

# **COMPUTING POLICY**

## **OVERVIEW**

We will provide a high-quality computing education that equips pupils to use computational thinking and creativity to understand and change the world. Strong links will be made with Mathematics and Design and Technology, and provides insights into both natural and artificial systems. The core of computing will be computer science, in which pupils will be taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. E-Safety remains a key element of the teaching to prepare and safeguard our children out of school for their future in the wider world.

## **INTENT**

1. To build on this knowledge and understanding so that pupils are equipped to use information technology to create programs, systems and a range of content
2. To ensure 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
3. To ensure that pupils can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
4. To ensure that pupils can analyse problems in computational terms, and have practical experiences of writing computer programs in order to solve such problems
5. To enable pupils to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
6. To ensure that pupils are responsible, competent, confident and creative users of information and communication technology
7. To understand the positive and negative emotions linked with being an online user.

## **IMPLEMENTATION**

1. Pupils will be taught to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
2. Pupils should be taught to create and debug simple programs in KS1 and design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
3. Pupils will be taught to use logical reasoning to predict the behaviour of simple programs and in KS2 they will be taught how to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
4. Pupils will learn how to use technology purposefully to create, organise, store, manipulate and retrieve digital content
5. Pupils will be taught how to recognise common uses of information technology beyond school and understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration
6. They will learn how to use sequence, selection, and repetition in programs; work with variables and various forms of input and output
7. They will be taught how to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
8. They will learn how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
9. Teachers will assess children's work in science through formative and summative judgements by; asking questions, observing learners during lessons, observing pupils solving practical problems and listening to pupils' discussions. Work will be marked regularly and frequently and pupils will be given appropriate, clear feedback which tells them how well they have done and what they need to do next to improve
10. Assessment will be based on key skills and essential knowledge and understanding within the Computing NC programme of study. A portfolio of work from Y1 to Y6 will be built up to show examples of the range of work done and evidence of progression
11. The Computing leader will support the teaching and learning of science by; providing strategic leadership and direction, monitoring progress and standards across the school, reviewing and revising the Computing policy, monitoring and supporting teachers in the teaching of Computing, keeping staff up to date on new developments in Computing, monitoring the effectiveness of the planning and development of Computing, auditing, monitoring the effective and appropriate use of resources and obtaining new resources.

## **IMPACT**

By the end of each key stage, pupils are expected to know, apply and understand the Computing key skills with an understanding of some of the software and programmes available to them in the wider world. Pupils will know how to use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. Pupils will recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

