COMPUTING - BIG AIMS CURRICULUM PLANNING - YEAR 9

WHAT ARE THE BIG AIMS OF YEAR 9?

- To further deepen students understanding and technical skill in computing/programming
- enable the scientific and practical study of computation: what can be computed, how to compute it, and how programs can be written to solve problems
- To develop student understanding about how computers and telecommunications equipment work, including storage, retrieval, transmission and manipulation of different forms of data
- To develop in students the ability to be efficient programmers
- To develop and extend students' subject/technical vocabulary
- To develop students' technical understanding and competence so that they are able to create audio/video which are fit for audience and purpose. Additionally, to select, use, manipulate and evaluate software and systems.
- To inspire more girls to study computing at KS4 and consider this as a career route

WHAT WILL EXCELLENCE LOOK LIKE IN YEAR 9?

Students will demonstrate:

- consistently high levels of technical proficiency in programming and debugging
- greater understanding and evidence of advanced programming techniques and the ability to combine techniques appropriately
- the ability to solve more complex problems efficiently
- an ability to work with greater independence
- competent and fluent use of technical language
- greater resilience
- curiosity beyond learning undertaken in the classroom
- deeper holistic understanding of hardware/software/data representation and how these elements integrate
- ability to support peer learning to address misconceptions

WHAT KNOWLEDGE DO THE PUPILS NEED TO ACQUIRE?	**WHAT SKILLS DO THE PUPILS NEED TO DEVELOP/DEEPEN?**
Computational Thinking & Programming: *computational thinking, sequence, selection, iteration(count/condition), variable, conditional operators, language, IDE* **Online Safety & Cyber Security:***Ethics, Law, Reasoning, Blogs, Email, Sense*	● Debugging ● Programming (text based) ● Applying boolean logic

of Awareness, Fake News, digital footprint, evaluating (choices) **Spreadsheets & searching/sorting algorithms:** *sequence, selection, iteration(count/condition), variable, conditional operators,*	● Applying computational thinking methods to design algorithms and solve problems ● Analysing and predicting ● Information handling: finding, creating, judging, manipulating data and information ● Technical proficiency ● Fluent use of technical language ● To be able to convert between different number bases (2, 10, 16)
WHAT MISCONCEPTIONS MAY THEY HAVE FROM PREVIOUS LEARNING? ● that place value of decimal applies to binary ● that decimal mathematical addition applies to binary addition ● programming is for boys ● that USB is an input device ● that copy and paste is an acceptable demonstration of learning	