understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration 	<ul style="list-style-type: none"> I can create programs by decomposing them into smaller parts I can use selection in programs I can use conditions in repetition commands I can work with variables I can create programs that control or simulate physical systems I can evaluate my work and identify errors 				
Computer Networks	<ul style="list-style-type: none"> Co2/I.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 	<ul style="list-style-type: none"> I understand how we view web pages on the Internet I use search technologies effectively I understand that web spiders index the web for search engines I appreciate how pages are ranked in a search engine 				

Digital Literacy/ESafety - Education For a Connected World Objectives

<u>NC Objectives</u>	<u>Year 5</u>	<u>Skills</u>	<u>Date Covered</u>			
Co2/I.7 use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and contact	Self Image and Identity	<ul style="list-style-type: none"> I can explain how identity online can be copied, modified or altered. I can demonstrate responsible choices about my online identity, depending on context. 				
	Online Relationships	<ul style="list-style-type: none"> I can explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my/our fault. I can make positive contributions and be part of online communities. I can describe some of the communities in which I am involved and describe how I collaborate with others positively. 				
	Online Reputation	<ul style="list-style-type: none"> I can search for information about an individual online and create a summary report of the information I find. I can describe ways that information about people online can be used by others to make judgments about an individual. 				
	Online Bullying	<ul style="list-style-type: none"> I can recognise when someone is upset, hurt or angry online. I can describe how to get help for someone that is being bullied online and assess when I need to do or say something or tell someone. I can explain how to block abusive users. I can explain how I would report online bullying on the apps and platforms that I use. I can describe the helpline services who can support me and what I would say and do if I needed their help (e.g. Childline). 				

Digital Literacy/ESafety - Education For a Connected World Objectives

NC Objectives	Year 5	Skills	Date Covered		
<p>Co2/1.4 understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration</p> <p>Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>	Managing Online Information	<ul style="list-style-type: none"> I can use different search technologies. I can evaluate digital content and can explain how I make choices from search results. I can explain key concepts including: data, information, fact, opinion belief, true, false, valid, reliable and evidence. I understand the difference between online mis-information (inaccurate information distributed by accident) and dis-information (inaccurate information deliberately distributed and intended to mislead). I can explain what is meant by 'being sceptical'. I can give examples of when and why it is important to be 'sceptical'. I can explain what is meant by a 'hoax'. I can explain why I need to think carefully before I forward anything online. I can explain why some information I find online may not be honest, accurate or legal. I can explain why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation either by accident or on purpose). 			
	Health ,Well-being and Lifestyle	<ul style="list-style-type: none"> I can describe ways technology can affect healthy sleep and can describe some of the issues. I can describe some strategies, tips or advice to promote healthy sleep with regards to technology 			
	Privacy and Security	<ul style="list-style-type: none"> I can create and use strong and secure passwords. I can explain how many free apps or services may read and share my private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others. I can explain how and why some apps may request or take payment for additional content (e.g. in-app purchases) and explain why I should seek permission from a trusted adult before purchasing. 			
	Copyright and Ownership	<ul style="list-style-type: none"> I can assess and justify when it is acceptable to use the work of others. I can give examples of content that is permitted to be reused. 			

Cycle B (B)

Programming – 3-D letters beetle blocks

Programming – scratch game

Animation – 3-D animated cartoon

AR and VR – interactive VR experience

Presentation – app prototype

Video creation – green screen special effects

Year 6 Computing Overview - Information Tech

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Word Processing/ Typing	Co2/I.6 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.	<ul style="list-style-type: none"> I can confidently choose the best application to demonstrate my learning. I can format text to suit a purpose. I can publish my documents online regularly and discuss the audience and purpose of my content. 				
Data Handling		<ul style="list-style-type: none"> I can write spreadsheet formula to solve more challenging maths problems. I can create and publish my own online quiz with a range of media (images and video) 				
Presentations, web design and eBook Creation		<ul style="list-style-type: none"> I can create a web site which includes a variety of media. I can design an app prototype that links multimedia pages together with hyperlinks. I can choose applications to communicate to a specific audience. I can evaluate my own content and consider ways to improvements. 				
Animation		<ul style="list-style-type: none"> I can mix animations and videos recordings of myself to create video interviews. I can plan, script and create a 3D animation to explain a concept or tell a story. I can choose and create different types of animations to best explain my learning. 				
Video Creation		<ul style="list-style-type: none"> I can use the green screen masking tool with more than one character. I can use picture in picture tools in iMovie. I can add animated subtitles to my film to further enhance my creation. I can create videos using a range of media - green screen, animations, film and image. 				
Photography and Digital Art		<ul style="list-style-type: none"> I can edit a picture to remove items, add backgrounds, merge 2 photos I can evaluate and discuss images explaining effects and filters that have been used to enhance the media. Use a 3D drawing app to create a realistic representation of world objects 				
Augmented Reality and Virtual Reality		<ul style="list-style-type: none"> I can edit a picture to remove items, add backgrounds, merge 2 photos I can evaluate and discuss images explaining effects and filters that have been used to enhance the media. Use a 3D drawing app to create a realistic representation of world objects 				
Sound		<ul style="list-style-type: none"> Add voice over and edit sound clips (volume, pitch, fade, effect) to use in a film or radio broadcast (podcast) Compose a soundtrack that can be added to a film project. 				

Year 6 Computing Overview - Computer Science

Computing Strand	NC Objectives	Skills/Knowledge	Date covered			
Computational Thinking	<ul style="list-style-type: none"> Co2/I.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Co2/I.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output 	<ul style="list-style-type: none"> I can recognise, and make use, of patterns across programming projects I can write precise algorithms for use when programming I can identify variables needed and their use in selection and repetition I can decompose code into sections for effective debugging I can critically evaluate my work and suggest improvements 				
Coding and Programming	<ul style="list-style-type: none"> Co2/I.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Co2/I.4 understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration 	<ul style="list-style-type: none"> I can use a range of sequence, selection and repetition commands combined with variables as required to implement my design I can create procedures to hide complexity in programs I can identify and write generic code for use across multiple projects I can critically evaluate my work and suggest improvements I can identify and use basic HTML tags (See Computer Networks objectives) 				
Computer Networks	<ul style="list-style-type: none"> Co2/I.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 	<ul style="list-style-type: none"> I understand what HTML is and recognize HTML tags I know a range of HTML tags and can remix a web page I can create a webpage using HTML 				

Digital Literacy/ESafety - Education For a Connected World Objectives

<u>NC Objectives</u>	<u>Year 6</u>	<u>Skills</u>	<u>Date Covered</u>			
Co2/1.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Self Image and Identity	<ul style="list-style-type: none"> I can describe ways in which media can shape ideas about gender. I can identify messages about gender roles and make judgements based on them. I can challenge and explain why it is important to reject inappropriate messages about gender online. I can describe issues online that might make me or others feel sad, worried, uncomfortable or frightened. I know and can give examples of how I might get help, both on and offline. I can explain why I should keep asking until I get the help I need. 				
	Online Relationships	<ul style="list-style-type: none"> I can show I understand my responsibilities for the well-being of others in my online social group. I can explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming). I can demonstrate how I would support others (including those who are having difficulties) online. I can demonstrate ways of reporting problems online for both myself and my friends. 				
	Online Reputation	<ul style="list-style-type: none"> I can explain how I am developing an online reputation which will allow other people to form an opinion of me. I can describe some simple ways that help build a positive online reputation 				
	Online Bullying	<ul style="list-style-type: none"> I can describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me. I can identify a range of ways to report concerns both in school and at home about online bullying. 				

Digital Literacy/ESafety - Education For a Connected World Objectives

NC Objectives	Year 6	Skills	Date Covered		
Co2/I.4 understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration	Managing Online Information	<ul style="list-style-type: none"> • I can use search technologies effectively. • I can explain how search engines work and how results are selected and ranked. • I can demonstrate the strategies I would apply to be discerning in evaluating digital content. • I can describe how some online information can be opinion and can offer examples. • I can explain how and why some people may present 'opinions' as 'facts'. I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online (e.g. advertising and 'ad targeting'). • I can demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important. • I can identify, flag and report inappropriate content. 			
	Health ,Well-being and Lifestyle	<ul style="list-style-type: none"> • I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose. • I can assess and action different strategies to limit the impact of technology on my health (e.g. nightshift mode, regular breaks, correct posture, sleep, diet and exercise). • I can explain the importance of selfregulating my use of technology; I can demonstrate the strategies I use to do this (e.g. monitoring my time online, avoiding accidents). 			
Co2/I.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Privacy and Security	<ul style="list-style-type: none"> • I use different passwords for a range of online services. • I can describe effective strategies for managing those passwords (e.g. password managers, acronyms, stories). • I know what to do if my password is lost or stolen. • I can explain what app permissions are and can give some examples from the technology or services I use. • I can describe simple ways to increase privacy on apps and services that provide privacy settings. I can describe ways in which some online content targets people to gain money or information illegally; • I can describe strategies to help me identify such content (e.g. scams, phishing) 			
	Copyright and Ownership	<ul style="list-style-type: none"> • I can demonstrate the use of search tools to find and access online content which can be reused by others. • I can demonstrate how to make references to and acknowledge sources I have used from the internet 			



Key Skills for Computing Explained

Information Technology



Learners should know that technology is everywhere, be able to identify the technology they encounter and have a growing understanding of how it works. This can be broken down into activities such as word processing, spreadsheets and data handling, presentation, eBook creation, web design, animation, video creation, photography and art, sound and AR & VR. When using these ideas to create content everything should link closely to digital literacy – awareness of audience and good design principles. Pupils should experience a range of different apps and software.

Computer Science



Computer science within our curriculum is broken down into three strands: **Computational Thinking**, **Programming** and **Computer Networks**.

Computational Thinking

This is all about solving problems effectively with or without a computer. Computational thinking is about looking at a problem in a way in which a computer can help us to solve it. This is a two-step process:

- First, we think about the sequence of steps (an algorithm) needed to solve a problem
- Then, we use our technical skills to get the computer working on the problem as we implement our algorithm as code. As demonstrated with Dr Chips' support videos, a lot of these objectives can be applied across the curriculum.

Digital Literacy



Today's children and young people are described as 'Digital Natives' and are growing up in a digital world that is always evolving and changing. As they grow older, it is crucial that they learn to balance the benefits offered by technology with a critical awareness of their own and other's online behaviour and develop effective strategies for staying safe and making a positive contribution online.

	<p><u>Programming</u></p> <p>Learners write algorithms and implement these as code. They also need to be able to find mistakes and fix them (debugging.) Once learners have created a program they need to learn to evaluate and look at different ways to achieve the same goal and which method is most appropriate. As learners get older the programs, they write will become more complex using a range of constructs such as sequence, selection, repetition and variables in their programs.</p> <p><u>Networks</u></p> <p>Pupils are also required to develop understanding of how networks, such as the Internet, work and how searches are performed.</p>	
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