

Computing



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science (CS)	Collect simple data and add data to a table or simple graph using a given format	Choose a series of words that can be enacted as a sequence	Identify input and output devices	Describe how networks connect to other networks	Recognise that computers can be part of a system in an electronic device	Identify a variable in an existing program
	Recognise that information can be presented in different ways	Explain what happens when we change the order of instructions	Explain that a computer system accepts an input and processes it to produce an output	Recognise that the World Wide Web is part of the internet and explain that the global interconnection of networks is the internet	Understand that computers can be connected together to form systems	Experiment with the value of an existing variable
	choose a series of words that can be enacted as a program	Choose a series of commands that can be run as a program	Explain how a computer network can be used to share information	Outline how information can be shared via the World Wide Web	See that computers communicate with other devices (including other computers)	Choose a name that identifies the role of a variable to make it more usable (to humans)
	choose a series of commands that can be run as a program	trace a sequence to make a prediction	Explain the role of a switch, server, and wireless access point in a network	List an everyday task as a set of instructions including repetition	Recognise that connections between computers allow us to access shared stored files	Decide where in a program to set a variable
	Run a program on a device	test a prediction by running the sequence	Identify network devices around me	Use an indefinite loop to produce a given outcome	Recognise that internet collaborations can be public or private	Update a variable with a user input
		Create and debug a program that I have written	Explain how networks can be connected to other networks	Use a count-controlled loop to produce a given outcome	Experiment with a 'repeat until' loop	Use an event in a program to update a variable
		Run a program on a device	Build a sequence of commands	Plan a program that includes appropriate loops to produce a given outcome	Use a condition in an 'if... then...' statement to produce a given outcome	Use a variable in a conditional statement to control the flow of a program
			Combine commands in a program		Show that a condition can switch program flow in one of two ways	Use the same variable in more than one location in a program
			Order commands in a program		Use a condition in an 'if... then... else...' statement to produce given outcomes	
			Create a sequence of commands to produce a given outcome		Choose multiple criteria to search data to answer a given question (AND and OR)	
			Retrieve information from different levels of the branching database			
			Build a sequence of commands			
			Combine commands in a program			
			Order commands in a program			
			Create a sequence of commands to produce a given outcome			
Information Technology (IT)	Identify the main parts of a computer	Describe some uses of computers	Use a computer to create an animation	To record sound, to press/tap buttons to start and stop recording	Use a recording device and a computer to make a video	Recall how to use a search engine
	Use a mouse in different ways	Identify information technology in school and beyond	Set up a device to capture stop frame photos capture a series of images and move a subject between captures	To know where the microphone is on a device	Capture video, locate the function on the device to record, press/tap the start/stop button to begin and end recording	Compare the results from different search engines
	Use a keyboard to type and edit text	Capture a digital image (know what button to press or tap to take a picture)	Use tools (onion skinning) to review subject position	To locate recorded audio, select a selection of audio and play it back	To pan left and right, to focus, zoom and compose	Demonstrate that different search terms produce different results
	Use basic tools to create and image: brush tool, tool to draw shapes, tool to draw lines and use the undo button to correct a mistake	To review photographs taken	Play a sequence of images back to review	To apply effects to a selection of audio	Use techniques to create specific effects	Review an existing website (navigation bars, header)
	Use a wider variety of tools to create images: change brush size and colour, change line size and colour and use the fill tool to change colour of shapes	To delete poor quality images	Remove images to improve an animation	To delete audio	Locate video captured on a device and play back	Create a new blank web page
	Recognise that information on a computer can be stored, saved, retrieved, edited and re-saved	To focus, zoom in and zoom out	Add sound effects and texts	Create two or more sequences that run at the same time	Edit a video - select a section of video	Add text to a web page and change the text's appearance and set the style of text on a web page
	Recognise that people around me can view my work on screen, my work can be printed and shared or shared between devices	To edit a photo, recolour and crop	Show that page orientation can be changed	Use a computer to (further) manipulate images	Apply effects to a section of video	Embed media in a web page
			Add text to a placeholder and edit it choosing fonts and effects to apply	Change the composition of an image by rotating, flipping, cropping and cutting out a part	Delete a section of video	Add web pages to a website
			Organise text and image placeholders in a page layout and add and remove images to and from placeholders	Make additions by drawing, adding text and adding elements (e.g borders)	Split a section of video	Insert hyperlinks between pages and to another site
			Move, resize and rotate images	Apply a change globally to adjust colours, apply filters and to add effects	Crop a section of video	Recognise that data can be calculated using different operations
				Apply changes locally to retouch and reuse	Select an appropriate graph to visually compare data	Create 3D graphical objects on a computer screen
						Alter the view of the 3D space
						Place a 3D object in a 3D space



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						Select an object, duplicate and delete an object Reposition objects in three dimensions Rotate objects in three dimensions Resize an object in three dimensions Recolour an object Use an object as a placeholder Recognise the role of scale in design Select multiple objects To group objects To modify multiple objects
Digital Literacy (DL)	Choose a piece of technology to do a job Recognise that some technology can be used in different ways	Show I can enter data onto a computer Use a computer to view data in different formats Use pictograms to answer single-attribute questions Use a computer to answer comparison questions (graphs, tables) Recognise that information on a computer can be stored, saved, retrieved, edited and re-saved Recognise that people around me can view my work on screen, my work can be printed and shared or shared between devices	Export a film Play back and review a film Review a document Recognise that information on a computer can be stored, saved, retrieved, edited and re-saved Recognise that people around me can view my work on screen, my work can be printed and shared or shared between devices	Be able to save and export an audio file Recognise tools that enable more than one process to be run at the same time (concurrency) Choose how often to automatically collect data samples Use a computer program to sort data by one attribute Present data in a table and graph Create two or more sequences that run at the same time	Save and export a video file Navigate a flat-file database Design a structure for a flat-file database and choose different ways to view data Choose different ways to view data Ask questions that need more than one attribute to answer and choose which attribute to sort data by to answer a given question Choose suitable ways to present information to other people	Explain that search terms need to be chosen carefully Evaluate the results of search terms Identify that results from search engines can include adverts, and that the adverts can be targeted Identify different ways to communicate without technology Choose an appropriate method of internet communication for a given purpose Evaluate different methods of online communication Explain which types of media can be shared through the internet, communicating through the internet can be public or private
E-Safety (ES)	Show how to use technology safely Know to ask an adult before they play a game or app Recognise who they can ask for help if they feel worried Understand the need to take turns and share equipment	Show how to use information technology safely To know how to hold a device sensibly and responsibly 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	Recognise the need to keep personal information and passwords private. Recognise the need for a secure password Understand that an adult needs to know what they are doing online and understand how to report concerns, including cyberbullying. Understand that any personal information they put online can be seen and used by others	Understand the need for rules to keep them safe when exchanging ideas online. Understand adult needs to know what they are doing online and understand how to report concerns, including cyberbullying. Recognise the need to choose age-appropriate games to play on their devices, and when to limit use. Understand that any personal information they put online can be seen and used by others.	Understand the need to keep personal information and passwords private, and know how to choose a secure password. Understand appropriate and inappropriate use of the Internet including excessive use. Recognise the risks and rewards of using Internet communication tools and understand how to protect themselves and the devices they use Understand the need to respect the rights of other users, and understand their own responsibility for information that is shared and how it may impact on others.	Recognise their own right to be protected from the inappropriate use of technology by others and their responsibility to report concerns. Understand how to use social networking websites appropriately, keeping an adult informed about their online activity Make good choices when they present themselves online Recognise the appropriate online tools to collaborate and communicate with others, understanding how to protect themselves from cyberbullying or causing hurt to others, especially when using social networks (including online gaming communities) Understand the need to respect the rights of other users, and understand their own responsibility for information that is shared and how it may impact on others.

Year 1			Year 2	Year 3	Year 4	Year 5	Year 6					
Year 1			Year 2									
Abbreviation	Strand	Year 3										
Year 3												
NW	Networks	Understand how networks can be used to retrieve and share information, and how they come with associated risks										
CM	Creating Media	Select and create a range of media including text, images, sounds, and video										
DI	Data & Information	Understand how data is stored, organised, and used to represent real-world artefacts and scenarios										
DD	Design & Development	Understand the activities involved in planning, creating, and evaluating computing artefacts										
CS	Computing Systems	Understand what a computer is, and how its constituent parts function together as a whole										
IT	Impact of Technology	Understand how individuals, systems, and society as a whole interact with computer systems										
AL	Algorithms	Be able to comprehend, design, create, and evaluate algorithms										
PG	Programming	Create software to allow computers to solve problems										
ET	Effective Use of tools	Use software tools to support computing work										
SS	Safety & Security	Understand risks when using technology, and how to protect individuals and systems										