Mere Green Primary School
Computing Progression Overview

Year Group	Programming	Creating Media	Computer Systems and Networks	Online Safety	Data and Information
Year 1	Identify and list the steps of a known task in order. Understand that we control computers by giving them instructions. Create a simple program e.g. to control a floor robot. Understand what an algorithm is. Create a simple algorithm. Identify and explain patterns in groups of objects. Debug an error in a simple algorithm or program e.g. for a floor robot. Predict the outcome of a simple algorithm or program.	Select media (e.g. images, video, sound) to present information on a topic. Understand that you can edit and change digital content. Select basic options to change the appearance of digital content. Combine media with support to present information, e.g. text and images. Apply edits to digital content to achieve a particular effect. Draw lines and mark make. Change colours and brush sizes. Import and export my projects.	Name a range of digital devices. Explain technology as something that helps us. Locate examples of technology – recognise that a range of devices contain computers, e.g washing machine, car. Recognise and use a range of output devices, e.g. printer, speakers, monitor/screen. Recognise and use a range of input devices e.g mouse, keyboard, touchscreen. Recognise and use a range of input devices, e.g. mouse, keyboard, microphone, touchscreen.	Understand that some information about themselves is special because its makes them unique. Know that they should never give out personal details online. Understand that you should not trust everyone you meet. Identify when to ask a trusted adult for help. Understand the importance of checking with an adult before participating in online activities. Identify that comments that hurt people's feelings online are cyber bullying. Understand that passwords help protect computer files.	Describe objects using labels. Identify the label for a group of objects. Identify that objects can be counted. Find objects with similar properties. Describe objects in different ways. Count objects in different ways. Count objects with the same properties. Compare groups of objects.

Year 2					
	Understand that computers have no intelligence and we have to program them to do things.

Understand that the order of instructions in an algorithm is important.

Understand that instructions in an algorithm need to be clear and Unambiguous.

Evaluate the success of an algorithm or program.

Identify and correct errors in a given algorithm or program (debugging).

Use the language of... then to describe the relationship between two actions. | Film high quality videos using the front and back camera.

Film in slow motion for different effects.

When editing videos, crop parts that are not needed.

Create new projects on iMovie.

Add photos and videos to a project.

Understand the terms import and export and how to complete each of them.

Explain that animation is a sequence of drawings or photographs.

Relate animated movement with a. sequence of images.

Review and improve and animation.

Evaluate the impact of adding other media to an animation. | Identify examples of computers.

Describe some uses of computers.

Identify that a computer is a part of IT (Information Technology).

Identify examples of IT and that some IT can be used in more than one way.

Find examples of IT and talk about the uses of information technology.

To recognise common types of technology.

Demonstrate how IT devices work together and say why we use IT.

Identify the choices that I make when using IT.

Use IT for different types of activities.

Explain the need to use IT in different ways. | Explain what it means to have a positive digital footprint.

Explain Ways in which you can build a positive digital footprint. Understand that people can use the information they put online.

Identify possible dangers online.

Talk about different rules for using IT.

Know how to safely search for information online.

Choose an appropriate website for their age.

Give examples of why information should not be be shared. | Recognise that we can count and compare objects using tally charts.

Recognise that objects can be represented as pictures.

Explain what a pictogram shows.

Create pictograms to arrange objects by an attribute.

Tally objects using a common attribute.

Choose a suitable attribute to compare people. |

Year 3					
	Understand that we can decompose a problem into smaller parts to make it simpler.	Add voice overs to iMovie projects.	Explain that digital devices accept inputs.	Explain why it's important to keep personal information private online.	Create questions with yes/no answers.
	Remix and change an existing program.	Disable or allow Ken burns effect.	Explain that digital devices produce outputs.	Describe ways to keep personal information private online using safety tools and privacy settings.	Identify the object attributes needed to collect relevant data.
	Use repetition to make programs more efficient.	Add soundtracks to iMovie projects.	Classify input and output devices.		Create a branching database.
		Add titles as introductions and conclusions.	Describe a simple process. Explain how they use digital devices in different activities.	Describe how to find and ask for help if someone feels unsafe online.	Explain why it is helpful for a database to be well structured.
	Predict the outcome of a more complex program, e.g. in Scratch.	Trim and arrange clips.	Recognise similarities between using digital devices and non-digital tools	Describe ways to critically evaluate what we see on social media.	Identify objects using a branching database.
	Use forever loops in a program.	Add suitable posters, stickers, emoji's and Memojis.	Demonstrate how information can be passed between devices.	Explain how social media can mislead or misrepresent reality.	Compare the information shown in a pictogram with a branching database.
	Choose which lets to use for actions and explain choices made.	Use filters and music to enhance mood.	Explain the role of a switch, server and wireless access point in a network.		
	Explain the relationship between an event and an action.	Export and import projects into relevant applications.	Recognise that a computer network is made up of a number of devices.	Identify different types of online scams people may experience including 'phishing'.	
	Identify ways to improve a program.	Build a single composition with multiple photos and other graphic elements.	Identify how devices in a network are connected together.		
	Programme a movement for a character created.	Hide parts of photos using 'instant alpha'.			
	Choose blocks to set up a program.	Crop, mask, edit and layer photos.			

| | Use a programming extension.

Choose suitable keys to turn on additional features. | | | | |
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Year 4					
	Use diagrams to represent an algorithm, e.g. a flowchart.	Identify digital devices that can record and playback sound.	Demonstrate how information is shared across the internet.	Demonstrate ways to build positive and healthy online relationships and friendships.	Explain the data gathered over time can be used to answer questions.
	Create a program using a range of events/inputs to control what happens.	Use digital devices to record sound.	Describe the internet as a network of networks.	Describe strategies they can use to respond to hurtful online behaviour, in ways that keep them safe and healthy.	Use a digital device to collect data automatically.
	Use selection in algorithms and programs, i.e. if... then...	Explain that a digital recording is stored as a file.	Discuss why a network needs protecting.		Explain that a data logger collects 'data points' from sensors over time.
		Explain that audio can be changed through editing.	Describe how to access websites on the WWW.	Identify sources of support that can help friends and peers if they are experiencing hurtful behaviour online.	Use data collected over a long duration to find information.
	Decompose a problem and create a solution (sub-routine) for each part.	Show that different types of audio can be combined and played together.	Describe where websites are stored when uploaded to the WWW.	Explain that there are rules to protect content.	Identify the data needed to answer questions.
	Use procedures in programs to create a sub-routine e.g. a procedure called 'square' in Logo.	Customise a virtual drummer's performance using 'Drummer'.	Explain the types of media that can be shared on the WWW.	Explain that websites and their content are created by people.	Use collected data to answer questions.
		Recognise note lengths and common percussion instruments.	Explain that internet services can be used to create content online.	Suggest who owns the content on websites.	
		Programme drum sounds to create drumbeat using the Beat Sequencer.	Explain what media can be found on websites.	Explain that not everything on the WWW is true.	
		Play and record chords and melodies using Touch instruments.	Recognise that I can add content to the WWW.	I can sort images into fake or real and discuss fake images around me.	

		Layer multiple instruments with drums to create full songs.			
Year 5	Recognise that different solutions exist for the same problem. Recognise variables in a program. Use two-way selection, i.e. if... then... else... Create programs including repeat until loops. Create simple variables, e.g. to keep score or remove lives in a game.	Explain what makes an effective video. Identify digital devices that can record video. Capture video using a range of techniques. Create and save video content. Identify that video can be improved through reshooting and editing. Make edits to a video. Store, retrieve and export recordings. Discover what an infographic is. Arrange content visually to present data and information in an infographic.	Describe that a computer system features inputs, processes, and outputs. Explain the benefits of a given computer systems. Identify the human elements of a computer system. Explain data is transferred over networks in packets. Explain that networked digital devices have unique addresses. Recognise that data is transferred using agreed methods.	Identity fake news, explain its purpose and describe how it impacts society. Distinguish fact from opinion in online media content. Explain what echo chambers & filter bubbles are. Explain why it's important to consume diverse media content. Identify examples of emotional manipulation and explain why it is used. Be able to think critically about the content they view online.	Use a form to record information. Compare paper and computer-based databases. Outline how grouping and then sorting data allows us to answer questions. Explain that tools can be used to select specific data. Explain that computer programmes can be used to compare data visually. Apply knowledge of a database to ask and answer real-world questions.

Year 6				
Predict what will happen in a program or algorithm (e.g. change of output) when the input changes (e.g. sensor, data or event)

Understand the difference between and use if... then... and if... then...else... statements.

Combine a variable with relational operators (< = >) to determine when a program changes, e.g. if score > 5, say "well done"

Can design a physical computing system that uses sensors, e.g. using a flow chart. | Add cutaways and B-rolls to an iMovie production.

Add clips with an overlay effect.

Change the overlay style.

Modify transitions between clips.

Add a lower-third title.

Draw a thumbnail image of your scene that includes perspective and point of view.

Imitate the illustration style in the book you have used for influence.

Create a book cover illustration in Sketches School.

Export illustrations. | Compare results from different search engines.

Complete a web search to find specific information and refine my search if needed.

Explain why we need tools to find things online.

Recognise the role of web crawlers in creating an index.

Relate a search item to the search engine's index.

Explain that a search engine follows rules to rank relevant pages.

Suggest criteria that a search engine checks to decide on the order of results.

Describe some of the ways search results can be influenced.

Explain how search engines make money

Recognise some of the limitations of search engines.

Choose methods of communication to suit a particular purpose.

Explain different ways in which people communicate.

Identify that there are a variety of ways of communicating over the internet. | Distinguish between appropriate and inappropriate online behaviours (and between free and hate speech).

Explain why someone might post hateful and intolerant content online.

Demonstrate they can respond effectively to inappropriate behaviours and content online including accessing help and support.

Explain how the internet can be an inspiring place and describe the various ways it can be used positively. | Identify questions which can be answered using data.

Explain that objects can be described using data.

Explain that formulas can be used to produce calculated data.

Apply formula to data, including duplicating.

Create a spreadsheet to plan an event.

Choose suitable ways to present data. |

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