Y5 Computing

TERM 1A		TERM 1B		TERM 2A		TERM 2B		TERM 3A		TERM 3B	
Personal Information/Cyber bullying		**Microbits: Data Handling (x5)** **https://microbit.org/teach/lessons/data-handling-unit-summary/**		**Computing systems and networks — Systems and searching** **https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-systems-and-searching** **(Safer Internet Day during Feb)**		**Spreadsheets – Microsoft Excel**		**Thinkuknow – sharing images, Digital Art. Python**		**Wix – website design**	
Key knowledge To know personal information is information about you that cannot be used to identify you, because it is also true for many other people. Private information is information about you that can be used to identify you, because it is unique to you. To know cyberbullying is using digital devices, sites and apps to intimidate, harm and upset someone. To know a digital citizen is anyone who uses technology responsibly to learn, create and participate. To know an upstander is a person who supports and stands up for someone else.	**Key skills** To be able to understand computer networks offer opportunities for communication and collaboration. To be able to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. To be able to identify the reasons why people share information about themselves online. To be able to explain the difference between private and personal information. To be able to explain why it is risky to share private information online. To be able to reflect on the characteristics that make someone an upstanding digital citizen. To be able to recognise what cyberbullying is.	**Key knowledge** To understand that there are different types of data and that it can be grouped. To know some devices (e.g. Microbit) use sensors to collect data. To know data can be used as a condition in selection. To know how to change the value of data. To understand the basics of how digital assistant (AI) selection works.	**Key skills** To be able to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. To be able to analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.	**Key knowledge** To know computers can be connected together to form systems. To know systems are built using a number of parts. To know computer systems communicate with other devices. To know web searches can find specific information. To know searches do not always return the results that someone is looking for, and refine their searches accordingly. To know performing a web search can influence the results that are returned, and how content creators can optimise their sites for searching.	**Key skills** To be able to understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration. To be able to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. To be able to consider how larger computer systems work. They see how devices and processes are connected, and reflect on how computer systems can help them.	**Key knowledge** To know everything in a spreadsheet goes into a cell (like a box in a grid). To know each cell is named by the row and column in which it is located. To know cells can be formatted to look clearer or more interesting, similar to word processing. It is possible to change cell colours and borders, font size, style, colour, row height, column width. One advantage of spreadsheets is the ability to do calculations quickly using the SUM function. To know the symbol for multiply is '*' and for divide, we use '/'. It is possible to order data using the sort function.	**Key skills** To be able to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. To be able to enter text and numbers into a spreadsheet. Identify and refer to cells by row and column. To be able to begin to enter formulae with the SUM function. To be able to enter formulae into cells. Edit data and discuss the effect on results. Use further functions including AVERAGE, MIN and MAX. Create graphs. To be able to design their own spreadsheet for a specific purpose.	**Key knowledge** To know when someone gives somebody else attention, this can also be positive (for example, saying well done) or negative (for example: making a mean comment, or trying to put pressure or persuade them to do something they might not want to do). To know Python is one of the most flexible programming languages. To know in Python, a variable is used to store text or numbers. To know variables make it easier for humans to read code. You can use the same variable in lots of places in your code. To know Python can use maths operators to do sums.	**Key skills** To be able to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. To be able to use sequence, selection, and repetition in programs; work with variables and various forms of input and output. To be able to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. To start to code using Python for beginners, learning how to use variables, loops, and functions to create visual and interactive artwork, animations, simulations and games.	**Key knowledge** To know templates have different styles and layouts. To know links on the title page allow us to navigate to different pages on our website. To know images can be uploaded from the school server (w-drive). To know by clicking on 'preview' you can see how your website works and to return to editing mode you must click 'Back to Editor'. To know a 'Lightbox' welcomes the viewer to your website.	**Key skills** To be able to use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and contact. To be able to use and combine a variety of software (including internet services) to design and create content that accomplishes given goals, including collecting and presenting information.
Enquiry/question/outcome/activity/genre of unit/text What is private/personal information and what steps can I take to protect it? What is cyber bullying? How can I be an upstander? Complete Test Drive Social Media units – Is it private information? & How to be an Upstander?		**Enquiry/question/outcome/activity/genre of unit/text** What type of data can we discover in our environment and how can we use it to help us make decisions?		**Enquiry/question/outcome/activity/genre of unit/text** What are computer systems and networks?		**Enquiry/question/outcome/activity/genre of unit/text** Microsoft Excel – Party Planning unit. How can I organise data and information to create a visual solution?		**Enquiry/question/outcome/activity/genre of unit/text** Think-u-know sharing images. Hockney digital art – Sketch for school's app.		**Enquiry/question/outcome/activity/genre of unit/text** How can I effectively use content, design and usability to create an effective website? Site123 — website design — TYM.	
Key vocabulary (tier 2) comments kind posting sharing social media supportive	**Key vocabulary (tier 3)** cyber bullying digital citizen personal information private information upstander	**Key vocabulary (tier 2)** data devices grouped input output selection sensor	**Key vocabulary (tier 3)** digital assistant value of data	**Key vocabulary (tier 2)** components parts search	**Key vocabulary (tier 3)** connection digital input output process system	**Key vocabulary (tier 2)** borders colour column width font size row height sort spreadsheet style	**Key vocabulary (tier 3)** analysing average cell collecting evaluating function presenting sum	**Key vocabulary (tier 2)** account attention language negative password positive programming save	**Key vocabulary (tier 3)** inputs loops repetition selection sequencing variables	**Key vocabulary (tier 2)** content design image permission save usability website	**Key vocabulary (tier 3)** lightbox server template

Year 5 Curriculum Map - COMPUTING