Computing End Points - Overview

<table>
<tr><th colspan="8">Computing End Points</th></tr>
<tr><td>EYFS</td><td colspan="7">F2
Know how to give a floor robot instructions to make it move.
Know how to use simple software and explain what they are doing.
Know what happens when they click a button or touch an icon.
Know how to identify a device that uses technology.
Know to ask permission before using the internet and talk to an adult if something is worrying them while using technology.
Know how to talk about technology at home, in school and the world around them.
Know about different kinds of information such as pictures, videos, text and sound.
Know how to manipulate a mouse and touch screen to move objects on a screen.
Know how to create shapes and text on a screen.</td></tr>
<tr><td></td><td colspan="7">Disciplinary Concepts

(ELG)

Prerequisite skills for Computing at KS1</td></tr>
<tr><td>Year 1</td><td>Basic Computer Skills</td><td>Producing Digital Media</td><td>Unplugged Algorithms</td><td>Programming with Robots</td><td>Pictograms</td><td>Presenting Information</td><td>KS1 Disciplinary Concepts</td></tr>
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	We will know: ● Why we have passwords ● Why we must keep passwords safe ● How to use keyboard or word bank ● The basic functions of the keyboard.	We will know: ● How to use technology to collect information including photos, videos and sound. ● Use software with support to create and store digital content. ● How to use keyboard or word bank ● How to save information in a specific place.	We will know: ● How to give instructions to a friend and follow their instructions. ● Begin to predict what will happen for a short sequence of instructions. ● What an algorithm is and how to create a simple algorithm. ● Use software or applications to create movement and patterns on a screen.	We will know: ● How to give instructions to a friend and follow their instructions. ● How to describe what will happen when buttons are pressed on a robot. ● How to press buttons in the correct order to make a robot follow the correct sequence. ● How to begin to predict what will happen for a short sequence of instructions. ● **What an algorithm is and how to create a simple algorithm.**	We will know: ● How to use technology to collect information including photos, videos and sound. ● Sort different kinds of information and present it to others. ● How to add information into a pictogram and talk about their findings. ● Talk about different ways in which data and information can be shown.	We will know: ● How to use software to create digital content. ● How to use a keyboard to input text. ● Understand some of the basic functions of a keyboard (backspace, etc)	● How to use a keyboard ● How to use different pieces of software. ● How to give precise instructions to complete a task. ● How to represent information on a screen. ● How to report inappropriate content
Year 2	What is a computer?	Unplugged algorithms	Scratch Jnr	Presenting and storing data	Modifying text and images	Presenting Information	
	We will know: ● Why we use technology in the classroom, in our homes and in the community. ● How to identify the benefits of using technology.	We will know: ● How to use logical reasoning to predict and debug more complex programs. ● How to create and debug with increased confidence and efficiency.	We will know: ● How to use logical reasoning to predict and debug more complex programs. ● How to create and debug with improved confidence and efficiency.	We will know: ● How to identify the benefits of using technology. ● Create a graph or chart using data collected on a specific topic area. ● How to talk about the data that is	We will know: ● How to demonstrate the use of technology responsibly in terms of how we use it. ● To report inappropriate content or contacts online.	We will know: ● To report inappropriate content or contacts online. ● Use a variety of software to manipulate a variety of digital content in different ways.	

	• How to identify a computer, by knowing it has inputs, outputs and a processor. • How computers can have different parts including inputs and outputs.	• How to program using simple block code. • Program a robot or software to complete a simple task • Explain the order needed to do things to make something happen. • **What an algorithm is and demonstrates simple linear algorithms.**	• How to program using simple block code. • Program a robot or software to complete a simple task • Explain the order needed to do things to make something happen. • **What an algorithm is and demonstrates simple linear algorithms.**	shown in their graph. • How to use a variety of software to manipulate and present digital content in different ways.	• How to explain why we use technology in the classroom, in their homes and in the community. • How to use keyboard on their device to add, delete and format text. • Save and open files on the device and use them from a specific file location.	• Save and open files on the device and use them from a specific file location.	
Year 3	Composing Emails	Programming a game	Creating a world with Kodu	Altering Digital Media	Inside a computer	Publishing content online	**LKS2 Disciplinary Concepts**
	We will know: • How to understand the difference between data and information. • To effectively use a spell checker. • To consider our responsibility and actions to others online. • How to use a search engine responsibly and safely.	We will know: • **How an algorithm is implemented using a sequence of precise instructions.** • How to predict the outcome of precise instructions. • How to test a program and recognise the need to debug. • How to detect a problem within an algorithm.	We will know: • **How an algorithm is implemented using a sequence of precise instructions.** • How to predict the outcome of precise instructions. • How to repeatedly test a program and recognise when they need to debug it.	We will know: • How to consider that all of the media they see could've been altered. • How to save and retrieve work online or on the school network. • How to think about whether they can use images they find online within their work.	We will know: • How to identify components inside a PC or laptop and what each component does. • The basic fundamentals of how a computer works.	We will know: • How to combine a combination of text, graphics and sound to share ideas and learning. • How to use appropriate keyboard commands to amend text. • How to effectively use a spell checker. • How to evaluate their work and improve its effectiveness.	• To know how to effectively use a keyboard. • To know how to save work to a specific location and retrieve it. • Build algorithms with increasing complexity. • To use debugging to effectively

	● How to save and retrieve work online and on the school network.	● To recognise what inputs and outputs are. ● To give examples of how to use inputs and outputs effectively. ● How to design, write and debug programs with increasing complexity. ● How to use logical reasoning to predict and debug more complex programs.	● How to detect a problem within an algorithm. ● How to design, write and debug programs with increasing complexity. ● How to use logical reasoning to predict and debug more complex programs.			● How to use an appropriate tool to share their work online.	test and fix algorithms ● **Know how to use technology responsibly and consider their digital footprint.**
Year 4	Branching databases	Repetition and forever loops	Coding with scratch	Creating a video	Networks and online services	Spreadsheets	
	We will know: ● How to demonstrate the different ways data can be organised. ● How to demonstrate the different ways data can be converted into information. ● How to make a branching database. ● How to collect data and	We will know: ● **How to design simple algorithms using loops and repeats while detecting bugs.** ● How to write and execute an efficient program using loops. ● How to decompose a problem into smaller parts with some verbal reasoning.	We will know: ● How sequencing, using inputs and repetition in programs has a specific effect on the output. ● How to recognise that an algorithm will help to sequence more complex programs. ● How to use logical reasoning to debug more complex programs.	We will know: ● How to use photos, videos and sounds to create an atmosphere when presenting to different audiences. ● How to be confident in exploring new media to extend what we can achieve. ● How to change the appearance	We will know: ● How to understand the difference between the internet and online services such as the world wide web. ● How to tell whether the resources we are using are from the WWW, the school network or our own. ● To show an awareness of a	We will know: ● How to use a keyboard confidently and make use of a spell checker to write and review their work. ● How to use an appropriate tool to share their work and collaborate online. ● How to evaluate other people's work and give	

	identify how it could be inaccurate. ● How to plan, create and search a database. ● How to select the best ways to present data to a specific audience.			to text to increase its effectiveness. ● How to create, modify and present documents for a particular purpose.	range of internet services such as the WWW and email. ● To recognise what is acceptable and unacceptable behaviour when using technology and online services. ● How effective a strong password is.	them constructive feedback. ● How to be confident when exploring new media.	
Year 5	Create and search a database	If and if else statements	Creating music using code	Stop motion animation	World Wide Web and the Internet	3D Modelling	**UKS2 Disciplinary Concepts**
	We will know: ● How to use a spreadsheet and database to collect, record and evaluate data.	We will know: ● How to design, write and execute an efficient program (including selection, if then command). ● How to use logical reasoning to debug more complex programs. ● How to decompose more open-ended problems into smaller parts and	We will know: • How to design, write and create programs that accomplish specific goals (including controlling physical systems). • How to use sequence, selection and repetition in programs. • How to work with variables and various forms of input and output	We will know: ● How to select, use and combine appropriate technology tools to create effects in media. ● How to select and use an appropriate online tool to create and share ideas. ● How to understand the dangers of building online relationships.	We will know: ● About the impact of our digital footprint. ● The difference between the internet and the world wide web. ● What a network is and be able to identify parts of a network within the school. ● What an IP Address is.	We will know: ● How to use different online tools for different services. ● How to use a variety of familiar and unfamiliar software by using a pre-existing skill set. ● How to select, use and combine appropriate technology tools to create effects in media.	● Design, write and execute an efficient program. ● To debug a program effectively. ● Understand the consequences of their actions online. ● Develop transferable skills to use between

		provide reasoning for our choices.	• How to use logical reasoning to explain simple algorithms.				different programs.
Year 6	Creating formula in Excel	Using variables	Programming for an audience	Plan and compose music	How data is stored	HTML	
	We will know: ● How to enter and organise data appropriately. ● How to use formulas to create calculations. ● How to interpret and present the data they collect. ● How to use skills developed to interrogate a spreadsheet.	We will know: ● How to use variables to increase programming possibilities. ● How to use variable and relational operators within a loop to stop a program. ● How to evaluate the effectiveness and efficiency of an algorithm. ● How to use logical reasoning to predict and debug more complex programs.	We will know: ● The importance of planning and testing algorithms. ● Demonstrate a range of different strategies to solve a problem. ● Why sequencing and patterns are important when creating algorithms. ● How to give reasoning for each step within algorithms and how to apply them to a program. ● How to use a variable to increase programming possibilities. ● How to use variable and relational operators. ● To evaluate the effectiveness and	We will know: ● How to talk about audience, atmosphere and structure when planning a particular media outcome. ● How to combine a range of media, recognising the contribution of each to achieve a particular outcome.	We will know: ● How data is transmitted across a network. ● What an IP address is and how it's used. ● How networks use the internet to send and receive data.	We will know: ● How to describe the different parts of a webpage. ● How to construct a website using basic HTML tags. ● How to evaluate the effectiveness and efficiency of an algorithm when testing a program.	

			efficiency of an algorithm. ● To use logical reasoning to predict and debug more complex programs.				