	Whitemoor Academy	**How this document is to be used:**
	Computing Progression Map	During planning for the teaching of computing the following document will support staff in ensuring coverage of the National Curriculum objectives for their year groups/phases as well as how computing should progress as pupils move up the school. Learning objectives should, where possible, be copied from the skills bank below to ensure progression.

Strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science						
Programming	I can understand and create **algorithms** *(steps or rules as instructions, e.g. how to make a sandwich)* I understand that algorithms must be precise and unambiguous	I can **predict** the behaviour of simple programs I can create and run a **program** *(an algorithm or multiple algorithms that can be understood by a computer)* I can **debug** *(find and fix a problem)* within a simple program	I can use **selection** in my programs. (Also known as **conditionals** or If / Then statements). *(e.g. if a character moves onto a yellow square, then gain two points)* I can create **variables** within my programs *(e.g. a timer, score)*	I can use **repetition** (sometimes referred to as **loops**) in my programs. I can **debug** programs multiple times to accomplish specific goals	I can write code that performs calculations with **variables** *(e.g. every time a coin is collected, add one point to the score)* I can **decompose** *(break into smaller chunks) a* programming problem	I can use a **random** function in my code for purposeful effect *(e.g. a program randomly chooses a number from 1-4 and displays a corresponding statement)* I can produce a multi-function, debugged program that uses **variables, selection** and **repetition.**
Controlling hardware and machines	I can identify the major parts of **digital devices** *(e.g. keyboard, screen, power, batteries, touchscreen)*	I understand that **digital devices** run programs that have been created by humans	I can control or simulate **programmable hardware** *(e.g. a Sphero robot)*	I can identify **inputs** of common computing devices *(e.g keys on a keyboard, temperature sensor, tilting a device)* I can identify the **outputs** of common computing devices *(e.g. display on a screen, Bluetooth signal, print)*	I can create code that acts on multiple **inputs** I can create code that produces multiple **outputs**	I can **program** and **debug** multiple functions on programmable hardware *(e.g. with a Microbit)*

Strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Information Technology						
Operate, Understand and Implement	I can use **apps** and **websites** to aid my learning I can **save and retrieve** work that I have produced (includes **auto-save**) I can move a **cursor** with the trackpad and **click** on an icon	I can **type** and **edit** text I can use **two-finger scrolling** on a touchpad I can use the **shift key** to create capital letters I understand that **emails** and other digital communications can be sent and received from various types of digital device	I know how to **search** for items on the internet I can use technology to organise and manipulate **digital content** I can **type** to achieve a specific goal I understand how to type a **space** after a punctuation mark. I can perform a **two-finger click** to access additional options	I can **present** collected information or data to a group or audience I can **type** to achieve a specific goal, including accurate punctuation and spelling check I can use technical vocabulary to describe how computing equipment and networks function, including **storage** *(e.g. USB drives, Google drive)*, **apps** and the **world wide web**	I can edit and improve **on-screen writing**, including digital thesaurus use I can **collaborate** meaningfully with **networked technologies** *(for example, within a shared document or shared workspace)* I can combine a variety of **software** *(programs that run on computers)* to accomplish given goals	I can collect and **analyse** data or information using technology *(e.g. use a spreadsheet to produce a graph)* I can make document **layout** and **design** decisions based on purpose *(e.g. format a formal letter)* I can **re-order** on-screen sentences for clarity, purpose or effect
Multimedia and Sound	I can use **technology** to capture photos *(e.g. with an iPad)*	I can use **technology** to capture and manipulate *(position, re-size, rotate)* photos as part of a piece of work	I can create **video** as part of my learning *(e.g. using an iPad)* I can create an **animation** *(e.g. stop-frame animation on an iPad)*	I can create sound, music or a **podcast** using digital technology I can create a **3D graphic** using computer-aided design software *(e.g. using TInkercad)*	I can edit **video**, bringing together different media elements *(e.g. stills, video, captions and sound)* to produce an effective final product I can storyboard and create an **animation**	I can design, create and edit sound, music, or a podcast using digital technology I can design, create and modify 3D graphics for purpose using computer-aided design software *(e.g. using Tinkercad)*

Strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Digital Literacy			
Self-image and Identity	*If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust.*	*I can describe ways in which people might make themselves look different online.*	*I can describe ways in which media can shape ideas about gender.*	*I can explain how my online identity can be different to the identity I present in 'real life'.*	*I can explain how identity online can be copied, modified or altered.*	*I can explain how I can represent myself in different ways online.*
Online relationships	*I can recognise some ways in which the **internet** can be used to communicate.*	*I can explain some risks of communicating **online** with others I don't know well.*	*I can explain how my and other people's feelings can be hurt by what is said or written online.*	*I can explain what it means to 'know someone' online and why this might be different from knowing someone in real life.*	*I can explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming).*	*I can demonstrate how I would support others (including those who are having difficulties) online.*
Online reputation	*I can describe what information I should not put **online** without asking a trusted adult first.*	*I can explain how information put online about me can last for a long time.*	*I know who I should ask if I am not sure if I should put something online.*	*I can describe how others can find out information about me by looking online.*	*I can describe ways that information about people online can be used by others to make judgments about an individual.*	*I can describe some simple ways that help build a positive online reputation.*
Online bullying	I can describe how to behave online in ways that do not upset others		*I can describe rules about how to behave online and how I follow them.*	I can explain why I need to think carefully about how content I post might affect others, their feelings and how it may affect how others feel about them (their reputation).	I can explain how I would report online bullying on the apps and platforms that I use.	I can identify a range of ways to report concerns both in school and at home about online bullying.

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Managing online information	I can identify devices I could use to access information on the internet.	I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections).	I can evaluate digital content and can explain how I make choices from search results.	I can **analyse** information and differentiate between 'opinions', 'beliefs' and 'facts'. I understand what criteria have to be met before something is a 'fact'	I can explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true.	I can demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important.
Health, well-being and lifestyle	I can explain rules to keep us safe when we are using technology both in and beyond the home.	I can explain simple guidance for using technology in different environments and settings.	I can identify situations when I might need to limit the amount of time I use technology.	I can describe ways technology can affect healthy sleep and can describe some of the issues.	I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose.	I can assess and action different strategies to limit the impact of technology on my health (e.g. nightshift mode, regular breaks, correct posture, sleep, diet and exercise).
Privacy and security	I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location).	I can explain why I should always ask a trusted adult before I share any information about myself online.	I can describe simple strategies for creating and keeping passwords private.	I can explain how internet use can be monitored.	I can explain how many free apps or services may read and share my private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.	I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g. scams, phishing).
Copyright and ownership	I can name my work so that others know it belongs to me.	I can recognise that content on the internet may belong to other people.	I can explain why copying someone else's work from the internet without permission can cause problems.	I can assess and justify when it is acceptable to use the work of others.	I can demonstrate the use of search tools to find and access online content which can be reused by others.	I can demonstrate how to make references to and acknowledge sources I have used from the internet.