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Computing Skills Progression (Cumulative)

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
UTW To complete a simple program on a computer	**Coding** • To use code to make a computer program. • To use an event to control an object. • To begin to code and execute a program. • To use backgrounds and objects when programming. • To plan and make a computer program.	**Coding** • To create a computer program using an algorithm. • To create a program using a given design. • To create a programme using collision detection event. • To use algorithms to follow a sequence. • To design an algorithm that follows a timed sequence. • To use different events do in code. • To use the function of buttons in a program. • To debug simple programs	**Coding** • To use flowcharts in computer programming. • To use different types of timers and select the right type for purpose. • To use the repeat command. • To use nesting. • To design and create an interactive scene.	**Coding** •To use selection in coding with the 'if/else' command. •To use variables in 2Code. •To use flowcharts for design of algorithms including selection. •To use the 'repeat until' with variables to determine the repeat. •To use computational thinking terms decomposition and abstraction.	**Coding** •To represent a program design and algorithm. •To create a program that simulates a physical system using decomposition. •To explore string and text variable types so that the most appropriate can be used in programs. •To use the Launch command in 2Code Gorilla •To program a playable game with timers and scorepad.	**Coding** •To use the program design process, including flowcharts, to develop algorithms for more complex programs using and understanding of abstraction and decomposition to define the important aspects of the program. •To code, test and debug from these designs. •To use functions and tabs in 2Code to improve the quality of the code. •To code user interactivity using input functions.

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Online Safety & Exploring (PSE) To be able to say who to tell if something they see makes them worried or uncomfortable. To take sensible pictures.	**Online Safety & Exploring** •To log in safely. •To begin to save work in the Online Work area and find teacher comments. •To search Purple Mash to find resources. •To use icons and types of resources available in the Topics section. •To start to add pictures and text to work. •To use Tools and Games section of Purple Mash •To open, save and print. •To log out.	**Online Safety** •To search using the Search tool. •To use digital technology to share work on Purple Mash to communicate and connect with others locally. •To explore sharing more globally on the Internet. •To begin to use Email as a communication tool using 2Respond simulations. •To explore how we should talk to others in an online situation. •To open and send simple online communications in the form of email. •To explore how information put online leaves a digital footprint or trail. •To explore keep personal data and hardware secure.	**Online Safety** •To use safe password and keep passwords safe. •To use the Internet to effectively communication. •To blog to a wider audience. •To explore the truth of the content of websites. •To explore the meaning of age restrictions symbols on digital media and devices.	**Online Safety** •To protect themselves from online identity theft. •to explore footprint or trail and that this can aid identity theft. •To explore the risks and benefits of installing software including apps. •To contribute to collaborative online projects for learning. •To identify appropriate behaviour when participating or contributing to collaborative online projects for learning. •To identify the positive and negative influences of technology on health and the environment.	**Online Safety** •To maintain secure passwords. •To use permissions and purposes of altering an image digitally appropriately. •To use appropriate text, photographs and videos and the impact of sharing these online. •To reference sources in their work •To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information.	**Online Safety** •Identify benefits and risks of mobile devices broadcasting the location of the user/device. •Identify secure sites by looking for privacy seals of approval. •Identify the benefits and risks of giving personal information. •To use appropriate online behaviour. •when online balancing game and screen time with other parts of their lives. •To identify the positive and negative influences of technology on health and the environment.

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Maths To explore together simple programs where they can input and view data in a range of ways – text, pictogram, image	**Spreadsheets** •To use a spreadsheet program. •To be able to open 2Calculate in Purple Mash. •To enter data into spreadsheet cells. •To use 2Calculate image tools to add clipart to cells. •To use 2Calculate control tools: lock, move cell, speak and count.	**Spreadsheets** •To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine. •To copy and paste in 2Calculate. •To use the totalling tools. •To use a spreadsheet for money calculations. •To use the 2Calculate equals tool to check calculations. •To use 2Calculate to collect data and produce a graph.	**Spreadsheets** •To use the symbols more than, less than and equal to, to compare values. •To use 2Calculate to collect data and produce a variety of graphs. •To use the advanced mode of 2Calculate to learn about cell references.	**Spreadsheets** •To format cells as currency, percentage, decimal to different decimal places or fraction. •Use the formula wizard to calculate averages. •Use combining tools to make spreadsheet activities such as timed times tables tests. •Create a spreadsheet to model a real-life situation. •To add a formula to a cell to automatically make a calculation in that cell.	**Spreadsheets** •To use the formula wizard to add a formula to a cell to automatically make a calculation in that cell. •To copy and paste within 2Calculate. Using 2Calculate tools to test a hypothesis. •To add a formula to a cell to automatically make a calculation in that cell. •To use a spreadsheet to model a real-life situation and answer questions	**Spreadsheets** • To use a Excel spreadsheet to investigate the probability of the results of throwing many dice. • To use the formula wizard to add a formula to a cell to automatically make a calculation in that cell. • To create graphs showing the data collected. • To type in a formula for a cell to automatically make a calculation in that cell. • To use an Excel spreadsheet to create computational models and answer questions.

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Maths To explore simple programs where they can input and view data in a range of ways – text, pictograms, image	**Grouping & Sorting** •To sort items using a range of criteria. •To sort items on the computer using the 'Grouping' activities in Purple Mash.	**Questioning** •To use data handling tools in pictograms. •To use yes/no questions to separate information. •To construct a binary tree •To use 2Question (a binary tree database) to answer questions. •To use a database to answer more complex search questions. •To use the Search tool to find information.	**Touch Typing** • To use the typing terminology. • To use the correct way to sit at the keyboard. • To use the home, top and bottom row keys. • To practise typing with the left and right hand.	**Writing for different audiences** • To change font size and style can affect the impact of a text. • To use a simulated scenario to produce a news report. • To use a simulated scenario to write for a community campaign.	**Database** • To search for information in a database. • To contribute to a class database. • To create a database around a chosen topic.	**Blogging** • To identify the purpose of writing a blog and its key features. • To plan the theme and content for a blog and write the content. • To blog for an audience by changing the visual properties of the blog. • To regularly blog. • To contribute to an existing blog. • To ensure blog posts are approved by the teacher. • To comment on blogs.
	Maze Explorers •To use the functionality of the direction keys. •To create and debug a set of instructions (algorithm). •To use the additional direction keys as part of an algorithm. •To change and extend the algorithm list.	**Effective Searching** •To use the terminology associated with searching. •To search the Internet. •To create a leaflet to help someone search for information on the Internet.	**Email** •To use email as a methods of communication. •To open and respond to an email using an address book. •To learn how to use email safely. •To add an attachment to an email.	**Logo** •To learn the structure of the coding language of Logo. •To input simple instructions in Logo. Using 2Logo to create letter shapes. •To use the Repeat function in Logo to create shapes. •To use and build procedures in Logo.	**Game Creator** •To set the scene. •To create the game environment on 2DIY3D. •To create the game quest. •To finish and share the game. •To evaluate their and peers' games.	**Text Adventures** •To find out what a text adventure is. •To plan a story adventure. •To make a story-based adventure. •To introduce map-based text adventures. •To code a map-based text adventure.

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	•To create a longer algorithm for an activity. •To set challenges for peers. •To access peer challenges set by the teacher as 2dos.		•To explore a simulated email scenario.			
Literacy To begin to create and capture writing, drawing, pictures, sound and video	**Animated Story Books** •To use e-books and the 2Create a Story tool. •To add animation to a story. •To add sound to a story, including voice recording and music the children have composed. •To work on a more complex story, including adding backgrounds and copying and pasting pages.	**Creating Pictures** •To use the functions of the 2Paint a Picture tool. •To recreate the Impressionist style of art (Monet, Degas, Renoir). •To recreate Pointillist art and look at the work of pointillist artists such as Seurat. •To recreate the work of Piet Mondrian and recreate the style using the lines template. •To recreate the work of William	**Branching Databases** •To sort objects using just 'yes' or 'no' questions. •To complete a branching database using 2Question. •To create a branching database of the children's choice.	**Animation** •To learn how animations are created by hand. •To find out how 2Animate can be created in a similar way using the computer. •To learn about onion skinning in animation. •To add backgrounds and sounds to animations. •To be introduced to 'stop motion' animation. •To share animation on the class display	**3D Modelling** •To be introduced to 2Design and Make and the skills of computer aided design. •To explore the effect of moving points when designing. •To begin to design for a purpose. •To begin printing and making.	**Networks** •To learn about what the Internet consists of. •To find out what a LAN and a WAN are. •To find out how the Internet is accessed in school. •To research and find out about the age of the Internet. •To think about what the future might hold.

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	•To share e-books on a class display board	Morris and recreate the style using the patterns template. •To explore surrealism and eCollage		board and by blogging.		
EAD To begin to use digital and non-digital media and share what they have discovered	**Lego Builders** •To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. •To follow and create simple instructions on the computer. •To consider how the order of instructions affects the result.	**Making Music** •To make music digitally using 2Sequence. •To explore, edit and combine sounds using 2Sequence. •To edit and refine composed music. •To think about how music can be used to express feelings and create tunes which depict feelings. •To upload a sound from a bank of sounds into the Sounds section. •To record and upload environmental sounds into Purple Mash. •To use these sounds to create tunes in 2Sequence.	**Simulations** •To use 2simulate •To explore a simulation. •To analyse and evaluate a simulation.	**Effective Searching** •To locate information on the search results page. •To use search effectively to find out information. •To assess whether an information source is true and reliable.	**Concept Maps** •To use visual representation when generating and discussing complex ideas. •To use the correct vocabulary when creating a concept map. •To create a concept map. •To use a concept map can be used to retell stories and present information. •To create a collaborative concept map and present this to an audience.	**Quizzing** •To create a picture-based quiz for young children. •To learn how to use the question types within 2Quiz. •To explore the grammar quizzes. •To make a quiz that requires the player to search a database. Are you smarter than a 10- (or 11-)year-old? To make a quiz to test your teachers or parents.

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Maths To explore simple programs where they can input and view data in a range of ways – text, pictogram, image	**Pictograms** •To use data to represent it in picture format. •To contribute to a class pictogram. •To use a pictogram to record the results of an experiment.	**Presenting Ideas** •To explore how a story can be presented in different ways and use 2Create, 2Publish. •To make a quiz about a story or class topic using 2 Quiz. •To make a fact file on a non-fiction topic. •To make a presentation to the class.	**Graphing** •To use 2Graph. •To enter data into a graph and answer questions. •To solve an investigation and present the results in graphic form.	**Hardware Investigators** •To find the different parts that make up a computer. •To recall the different parts that make up a computer.	**Microsoft Word** • To use a word processing tool is for. • To add and edit images to a word document. • To use word wrap with images and text. To change the look of text within a document. • To add features to a document to enhance its look and usability. • To use the sharing capabilities in Google Docs. • To use tables within to present information. • To begin to use templates.	**Binary** • To know what the terms binary and denary mean and how they relate to the number system, the digital system and the terms base-10 and base-2 T• o relate binary to the on and off states of electrical switches. • To convert numbers from decimal to binary. • To convert numbers from binary to decimal. • To represent states of object in their own program using binary.
UTW To use technology within the classroom	**Technology Outside School** •To walk around the local community and find examples of where technology is used.		**Microsoft PowerPoint** •To use PowerPoint. •To create a page in a presentation. •To add media to a presentation. •To add animations to a presentation. •To add timings to a presentation.	**Making Music** •To identify and discuss the main elements of music. •To understand and experiment with rhythm and tempo. •To create a melodic phrase.		**Microsoft Excel**

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	•To record examples of technology outside school.		•To use the skills learnt to design and create an engaging presentation.	•To electronically compose a piece of music.		

Key

Predominant Areas of Computing		
Information Technology	Computer Science	Digital Literacy