Year 7

Computing

1. Programming & Algorithms	• Explain the term algorithm. • Create a simple algorithm using a flowchart. • Use a visual programming language to program an object to move. • Identify and correct simple mistakes in a visual program. • Use simple iteration to repeat a process in a program.	• Explain and give examples of algorithms used in everyday life. • Identify and use appropriate flowchart shapes for Input/Output, Process and Decision. • Use an precise algorithm to plan part of a visual programming task. • Use a visual programming language to program an object to move and interact with its surroundings. • Test and correct mistakes in a program. • Use iteration, while / for / until and selection in a program.	• Discuss the importance of algorithms in programming and everyday life. • Create precise algorithms that include selection, iteration and logic to plan a program. • Understand abstraction and the use of subroutines. • Analyse a problem and plan, design, develop and test a visual programming task . • Identify, correct and improve an existing solution to a programming problem. • Use variables, iteration, while / for / until and selection in a program.
2. Data Representation	• Identify different types of data and basic spreadsheet features. • Input data and apply appropriate data types and format into spreadsheet software. • Be able to use simple arithmetic formula to calculate values. • Display information in the form of graph. • Use a table to sort and filter information.	• Identify and explain why different data types are used in spreadsheets. • Input, amend, delete and apply appropriate formatting and data types into worksheets. • Use all arithmetic formulas and a range of functions to calculate and find values. • Create and edit graphs, choosing an appropriate range, style, headings and labels. • Create and use tables to search for an sort data using numeric and arithmetic filters. • Create a simple data model to test theories / hypothesis	• Create spreadsheets with suitable worksheets / workbooks using a wide range of features and functions. • Collect and input original data selection efficient formatting and data types. • Use a wide range of formulas and function to calculate and identify values. • Use selection 'If statements' to create simple data models. • Create and use tables which can be used to run queries combining sort and filter functions. • Create and edit a range of graphs that are linked to, and display values from tables.
3. Computer Systems	• Give a basic description of a computer system. • Identify computer systems used in everyday life. • Identify a range of input and output devices. • Explain the difference between hardware and software.	• Explain the term computer systems and the importance of computer systems in everyday life. • Explain and give examples of the architecture of a computer systems in terms of input, process and output. • Give examples of input and output devices and their role in school, home and business. • Explain what is meant by software and the difference between system and application software. • Explain the term hardware and the difference between internal and external hardware.	• Explain the term Computer System giving examples of systems used at school, home and commerce. • Explain the different stages of computer system in terms of input, process, memory, software and output. • Identify and explain the role of input and output devices in everyday life and specialist devices used at home, school, commerce. • Differentiate between application and system software explaining the key tasks undertaken by an operating system. • Explain the difference between internal and external hardware, identifying and describing the role of key pieces of internal hardware.
4. Networks & Cyber Security	• Explain the difference between the internet and WWW. • Understand and explain the term E-safety. • Describe and explain preventative measure against online threats and dangers.	• Explain the difference between the internet and WWW, their history and reason for development. • Identify and discuss the risks associated with online communications and activities. • Explain a range of good and bad behaviours related to online communication. • Understand the term malware and preventative measures that can be taken.	• Explain the difference between the Internet and WWW and the main hardware associated with both. • Be able to identify different types of online threats at home, school and in the outside world. • Explain the terms netiquette, digital footprint and online reputation and their impact upon personal security. • Understand the threats of and legal implications of malware and cyber security.
5. Information Technology	• Be able to save files with suitable names and file types. • Make appropriate choice of software to complete given tasks / solve problems. • Save files in a suitable folder structure. • Effectively search for, save and use resources when using the WWW.	• Independently make suitable choices of software and combinations of software to solve problems and present solutions. Create and use sensible file names and folder structures within the correct directory to store work. • Effectively and efficiently make use of online sources to find, save, adapt and use information and other resources in their work.	• Create, maintain and adapt an efficient folder structure within their directory to organise and store files with sensible names and suitable file types. • Complete tasks by combing the use of a range of software applications to source, save, adapt and use resources effectively. • Demonstrate a clear consideration of audience and purpose in the selection of software used and presentation of solutions.