Brough Primary School – Progression in Computing Skills KS2

	Phase 3 Years 3 and 4	Phase 4 Years 5 and 6
Computer Science: Algorithms/ Coding	● Designs solutions (algorithms) that use repetition and two-way selection i.e. if, then and else. ● Uses diagrams to express solutions. ● Uses logical reasoning to predict outputs, showing an awareness of inputs.	● Understands that iteration is the repetition of a process such as a loop. ● Recognises that different algorithms exist for the same problem. ● Represents solutions using a structured notation. ● Can identify similarities and differences in situations and can use these to solve problems (pattern recognition).
Computer Science: Programming and Development	● Creates programs that implement algorithms to achieve given goals. ● Declares and assigns variables. ● Uses post-tested loops e.g. 'until', and a sequence of selection statements in programs, including an if, then and else statement.	● Understands the difference between, and appropriately uses if, then and else statements. ● Uses a variable and relational operators within a loop to govern termination. ● Designs, writes and debugs modular programs using procedures. ● Understands that programming bridges the gap between algorithmic solutions and computers. ● Uses a range of operators and expressions, and applies them in the context

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Information Technology: Data and Data Representation	- Understands the difference between data and information. - Knows why sorting data in a flat file can improve searching for information. - Uses filters or can perform single criteria searches for information.	- Performs more complex searches for information e.g. using Boolean and relational operators. - Analyses and evaluates data and information, and recognises that poor quality data leads to unreliable results, and inaccurate conclusions. - Knows that digital computers use binary to represent all data. - Understands how bit patterns represent numbers and images. - Knows that computers transfer data in binary. - Queries data using a typical query language.
Information Technology: Hardware and processing	- Knows that computers collect data from various input devices, including sensors and application software. - Understands the difference between hardware and application software, and their roles within a computer system.	- Recognises and understands the function of the main internal parts of basic computer architecture. - Understands the concepts behind the fetch-execute cycle. - Knows that there is a range of operating systems and application software for the same hardware.
Digital Literacy: Purpose and understanding	- Collects, organises and presents data and information in digital content. - Creates digital content to achieve a given goal through combining software packages and internet services to communicate with a wider audience e.g. blogging.	- Makes judgements about digital content when evaluating and repurposing it for a given audience. - Recognises the audience when designing and creating digital content. - Understands the potential of information technology for collaboration when computers are networked.

	● Makes appropriate improvements to solutions based on feedback received, and can comment on the success of the solution.	● Evaluates the appropriateness of digital devices, internet services and application software to achieve given goals. ● Recognises ethical issues surrounding the application of information technology beyond school. ● Designs criteria to critically evaluate the quality of solutions, uses the criteria to identify improvements and can make appropriate refinements to the solution.
Digital Literacy: Communication and Online safety	● Understands the difference between the internet and internet service e.g. world wide web. ● Shows an awareness of, and can use a range of internet services. ● Recognises what is acceptable and unacceptable behaviour when using technologies and online services. ● Knows how to report when concerned about content or being contacted online.	● Understands how to effectively use search engines, understands how search engines rank search results. ● Selects, combines and uses internet services. ● Understands how to construct static web pages using HTML and CSS. ● Demonstrates responsible use of technologies and online services, and knows a range of ways to report concerns.