Computing	Year 6

Autumn Term	Spring Term	Summer Term
Coding 1: Complex variables *(N.C. Ref: 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 variables 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)* Children will learn to use variables in more complex ways, investigating how to manipulate inputs to create useful outputs by entering code where user input creates mathematical calculators of number, shape and time. Children will then create a mathematical app using skills learned before moving on to debugging more complex programs. *(Software – Espresso Coding Year 6a)* **Multimedia presentation: website** *(N.C. Ref: 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)* Children will research and recognise the features of good web page design. They will then use Keynote (or other presentation software) to simulate a web page to present a topic. They should recap how to create hyperlinks between pages and to external sites as well as design pages and links, which present the user with clear information. Children will also discuss copyright when using information and images to present as their own. *(Software – Keynote, PowerPoint, Movie Maker)*	**Coding 2: Object properties** *(N.C. Ref: 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 variables and various forms of input and output)* Children will learn more about how computers use property values and parameters to store information about objects. How the speed and direction of a swipe on a tablet screen can affect the speed and direction of an object in a game or app. Children will then create a game using code commands for speed and direction, and code that keeps score. *(Software – Espresso Coding Year 6a)* **Spreadsheets** *(N.C. Ref: 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)* Children will be shown how spreadsheets can be used. Children will learn skills in formatting and entering specific formulas to perform number calculations and budget planning. They will also enter and edit text; create graphs; understand the advantages of spreadsheets over comparative manual methods and design their own spreadsheet for a specific purpose. *(Software - MS Excel, J2e J2office Spreadsheet)* ***Presenting & evaluating information (throughout year)*** *Throughout the year, children will be expected to choose when and how to research topics independently, being reminded of safe searching, using multiple sources of information to check accuracy and evaluating the effectiveness of information found.* *(Software – Google or Swiggle)*	**e-Safety: Bullying and inappropriate uses of technology.** *(N.C. Ref: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact)* Children will discuss: responsible internet use (bullying, trolling, posting of images); plagiarism and copyright; safe use of mobile technology - including the sending of images; rules and responsibilities regarding social media (including age limits) and what to do if a situation makes [them] uncomfortable. *(Software – CEOP ThinkUknow toolkit e-safety resources)* **Coding 3: Scratch** Children will continue to investigate more complex command blocks and how they can be sequenced to create more sophisticated outcomes including interactivity. Children will also be taught to debug their code, and investigate whether the order of commands is important. They will then try out, comment on the work of others, debugging if necessary. *(Software – Scratch online platform; J2e Code)* ***Research and Collaboration*** *Video conferencing with partner school to compare research / school council idea sharing / collaborative projects – resource dependent.*