COMPUTING

INTENT

At Claytons Primary School we want children to be equipped for a rapidly changing world, where work and leisure activities are increasingly enabled by technology. Children will be given opportunities to develop their skills, and courage to test their creativity and to innovate their ideas, to live and thrive in a future increasingly dependent on computing. They will become independent, curious learners.

The importance of online safety is embedded in lessons where technology is used as well as being embedded in PSHE (Jigsaw) lessons and on Safer Internet Day. We develop children's knowledge and understanding of what being safe online means and parents are informed when issues relating to on-line safety arise and further information and support is provided if required.

IMPLEMENTATION

Statutory Requirements

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

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

At Claytons

We use and follow the Purple Mash scheme of work from Year 1-6, ensuring consistency and progression throughout the school. The Purple Mash scheme of work enables clear coverage of the computing curriculum. Units cover a broad range of computing components such as coding, spreadsheets, Internet and Email, Databases, Communication networks, touch typing, animation and online safety. Purple Mash also provides support and CPD for less confident teachers to deliver lessons.

Oracy

Collaborative talk can support children to develop their own ideas but, to be successful, it is essential that they are first taught how to engage in dialogue that enhances learning: to think critically, articulate their ideas clearly and engage constructively with others, with clear structures and routines put in place and modelled by teachers.

Vocabulary is built into all subject areas through robust, purposeful, explicit instruction. We teach new words, providing repeated exposure to them, and providing opportunities for children to use them.

IMPACT

Our Computing Curriculum is high quality, well thought out and is planned to demonstrate progression and build on and embed current skills. Children become increasingly proficient on school equipment and have good, transferable knowledge and understanding of online safety which is transferred into their own lives.

The main method of gathering and assessing achievement is by a continuous process of teacher observations. This is an informed assessment based on knowledge of the pupil and content of the lesson. Teachers make observations from each unit of work and plan their future work accordingly. Plans are adapted to ensure that all children are able to access the learning and understand their individual 'next steps'.

Progress of our computing curriculum is demonstrated through outcomes and the record of coverage in the process of achieving these outcomes. Teacher's judgments are supported through an electronic portfolio of evidence and through examples of age- related work.