Computing Year 8 Assessment Grid

Year 8	Algorithms	Programming & Development	Data & Data Representation	Hardware & Processing	Communication & Networks	Information Technology
8.9	I can use logical reasoning to explain how an algorithm works.	I know the effect of the scope of a variable e.g. a local variable can't be accessed from outside its function.	I know the relationship between binary and electrical circuits, including Boolean logic.	I have a basic understanding of how the fetch decode execute cycle works.	I know the names of hardware associated with networking computer systems, including WANs and LANs	I can undertake creative projects that collect, analyse, and evaluate data to meet the needs of a known target audience
	I can evaluate the effectiveness of algorithms and models for similar problems.					I consider the properties of media when importing them into digital artefacts.
	I can represent algorithms using a structured language.					I can document user feedback, the improvements identified and the refinements made to the solution.
8.8	I know that iteration is the repetition of a process such as a loop.	I can use nested selection statements.	I know how numbers, images, sounds and character sets use the same bit patterns.	I know the function of the main internal parts of basic computer architecture.	I can use technologies and online services securely, and I know how to identify and report inappropriate conduct.	I can design criteria for other users to evaluate the quality of solutions.
						I can use the feedback from users to identify improvements and can make appropriate refinements to the solution.
		I can find and corrects syntactical errors.	I know the relationship between resolution and colour depth, including the effect on file size.			I can identify and explain how the use of technology can impact on society.
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8.7	I know that different algorithms exist for the same problem.	I know that programming bridges the gap between algorithmic solutions and computers.	I know that digital computers use binary to represent all data.	I know that there is a range of operating systems and application software for the same hardware.	I know how to refine a search by using Boolean and advanced operators.	I can design criteria to critically evaluate the quality of solutions.
	I can represent solutions using a structured notation.	I can apply correct data types to variables.	I know how bit patterns represent numbers and images.		I know how to construct static web pages using HTML and CSS.	I can use the criteria to identify improvements and can make appropriate refinements to the solution.
8.6	I can show an awareness of tasks best completed by humans or computers.	I know the difference between, and appropriately I can use if and if, then and	I can perform advanced searches for information e.g. using Boolean and relational	I know why and when computers are used.	I know how to use a search engine.	I can make decisions about the suitability of digital content for the target

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		else statements.	operators.			audience when including it in my work.
	I know that different solutions exist for the same problem.	I know what a procedure is.	I can analyse and evaluate data and information, and I know that poor quality data leads to unreliable results, and inaccurate conclusions.	I know the main functions of the operating system.	Selects, combines and I can use internet services.	I can use criteria to evaluate the quality of my work.
		I know that there are different data types.			I can show responsible use of technologies and online services, and I know how to report inappropriate content.	I can identify improvements making some refinements to the solution, and future solutions.
8.5	I can designs solutions (algorithms) that use repetition and two-way selection i.e. if, then and else.	I can create programs that implement algorithms to achieve given goals.	I know the difference between data and information.	I know that computers collect data from various input devices, including sensors and application software.	I know what is acceptable and unacceptable behaviour when using technologies and online services.	I can collect, organise and present information in digital content.
	I can use diagrams to express solutions.	I can assign values to variables.	I can use filters or can perform single criteria searches for information.	I know the difference between hardware and application software, and their roles within a computer system.		
	I can use logical reasoning to predict outputs, showing an awareness of inputs.	I can use selection statements in programs, including an "if, then and else" statement.				I can make appropriate improvements to my work based on feedback received, and can comment on the success of my work.
8.4	I know that algorithms are implemented on digital devices as programs.	I can use arithmetic operators, if statements, and loops, within programs.	I know different types of data: text, number.	I know that a range of digital devices can be considered a computer.	I can navigate the web and can carry out simple web searches to collect digital content.	I can use technology with increasing independence to purposefully organise digital content.
	I can design simple algorithms using loops, and selection i.e. if statements.	I can use logical reasoning to predict the behaviour of programs.	I know that programs can work with different types of data.	I know and can use a range of input and output devices.	I can show use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online.	I can show awareness for the quality of digital content collected.
	I can use logical reasoning to predict outcomes.	I can find and correct simple semantic errors i.e. debugging, in programs.		I know that a program gives instructions to a computer.		I can use a variety of software to manipulate and present digital content: and information.
	I can find and correct errors i.e. debugging, in algorithms.					I can share my experiences of technology in school and beyond the classroom.
						I can talk about my work and make improvements to solutions based on feedback received.