



ESW Computing Curriculum

Overview of Progression

Digital Literacy								
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Literacy	Project/Unit Title		Media Balance Is Important Pause for People Safety in My Online Neighbourhood	Pause and Think Online How Technology Makes You Feel Internet Traffic Light	We, the Digital Citizens Device-Free Moments That’s Private Digital Trails Who is in Your Online Community? Putting a Stop to Online Meanness Let’s Give Credit	Your Rings of Responsibility Password Power-Up This is Me The Power of Words Is Seeing Believing?	My Media Choices Private and Personal Information Our Online Track Keeping Games Fun and Friendly Be a Super Digital Citizen A Creator’s Rights and Responsibilities	Finding My Media Balance You Won’t Believe This! Beyond Gender Stereotypes Digital Friendships Is it Cyberbullying? Reading News Online
	Substantive Knowledge		To know when and why to take breaks from device time. To consider the feelings of people around	To understand the importance of being safe, responsible, and respectful online.	To understand that being a good digital citizen means being safe and responsible online.	To examine both online and in-person responsibilities. To describe the ‘Rings of Responsibilities’	To learn the ‘What? When? How much?’ framework for describing our media choices. To begin to develop our own definition of	To reflect on how balanced you are in your daily lives. To consider what ‘media balance’

			<p>me, even when using technology.</p> <p>To know why it's important to be aware and respectful when using technology.</p> <p>To understand that the internet can be used to visit faraway places and learn new things.</p> <p>To know how to stay safe online.</p> <p>To explain rules for safely using the internet.</p>	<p>To recognise the different kinds of feeling you can have when using technology.</p> <p>To understand that being safe online is similar to staying safe in real life.</p>	<p>To recognise the ways in which digital devices can be distracting.</p> <p>To identify how you feel when others are distracted by their digital devices.</p> <p>To recognise the kind of information that is private.</p> <p>To understand you should never give out private information online.</p> <p>To learn that the information you share online leaves a digital footprint/trail.</p> <p>To explore what information is OK to be shared online.</p>	<p>as a way to think about how our behaviour affects us and others.</p> <p>To define the term 'password' and describe its purpose.</p> <p>To understand why a strong password is important.</p> <p>To consider how posting selfies or other images can lead others to make assumptions about us.</p> <p>To reflect on the most important parts of our unique identities.</p> <p>To understand it's important to think about the words we use.</p>	<p>a healthy media balance.</p> <p>To identify the reasons why people share information about themselves online.</p> <p>To explain the difference between personal and private information.</p> <p>To explain why it is risky to share private information online.</p> <p>To define the term 'digital footprint' and identify the online activities that contribute to it.</p> <p>To understand what responsibilities we have for the digital footprints for ourselves and others.</p>	<p>means and how it applies to you.</p> <p>To define 'the curiosity gap'.</p> <p>To explain how clickbait uses the curiosity gap to get your attention.</p> <p>To define 'gender stereotypes' and describe how they can be present online.</p> <p>To describe how gender stereotypes can lead to unfairness or bias.</p> <p>To compare and contrast different online-only friendships.</p> <p>To describe the benefits and risks</p>
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					<p>To compare and contrast how you are connected to different people and places, in person and on the internet.</p> <p>To understand of how people can connect on the internet.</p> <p>To understand what online meanness can look like and how it makes people feel.</p> <p>To explain how giving credit is a sign of respect for people's work.</p>	<p>To recognise that photos and videos can be altered digitally.</p> <p>To identify different reasons why someone might alter a photo or video.</p>	<p>To define 'social interaction' and give an example.</p> <p>To describe the positives and negatives of social interaction in online games.</p> <p>To reflect on the characteristics that make someone an upstanding digital citizen.</p> <p>To recognise what cyberbullying is.</p> <p>To define 'copyright' and explain how it applies to creative work.</p> <p>To describe our rights and responsibilities as creators.</p>	<p>of online-only friendships.</p> <p>To recognise similarities and differences between in-person bullying, cyberbullying and being mean.</p> <p>To empathise with the targets of cyberbullying.</p> <p>To understand the purposes of different parts of an online news page.</p> <p>To identify the parts and structure of an online news article.</p> <p>To know the things to watch out for when reading online news pages such as sponsored</p>
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								content and advertisements.
Disciplinary Knowledge			<p>To use 'Pause, Breathe, Finish up' as a self-regulation strategy for transitioning from technology to face-to-face interactions.</p>	<p>To learn the 'Pause and Think' strategies for being a good digital citizen.</p> <p>To know what to do when you don't have a good feeling when using technology.</p> <p>To identify websites and apps that are 'just right' or 'not right' for you.</p> <p>To know how to get help from an adult if you are unsure about a website.</p>	<p>To take a pledge to be a good digital citizen.</p> <p>To identify ideal device-free moments for themselves and others.</p> <p>(Implied) Applying this knowledge in practice when online.</p> <p>(Implied) Making decisions about what information to share in different contexts.</p> <p>Using this understanding to map or explain their own online community.</p>	<p>Applying the 'rings' model to evaluate own and others' behaviours.</p> <p>To practise creating a memorable and strong password.</p> <p>To identify ways you can post online to best reflect who we are.</p> <p>To identify ways to respond to mean words online.</p> <p>To decide what statements are ok to say online and which are not.</p>	<p>To use this framework and our emotional responses to evaluate how healthy different types of media choices are.</p> <p>To identify ways we are in control of our digital footprints.</p> <p>To create guidelines for positive social interaction.</p> <p>To share ways to be a super digital citizen.</p> <p>To apply the copyright principles to real-life scenarios.</p>	<p>To create a personalised plan for healthy and balanced media use.</p> <p>To use strategies for avoiding clickbait.</p> <p>To share how gender stereotypes impact who you are.</p> <p>To describe how to respond to an online-only friend if they ask something that makes you uncomfortable.</p> <p>To identify strategies for dealing with cyberbullying and ways you can</p>

					<p>To identify ways to respond to mean words online.</p> <p>To learn how to give credit in your schoolwork for content they use from the internet.</p>	<p>To analyse altered photos and videos to determine why.</p>		<p>support those being cyberbullied.</p>

Computer Science								
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	Project/Unit Title		Moving a Robot Introduction to Animation	Robot Algorithms Introduction to quizzes	Events and Actions Sequence in Music	Repetition in Shapes Repetition in Games	Selection in Games Selection in Physical Computing	Variables in Games Sensing
	Substantive Knowledge		<p>To explain what a given command will do.</p> <p>To act out a given word.</p> <p>To understand forwards and backwards commands to make a sequence.</p> <p>To understand four direction commands to make sequences.</p> <p>To choose a command for a given purpose</p>	<p>To describe a series of instructions as a sequence</p> <p>To explain what happens when we change the order of instructions</p> <p>To use logical reasoning to predict the outcome of a program (series of commands)</p> <p>To explain that programming projects can have code and artwork</p>	<p>To explain how a sprite moves in an existing project</p> <p>To explore a new programming environment</p> <p>To identify that each sprite is controlled by the commands I choose</p> <p>To explain that a program has a start</p> <p>To recognise that a sequence of commands can have an order</p>	<p>To identify that accuracy in programming is important</p> <p>To explain what 'repeat' means</p> <p>To understand the use of count-controlled loops in a different programming environment</p> <p>To explain that in programming there are infinite loops and count-controlled loops</p>	<p>To explain how selection is used in computer programs</p> <p>To relate that a conditional statement connects a condition to an outcome</p> <p>To explain how selection directs the flow of a program</p> <p>To explain that a loop can stop when a condition is met, e.g., number of times</p> <p>To conclude that a loop can be used to repeatedly check</p>	<p>To define a 'variable' as something that is changeable</p> <p>To explain why a variable is used in a program</p> <p>To explain that selection can control the flow of a program</p>

			<p>To show that a series of commands can be joined together</p> <p>To identify the effect of changing a value</p> <p>To explain that each sprite has its own instructions</p>	<p>To explain that a sequence of commands has a start</p> <p>To explain that a sequence of commands has an outcome</p>			whether a condition has been met	
	Disciplinary Knowledge		<p>To plan a simple program</p> <p>To find more than one solution to a problem</p> <p>To design the parts of a project</p> <p>To use my algorithm to create a program</p>	<p>To design an algorithm</p> <p>To create and debug a program that I have written</p> <p>To create a program using a given design</p> <p>To change a given design</p>	<p>To create a program to move a sprite in four directions</p> <p>To adapt a program to a new context</p> <p>To develop my program by adding features</p> <p>To identify and fix bugs in a program</p>	<p>To decompose a program into parts</p> <p>To modify a count-controlled loop to produce a given outcome</p> <p>To create a program in a text-based language</p> <p>To modify an infinite loop in a given program</p>	<p>To design a program which uses selection</p> <p>To create a program which uses selection</p> <p>To write a program that includes count-controlled loops</p> <p>To evaluate my program</p> <p>To design a physical project that includes selection</p>	<p>To choose how to improve a game by using variables</p> <p>To create a program to run on a controllable device</p> <p>To design a project that builds on a given example</p>

				<p>To create a program using my own design</p> <p>To decide how my project can be improved</p>	<p>To design and create a maze-based challenge</p> <p>To change the appearance of my project</p> <p>To create a project from a task description</p>	<p>To create a program that uses count-controlled loops to produce a given outcome</p> <p>To develop a design which includes two or more loops which run at the same time</p> <p>To design a project that includes repetition</p>	<p>To create a controllable system that includes selection</p> <p>To control a simple circuit connected to a computer</p>	<p>To use my design to create a project</p> <p>To evaluate my project</p> <p>To design a project that uses inputs and outputs on a controllable device</p> <p>To update a variable with a user input</p> <p>To develop a program to use inputs and outputs on a controllable device</p> <p>To use a conditional statement to compare a variable to a value</p>

Information Technology								
		EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Information Technology	Project/Unit Title		Technology Around Us Digital Painting Digital Writing Grouping Data	Information Technology Around Us Digital Photography Making Music Pictograms	Connecting Computers Stop Fram Animation Desktop Publishing Branching Databases	The Internet Audio Editing Photo Editing Data Logging	Sharing information Video Editing Vector Drawing Fact-File Databases	Communication Web Page Construction 3D modelling Spreadsheets
	Substantive Knowledge		To identify technology To identify a computer and its main parts To create rules for using technology responsibly To describe what different freehand tools do	To recognise the uses and features of information technology To identify information technology in the home To identify information technology beyond school	To explain how digital devices function To identify input and output devices To recognise how digital devices can change the way we work To explain how a computer network can be	To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web	To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To recognise how information is transferred over the internet To explain how sharing information online lets people in	To identify how to use a search engine To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom

			To use the shape tool and the line tools	To explain how information technology benefits us	used to share information	To describe how content can be added and accessed on the World Wide Web	different places work together	To recognise how we communicate using technology
			To use a computer to write	To show how to use information technology safely	To explore how digital devices can be connected	To recognise how the content of the WWW is created by people	To recognise video as moving pictures, which can include audio	To review an existing website and consider its structure
			To add and remove text on a computer	To know what devices can be used to take photographs	To recognise the physical components of a network	To identify that sound can be digitally recorded	To identify digital devices that can record video	To plan the features of a web page
			To identify that the look of text can be changed on a computer	To recognise that images can be changed	To explain that animation is a sequence of drawings or photographs	To explain that a digital recording is stored as a file	To recognise the features of an effective video	To consider the ownership and use of images (copyright)
			To label objects	To identify that there are patterns in music	To relate animated movement with a sequence of images	To explain that audio can be changed through editing	To identify that video can be improved through reshooting and editing	To recognise the need to preview pages
			To identify that an object can be counted	To describe how music can be used in different ways	To recognise how text and images convey information	To explain that digital images can be changed	To identify that drawing tools can be used to produce different outcomes	To outline the need for a navigation path
			To describe objects in different ways	To show how music is made from a series of notes	To recognise that text and	To explain that digital images can be changed	To create a vector drawing by combining shapes	To recognise the implications of linking to content owned by other people
					To recognise that text and	To change the composition of an image		

				<p>To recognise that we can count and compare objects using tally charts</p> <p>To recognise that objects can be represented as pictures</p> <p>To understand how to create a pictogram</p> <p>To recognise that people can be described by attributes</p> <p>To use tools to change an image</p>	<p>layout can be edited</p> <p>To choose appropriate page settings</p> <p>To create questions with yes/no answers</p> <p>To identify the object attributes needed to collect relevant data</p> <p>To create a branching database</p> <p>To identify objects using a branching database</p>	<p>To describe how images can be changed for different uses</p> <p>To make good choices when selecting different tools</p> <p>To demonstrate that data gathered over time can be used to answer questions</p> <p>To use a digital device to collect data automatically</p> <p>To explain how a data logger collects 'data points' from sensors over time</p>	<p>To use tools to achieve a desired effect</p> <p>To recognise that vector drawings consist of layers</p> <p>To group objects to make them easier to work with</p> <p>To use a form to record information</p> <p>To compare paper and computer-based databases</p> <p>To outline how grouping and then sorting data allows us to answer questions</p> <p>To explain that tools can be used to select specific data</p> <p>To explain that computer programs can be used to</p>	<p>To use a computer to create and manipulate three-dimensional (3D) digital objects</p> <p>To compare working digitally with 2D and 3D graphics</p> <p>To construct a digital 3D model of a physical object</p> <p>To identify that physical objects can be broken down into a collection of 3D shapes</p> <p>To identify questions which can be answered using data</p> <p>To explain that objects can be</p>
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							compare data visually	described using data To explain that formula can be used to produce calculated data
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Disciplinary Knowledge		To make careful choices when painting a digital picture	To recognise that choices are made when using information technology	To plan an animation	To evaluate the consequences of unreliable content	To contribute to a shared project online	To evaluate different methods of online communication	
		To explain why I chose the tools I used	To describe what makes a good photograph	To identify the need to work consistently and carefully	To use a digital device to record sound	To evaluate different ways of working together online	To review an existing website and consider its structure (evaluative)	
		To use a computer on my own to paint a picture	To decide how photographs can be improved	To review and improve an animation	To show that different types of audio can be combined and played together	To consider the impact of the choices made when making and sharing a video	To recognise the implications of linking to content owned by other people (evaluative)	
		To compare painting a picture on a computer and on paper	To select objects by attribute and make comparisons	To evaluate the impact of adding other media to an animation	To add content to a desktop publishing publication	To evaluate my vector drawing	To apply my knowledge of a database to ask and answer real-world questions	To develop and improve a digital 3D model
		To use a computer to write	To explain that we can present information using a computer	To consider how different layouts can suit different purposes	To recognise that not all images are real	To evaluate editing choices made	To capture video using a digital device	To create a spreadsheet to plan an event
		To add and remove text on a computer	To use a digital device to take a photograph	To evaluate the impact of adding other media to an animation	To consider the benefits of desktop publishing	To evaluate how changes can improve an image		To choose suitable ways to present data
		To identify that the look of text can be changed on a computer				To use data collected over a long duration to find information		To design a digital model by

			To count objects with the same properties		To explain why it is helpful for a database to be well structured	To identify the data needed to answer questions		combining 3D objects
			To compare groups of objects		To compare the information shown in a pictogram with a branching database	To use collected data to answer questions		To apply formulas to data, including duplicating
			To answer questions about groups of objects					
			To use a mouse in different ways					
			To use a keyboard to type					
			To use the keyboard to edit text			To show how a data logger collects 'data points' from sensors over time		

Algorithms — Be able to comprehend, design, create, and evaluate algorithms

Computer networks — Understand how networks can be used to retrieve and share information, and how they come with associated risks

Computer systems — Understand what a computer is, and how its constituent parts function together as a whole

Creating media — Select and create a range of media including text, images, sounds, and video

Data and information — Understand how data is stored, organised, and used to represent real-world artefacts and scenarios

Design and development — Understand the activities involved in planning, creating, and evaluating computing artefacts

Effective use of tools — Use software tools to support computing work

Impact of technology — Understand how individuals, systems, and society as a whole interact with computer systems

Programming — Create software to allow computers to solve problems

Safety and security — Understand risks when using technology, and how to protect individuals and systems