



Skills Progression Map: Computing



	Nursery	Reception	Year 1	Year 2
Algorithms, Problem Solving and Programming	Begin to sequence instructions. Recognise, use and understand directional and positional language. Perform a simple programme using a bee bot or codeapillar	Identify algorithms used in everyday life. Recognise that a string of instructions or commands placed together can create a simple program. Record the program using symbols.	Explain what a given command will do. Create a sequence to move a floor robot in different directions. Plan a simple program on Scratch and find a solution to a problem.	Explain what happens when we change the order of instructions. Begin to predict the outcome of a program. Create and debug a simple program.
Data and Information			Group data using labels. Compare groups of objects.	Collect data and enter this onto a computer. Use software such as Excel to represent data in different ways, such as pictograms.
Computing Systems and Networks			Identify the main parts of a computer. Use a keyboard and mouse with increasing confidence. Save and open a file. Use the arrows and the delete key to edit work.	Recognise the uses and features of information technology. Identify information technology inside and outside of school. Explain how information technology helps us.
Creating Media		Use digital technology to access content with some support. Create media with support using digital technology (e.g. photographs or paintings).	Understand the different tools available when creating a digital painting. Use software to write text, using letter, number and space keys. Understand how changing a font can change the look of a text. Use the 'undo' button.	Make improvements to a photograph, exploring the effect of light. Begin to use simple image editing software to change the colour effect of an image Identify that computers can be used to play sounds of different instruments. Experiment with musical patterns and different sounds on a computer. Use a computer to create a musical pattern.
Digital Citizenship	Understand how we access the internet and how we use it safely. Know who to tell if we see something that worries us online.		Understand that we should online talk to people we know online. Know what to do if someone is unkind online. Understand how to be respectful and responsible online. Understand that some things online are not true. Know why it is important to take a break from online activities.	Know what to do if someone uses unkind words online. Understand that we are part of a digital community. Know what information is safe to share online. Explain how technology can make us feel. Know how to give people credit for their work online.

	Year 3	Year 4	Year 5	Year 6
Algorithms, Problem Solving and Programming	Explain that programs start because of an input. Combine and order commands in a program to produce a given outcome. Explain that the order of commands can affect a program's output.	Use loop commands in a program to repeat instructions. Understand the difference between indefinite loops and count-controlled loops. Plan a program that includes appropriate loops to produce a given outcome. Create two or more sequences that run at the same time.	Explain that a condition can only be true or false. Use a condition in an 'if...then' statement to start an action. Use selection to switch the program flow in one of two ways.	Understand how variables can be used in a program. Experiment with the value of an existing variable. Decide where in a program to set a variable. Debug more complex programs.
Data and Information	Recognise that a data set can be structured using yes/no questions. Identify an object using a branching database. Retrieve information from different levels of the branching database.	Understand that data can be logged over time. Identify that sensors are input devices. Use data loggers to collect data automatically. Export information in different formats.	Choose different ways to view data. Outline how operands can be used to filter data. Outline how 'AND' and 'OR' can be used to refine data selection. Select an appropriate graph to visually compare data.	Explain what an item of data is in a spreadsheet. Understand that formulas can be used to produce calculated data. Choose suitable ways to present spreadsheet data.
Computing Systems and Networks	Identify input and output devices. Recognise that a network is made up of a number of components. Identify how devices in a network are connected with one another. Explain how information is passed through multiple connections.	Describe how networks connect to other networks. Outline how information can be shared via the World Wide Web. Evaluate the reliability of content online and the consequences of unreliable content. Explain the benefits and limitations of the World Wide Web. Recognise the need for security on the internet.	Recognise that a system is a set of interconnected parts which work together. Recognise inputs, processes and outputs in large IT systems. Describe the input and output of a search engine. Explain how search results are selected from search engines. Evaluate the results of search terms.	Recognise that data is transferred across networks using agreed protocols. Explain that data is transferred in packets. Understand opportunities that technology offers for communication and collaboration.
Creating Media	Plan an animation using a storyboard. Capture an image and move a subject between captures. Remove frames to improve an animation. Add media to enhance an animation. Recognise how text and images can be used together to convey information. Change a page orientation for different purposes. Create text boxes, which can be resized and rotated. Choose fonts and apply effects to text.	Record sound using a computer. Recognise that recorded audio can be stored on a computer and understand that audio can be edited. Play and delete sections of audio. Import audio into a project. Change the composition of images by cropping, adding filters, rotating and flipping.	Identify features of a video recording device or app. Use pan, tilt and zoom, as well as different camera angles. Combine filming techniques for a given purpose. Use split, trim and crop to edit a video. Add an object to a vector drawing. Recognise that each object in a drawing is in its own layer. Understand that vector images can be scaled without impact on quality. Recognise that objects can be modified in groups.	Review an existing website by noting its features. Understand how hyperlinks work and insert these between web pages. Create a website with text and media. Understand the importance of copyright online. Understand how 3D models can be created on a computer. Recognise that digital tools can be used to manipulate 3D objects. Construct a 3D model which reflects a real world object.
Digital Citizenship	Know how to recognise cyberbullying. Understand how to stay positive and support others when playing games online. Explain how posting information online can affect identity. Know why people may choose to alter images and videos. Understand why it is important to have device-free	Understand how to respond to cyberbullying. Know how to keep online friendships safe. Understand how online activity affects our digital footprints. Recognise the rights and responsibilities of creators online. Know how digital citizens take responsibility for themselves, their communities and the wider world.	Know how to de-escalate issues online. Understand how to chat safely with people you meet online. Understand how gender stereotypes shape online experiences. Recognise the important features of online news articles. Understand what makes a healthy media choice.	Understand how to prevent and take action against cyberbullying. Explain how social media can affect relationships. Know that there are different ways to present yourself online and consider the pros and cons of this. Know how to find credible information online. Understand the importance of a media balance.

	moments in life. Know what information should be kept private online.	Understand the importance of having a strong password.	Understand the difference between personal and private information.	Know how to avoid clickbait.
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