



Computing at Three Peaks

Our pupils live in a world of ever developing technology. Computing is about an analytical way of thinking: breaking down processes into steps and having a consequence for future steps. It is an approach to problem-solving that can be applied to computer science, maths, science and engineering.



Computing skills

Using software for communication, publishing, data analysis or control.

Explaining basic working components of computer hardware.

Explaining how a computer network provides multiple services including access to the worldwide web and the wealth of information and services that brings.

Analysing and debugging a program.

Recognising and demonstrating an awareness of how to stay safe online.

Challenging stereotypes about who uses IT and who is a programmer or user.



Working like a programmer

Decomposition - identify what is staying the same and what is changing.

Logic - pattern recognition, result from cause and effect, continue pattern to check if decomposition was correct.

Abstraction - formulate rule for the pattern.

Algorithm design—use of language and symbols to describe the pattern.

Data representation - use of statistics to present, organise and inform. Use of hierarchical charts to organise information to show cause and effect

Elegance—search for simplicity and elegance by performing a function in the fewest steps possible, or by re-using previous patterns.

Ethics—responsible use of technology including e-safety.



Sequencing Content (Retention and connection)

Developmentally appropriate - KS1 focuses on physically seeing how logic produces cause and effect to produce instructions that can be acted out as a program. KS2 focuses on applying computational thinking to programming.

Links to *PSHE curriculum* - teaching e-safety.

Links to *maths curriculum*—unitising in patterns and predicting results from generalised rules.

Links to *DT curriculum* - building models of logic gates.

Media strand of curriculum aligned to researching and presenting knowledge for foundation subjects.



Success For All

Learning with the brain in mind

Differentiation for physical needs through the use of assistive technology.

Oracy—explicit knowledge of software and hardware. Use of technology as an aid to oral and written communication.



Assessment and progress

Application - create and debug programs (physical instructions in KS1, coding in KS2)

Application—Use technology to gain new knowledge.

Application - concisely and accurately present knowledge gained in foundation subjects.