Curriculum Map

Subject: Computing **Year Group: 7**

The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content	**Topic:** Online Safety (DL) **Key Areas:** ➢ Personal Data ➢ Social Networking ➢ Cyberbullying ➢ How to report concerns ➢ Cybersecurity ➢ Computer Legislation **Keywords:** Social network , Personal data, Cyberbullying, sexting, malware, virus, anti-virus, CEOP **NC Strand:** DL1 and DL2	**Topic:** Computer Hardware (CS) **Key Areas:** ➢ Understand the store program concept ➢ Internal computer components ➢ Cache and virtual memory ➢ Input, output devices ➢ Secondary Storage **Keywords:** Computer architecture, CPU, ALU, RAM, ROM, Hardware, Cache, Virtual memory, Secondary storage **NC Strand:** CS9 and 10	**Topic:** Binary Conversion (CS) **Key Areas:** ➢ Binary to Denary ➢ Denary to Binary ➢ Binary addition ➢ Hexadecimal to denary ➢ Denary to Hex ➢ Binary to Hex ➢ Hex to Binary **Keywords:** binary, bit, byte, nibble, overflow **NC Strand:** CS8	**Topic:** Programming- Scratch (CS) **Key Areas:** ➢ Understand simple algorithms ➢ Use and deign sprites ➢ Variables ➢ Input and output **Keywords**: Scratch, Visual programing language, scripts and stage area. **NC Strand:** CS4	**Topic:** Spreadsheet Development (IT) **Key Areas:** ➢ Understand computer models ➢ Create a financial model ➢ Use what IF scenarios ➢ Use conditional formatting ➢ Validation ➢ Create charts **Keywords:** Spreadsheet, models, what-if, formation, validation **NC Strand:** IT1	**Topic:** Data Representation (CS) **Key areas:** ➢ Understand how instructions are stored and executed within a computer system ➢ Data representation – Text ➢ Representation of bitmap images ➢ Representation of sound **Keywords:** Data, Representation, bitmap **NC Strand:** CS11

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Skills	➢ Reading skills ➢ Communication skills ➢ Critical-thinking skills ➢ Research skills	➢ Thinking skills ➢ Communication skills ➢ Problem-solving skills ➢ Research skills	➢ Analytical skills. ➢ Critical-thinking skills. ➢ Problem-solving skills.	➢ Creativity skills ➢ Problem-solving skills. ➢ Teamwork skills	➢ Problem-solving skills. ➢ Critical-thinking skills ➢ Analytical skills	➢ Problem-solving skills. ➢ Critical-thinking skills ➢ Analytical skills
Key questions	➢ Describe what personal data/information are? ➢ Explain how to keep safe when using social media. ➢ Distinguish between various types of social media networks. ➢ Design a poster on the awareness of cyber bullying on social media. ➢ Evaluate computer legislations.	➢ Explain what a CPU is. ➢ Evaluate the CPU performance. ➢ Describe all the various parts of computer? ➢ Distinguish between input & output devices. ➢ Investigate the various technology used in developing secondary storage.	➢ Describe what binary is and why do we study Binary ➢ Explain the need for studying hexadecimal. ➢ Distinguish between base 2, 10 and 16 ➢ Evaluate the use of binary in computer system	➢ Describe briefly how scratch is used to develop a simple algorithm ➢ Explain what scratch is and what it is use for. ➢ Distinguish between scratch and other programming language. ➢ Evaluate the various uses of scratch block, sprite and buttons	➢ Define what is spreadsheet ➢ Describe what constitute a spreadsheet ➢ Explain the use of spreadsheet ➢ Distinguish between spreadsheet and database ➢ Evaluate why spreadsheet is use as a model ➢ Create a spreadsheet to include what-if scenarios.	➢ Describe data representation and character set ➢ Explain how bitmap images are represented ➢ Distinguish between data representation of Sound and bitmap images ➢ Evaluate and calculate the file size on a bitmap image ➢ Define a pixel and colour dept.
Assessment	**Formative Assessment:** Starter test, class activities, homework, Quizzes, group work task, target questioning	**Formative Assessment:** Starter test, class activities, homework, Quizzes, research and group task, target questioning	**Formative Assessment:** Starter test, class activities, homework, Quizzes, group	**Formative Assessment:** Starter test, class activities, homework, Quizzes, group	**Formative Assessment:** Starter test, class activities, homework, Quizzes, group	**Formative Assessment:** Starter test, class activities, homework, Quizzes, group

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Summative Assessment: Unit test, End-of-term test, End-of-year test	**Summative Assessment:** Unit test, End-of-term test, End-of-year test	work task, target questioning **Summative Assessment:** Unit test, End-of-term test, End-of-year test.	work task, target questioning **Summative Assessment:** Unit test, End-of-term test, End-of-year test	work task, target questioning **Summative Assessment:** Unit test, End-of-term test, End-of-year test.	work task, target questioning **Summative Assessment:** Unit test, End-of-term test, End-of-year test.
Literacy/ Numeracy/ SMSC/ Character	Charting/communicating with friends amicably, knowing the danger of cyberbullying and how to avoid it	Knowing the various computer parts, how to use and dispose them properly to help the environment.	Knowing the meaning of key terms, Adding numbers & how to perform task	To use knowledge of programming to solve every day problem for the benefit of the society	Student will use knowledge in this area to develop a model in predicting every day event	Knowledge in this section helps student know how to calculate and appreciate the work of computers