Computing

Year 8

William Hulme's Grammar School
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Overview	Our curriculum aims to facilitate students with knowledge, understanding and skills about three disciplines within Computing, IT, Digital Literacy and Computer Science. In Year 8, Units 1 to 6 allow students are taken on a tour through the different layer of computing systems: from programs and the operating system to the physical components that store execute these programs, to the fundamental binary building block's that these consist of. Students begin to develop skills in creating and editing digital graphics using advanced image editing software, this is developed further by developing students' skills in writing executable programmable instructions in industry recognised programming language. Unit 5 looks specifically at identifying real world problems and developing an app to solve this problem, developing their knowledge, and understanding in JavaScript using blocks or text. Developing further programming and computational thinking skills developed to help solve problems. Digital Literacy, identifying fake news, misinformation and disinformation and identifying online scams are developed through units 4. Understanding how changes in technology affect safety, protecting their online privacy and identify and how to identify and report a range of concerns are embedded throughout the key stage 3 curriculum.

	8.1 – PhotoPea	8.2 – Python Programming	Assessment
Autumn Term	**Big Question:** How do we make our images look professional?	**Big Question:** How can I write code like a pro?	Socrative Assessment: **Term 1:** Topic Assessment: ■ Combine tools/ techniques to create bitmap graphics. ■ Programming Techniques.
	■ Draw basic shapes (rectangle, ellipse, polygon, star) with different properties (fill and stroke, shape-specific attributes) ■ Manipulate individual objects (select, move, resize, rotate, duplicate, flip, zorder) ■ Manipulate groups of objects (select, group/ungroup, align, distribute) ■ Combine paths by applying operations (union, difference, intersection) ■ Convert objects to paths. ■ Draw paths. ■ Edit path nodes	■ Write simple Python programs that display messages, assign values to variables, and receive keyboard input. ■ Locate and correct common syntax errors. ■ Use simple arithmetic expressions in assignment statements to calculate values. ■ Receive input from the keyboard and convert it to a numerical value. ■ Use variables as counters in iterative programs	

	8.3 – Binary	8.4 – Safe & Positive	Assessment
Spring Term	**Big Question:** How do I convert binary to denary?	**Big Question:** How do we ensure our online lives are positive?	Socrative Assessment: **Term 2:** Topic Assessment: ■ Binary conversion Assessment ■ Digital Literacy and digital safety
	■ What is units of information? ■ What is binary and how it is used in Computing? ■ What is denary? ■ Converting from binary to denary ■ Converting from denary to binary	■ What is digital literacy? ■ How to spot fake news? ■ Understand the difference between misinformation and disinformation. ■ What the dangers are ■ What is phishing and pharming and how to spot them. ■ Behaving ethically and reporting problems.	

Summer Term	8.5 Mobile App Development	Programming Activities and Assessment	Assessment
	Big Question: How do I create a computer program or a set of programmes to perform the different task that a community or business requires?		Socrative Assessment: **Term 3:** Topic Assessment: ■ App Development ■ End of year exam
	■ Identifying world problems ■ Breaking the problem down into smaller parts ■ Creating wireframes ■ App development using JavaScript ■ Feedback and improvements		

Useful Resources for Supporting Your Child at Home:	Homework:
BBC Bitesize Seneca Learning Quizlet IDEA	Seneca Learning, IDEA or Quizlet set on Teams