

Computing's Big Ideas (Key Concepts)

There are a number of key concepts which underpin the study of computing. Pupils need to understand these concepts in order to deepen and broaden their knowledge and understanding.

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

KC1	Computer programming and perseverance	Understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
KC2	Using technology to solve problems	Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
KC3	Creating digital content	Be responsible, competent, confident and creative users of information and communication technology