Big Picture for Curriculum Subjects

(to be used alongside subject specific curriculum overview/progression of skills)

Computing

What are the Key Concepts and Ideas that we want children to learn about in this subject through their education?

1. Learn the principles of keeping themselves and others safe online and become responsible users of technology.
2. Demonstrate confidence, competence and resilience when using and applying a range of basic computer skills.
3. Learn to operate a variety of software, including the internet, to accomplish given goals.
4. Develop their knowledge/ understanding of Computer Science, Digital Literacy and Information and Technology.
5. Learn of influential figures, their achievements and how they have shaped the future of technology.

How do these concepts progress throughout the school?

EYFS	KS1	KS2
• Children will learn to use a computer, practice generic skills such as; turning on a device and using a mouse to control and access resources. • Children to physically play with toys that require physical manipulation, instruction and development of directional language. • Children learn through literacy and stories the importance of digital safety.	• Children will use technology purposefully to create, format, organize, store, manipulate and retrieve digital content on a device. • Children to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise instructions. • Create and debug simple program and use logical reasoning to predict the behaviour of simple programs. • Use logical reasoning to predict the behaviour of simple programs. • Recognise common uses of information technology in and beyond school such as; logging onto the school network, using search engines, recalling usernames and passwords. • Children will learn to use technology safely and respectfully, keeping personal information.	• Children will select, use and combine a variety of software on a range of digital devices to design, create a range of programs, systems and content that accomplish given goals, including collecting, analyzing, evaluating and presenting data and information. • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selection and repetition in programs; work with variable and various forms of input and output. • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. • 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.

		- Use search technologies effectively, appreciate how results are selected and ranked. - Understand computer networks including the internet; how they can provide multiple services and the opportunities they offer for communication and collaboration. - Use technology safely, respectfully and responsibly; recognize acceptable/ unacceptable behaviour; identify a range of ways to report concern about content.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Understanding the World • To use an iPad/ tablet to mark make. • Use a keyboard to find different sounds. E.g. letters in their names. • Use the interactive whiteboard to listen to songs, watch videos and stories and play games.					
Year 1	Children will explore purple mash and get used to using different types of devices. Children will also look into aspect of online safety. **Digital literacy** Children will become familiar with sorting and grouping objects. **Digital literacy**	Children will become familiar with pictograms and use them to record results. **Information technology** Children will be able to follow instructions and create instructions. **Computer science**	Children will understand different direction keys and complete challenges. **Computer Science**	Children will create their own e-books and add images and texts to this. They will begin to use the copy and paste tool. **Information technology**	Children will begin to understand what instructions are. They will use some code in computer programmes and create a simple scene. **Computer science**	Children will be introduced to spreadsheets and images to a spreadsheet. Children will use the count tool. **Information technology** Children will understand what technology is and how they use technology outside of school. **Digital literacy**
Year 2	Children will begin to look at what algorithms are and begin to code using different features. **Computer science**	Children will begin to search and share information. They will respond to simple emails and understand what digital footprints are. **Digital literacy** Children will recap on prior knowledge and use copying and pasting tools. Children will also begin to add amounts.	Children will use and create pictograms and explore different types of questions. They will begin to understand databases. **Information technology**	Children will search the internet and gain a better understanding of this. **Digital literacy** Children will use purple mash to create different pictures linked to different artists. **Information technology**	Children will make music using software and add different sounds to their own soundtracks. They will begin to use sounds for different feelings. **Information technology**	Children will know how to present information in different ways. **Information technology**

		Information technology				
Year 3	Children will build on their knowledge from year 2 and learn to code, test and debug programs. They will also use more features of coding. **Computer science**	Children will understand how to keep passwords safe, look at age appropriate content and spoof websites. **Digital literacy** Children will create pie charts and bar graphs. Children will use extra tools and looking at cell addresses. **Information technology**	Children will become familiar with the keyboard and begin to navigate around. **Information technology**	Children will build on their knowledge from year 2 and compose emails and use emails safely. Children will also know how to use attachments. **Information technology** **Digital literacy** **Computer science**	Children will build on their knowledge from year 2 and create their own databases using questions. **Information technology** Children will be able to create their own powerpoint by adding media and animations. Information technology **Digital literacy**	Children will know what a simulation is, explore, analyse and evaluate a simulation. **Information technology** Children will explore graphs and use graphs to solve problems. **Information technology**
Year 4	Children will now design, code, test and debug programs. If/ else statements will also be used and children will make a playable game. **Computer science**	Online safety Children will understand the term phishing and look at the risks and benefits of installing software. Children will also look at plagiarism. **Digital literacy** **Computer science** Children will begin to use animation tools to create animations and tools. **Information technology**	Children will use more features of spreadsheets and learn new buttons. They will use line graphs and understand how to budget using a spreadsheet. **Information technology**	Children will explore different fonts and write different types of texts. Information technology **Digital literacy**	Children will be introduced to logo and begin to use different directions to create pictures. They will also use the repeat command. **Computer science** Children will build on their knowledge from year 2 and explore rhythm, tempo, melody and pitch. Children will also create their own music using these features. **Information technology**	Children will use a search engine and search effectively. Children will know when a source is reliable. **Computer science** **Information technology** Children will know the different parts of a computer and can recall the different parts. **Computer science**
Year 5	Children will review existing coding knowledge	Children will look at protecting their privacy online.	Children will begin to use formulae to convert	Children will set a scene and create their own games.	Children will be able to design their own model using	Children will know what vocabulary to use with concept

	and build on this by using simulations and understanding what friction and functions are in code. **Computer science**	Children will begin to look at sources and their reliability. **Digital literacy** **Computer science** Children will be able to search a database and create their own. **Information technology**	measurements and use text variables. They will also plan their own event. **Information technology**	They will know how to evaluate and peer assess their games. **Computer science** **Information technology**	different tools. Children can explore how to edit their model and refine. **Information technology** Children will explore Microsoft word by inserting and editing images. Children will add text and present information. **Information technology**	maps. They will be able to use concept maps to present ideas. **Information technology**
Year 6	Children will design and make a more complex program using code. They will use a flowchart to debug and using simulations. **Computer science**	Children will look at gaming, online behaviour and suitable screen time. **Digital literacy** **Information technology** Children will use a spreadsheet to explore probability and create formula. Children will also use a spreadsheet to plan an event. **Information technology**	Children will begin to understand what blogging is, they will write a blog, share and comment on blogs. **Information technology** **Computer science** **Digital literacy**	Children will plan a story adventure and produce an adventure game. They will be able to turn stories into different designs. Information technology **Digital literacy** **Computer science**	Children will explore the world wide web, look at different networks and do some research. **Computer science** Children will use excel to do basic calculations, use a spreadsheet to organise data and use more advanced formula. **Information technology** **Computer science**	Children will create a picture-based quiz and then expand to using questions. Children will explore different types of quizzes and create quizzes using databases. **Information technology**