COMPUTING POLICY

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<u>**Computing Policy**</u>

Purpose

The 2014 national curriculum introduces a new subject, computing, which replaces ICT. The change to the term computing is partly to stress the importance of teaching children to use computational thinking and creativity to understand and change the world. This represents continuity and change, challenge and opportunity. The new curriculum should reinforce the fact that Computing has deep links with mathematics, science, and design and technology. Pupils should be taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Rosehill's computing curriculum should also 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 members of a digital word. The curriculum should also pay close attention to providing children with good knowledge of e-safety and how to protect themselves online. Please see our e-safety policy for more information.

The Nature of Computing

The new National Curriculum presents the subject as one lens through which pupils can understand the world. There is a focus on computational thinking and creativity, as well asopportunities for creative work in programming and digital media. The introduction makes clear the three aspects of the computing curriculum: **computer science** (CS), **information technology** (IT) and **digital literacy** (DL). 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.

Aims

Our computing curriculum must ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems

- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.
- Can understand the importance of e-safety and the relevance to everyday life.

Subject Content

We have adapted our ideas and plans in order to meet the new national curriculum aims. The focus is to fully integrate ICT within all areas of the curriculum and to discretely teach the skills within those lessons. This to give the subject more of a meaning and purpose.

Within that it breaks it down into – e-safety, multimedia, data handling, information technology and computer science. Each year group is provided with suggested ideas, software and links to incorporate all of these areas mentioned throughout the year. This is to help teachers ensure that all of the national curriculum aims are being met within the lessons.

Key stage 1

Pupils should 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
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- 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.

Key stage 2

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

- 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
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- 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
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.