COMPUTING CURRICULUM MAP

Purpose of Study

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.

Aims

The national curriculum for computing aims to 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.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Computing Subject Content – Key Stage 1

Pupils should be taught to:

- understand what algorithms are and how they are implemented as programs on digital devices

- understand that programs execute by following precise and unambiguous instructions

- create simple programs

- debug simple programs

- use logical reasoning to predict the behaviour of simple programs

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- use technology purposefully to create, organise, store, manipulate and retrieve digital content

- use technology safely and respectfully

- keep personal information private when using technology

- recognise and describe common uses of information technology beyond school

- identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

At Heather Avenue Infant School we teach Computing discretely and through topics with meaningful cross-curricular links.

Year 1

Throughout the year children must learn:

- to use technology safely and respectfully – keeping personal information private
- to recognise uses of information technology beyond school
- to use technology to create and store digital content
- how to create simple programs
- what algorithms are
- to create digital content

Year 2

Throughout the year children must learn:

- to use technology safely and respectfully – keeping personal information private
- where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
- to use technology to create, organise, store, manipulate and retrieve digital content
- to use logical reasoning to predict the behaviour of simple programs
- to debug simple programs
- what algorithms are and how they are implemented as programs on digital devices
- that programs execute by following precise and unambiguous instructions
- describe uses of common technology beyond the school

Children will be taught about E-Safety and how to keep themselves safe on line in each year group.

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