Computing
Subject Overview

The members of the Computing Hub are Miss Kirkpatrick (Hub Driver), Mrs Williams (TA), Mrs Searle (Office) and Mr Horsburgh (IT/Network Manager).

The Computing curriculum is separated into three main strands; Computer Science, Digital Literacy and Information Technology. It is taught as a **spiral** curriculum, meaning that each topic will be revisited every year in order to build on previous skills.

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.

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

Computing lessons may be taught weekly, bi-weekly or as blocked sessions. Depending on the topic, lessons may be taught in the Computer Suite or in the classroom with laptops or tablets. Some lessons explore concepts such as directional language as a building block for programming things to move or post-it note flip books as an introduction to animation, and therefore can be taught in the classroom without the use of digital devices.

Online Safety is a topic that is revisited every year. It is of high value and importance to the children's wellbeing and therefore we aim for them to be completely secure in how to keep themselves safe online, how to recognise inappropriate content and what to do if something seems wrong. Online Safety is also revisited in an age-appropriate way at different times so that it can be dripped constantly to the children. This way, it is constantly promoted and remains at the forefront of the children's minds.