West Ashton Church of England Primary School





Computing Policy

Dated: Nov 2021

Review date: Nov 2023

'You will shine among them like stars in the sky.'

Philippians 2:15 (NIVUK)

Introduction

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.

Intent

Ensure 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.

This will be achieved through the development of skills in three key areas: digital literacy, information technology and computer science. From Year 1, West Ashton uses a scheme of work from Kapow with additional and supplementary resources drawn from Google, ThinkUKnow, Code Club, Barefoot Computing and Computing at School.

Implementation

Teachers consider computing integral to their classroom management, placing computing to the fore as a means of subject

delivery across the whole curriculum as well as in the discrete computing skills lessons where children are constantly up-skilled. This will allow the teacher to ensure that computing is embedded in all areas of the curriculum.

This will include:

- use of laptops to deliver curriculum other than computing
- use of interactive whiteboards as standard classroom resource
- use of internet based resources including Class DoJo, TT Rock Stars etc
- significant emphasis on the necessity to be safe online
- use of computing by pupils to produce/present work across the curriculum
- significant emphasis on the programming and modelling elements of computing.

At West Ashton, our scheme of work is divided into three core sections:

Digital Literacy

Elements studied will include communicating, collaborating and E-safety, multimedia and digital imagery to design and create a range of programmes, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information sound.

In Key stage 1 pupils will be taught 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.

In key stage 2 pupils will be taught to:

- use technology safely, respectfully and responsibly, recognising acceptable - unacceptable behaviour
- identify a range of ways to report concerns about content and contact.

Information communication technology

Elements studied will include data handling and research.

In Key stage 1 pupils will be taught to:

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

In Key stage 2 pupils will be taught to:

- 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 programmes, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Computer science

Elements studied will include programming, modelling and simulation.

In Key stage 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.
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- recognise common uses of information technology beyond school

In Key stage 2 pupils will 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 programmes; 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

Recording children's work

West Ashton's scheme of work has been meticulously prepared to ensure coverage of the three major elements of computing. As the school's computing curriculum highlights, in order to gain a full and wide understanding of computing, there will be elements of learning which will not involve directly working on the computers. For example, there are elements of study within the discrete teaching of computing in which the children will research and learn about computing in the wider world. In these situations, the teacher of the discrete computing lesson will endeavour to record evidence of that. Equally, where the computing is applied to the wider curriculum by class teachers, evidence will be found within children's books related to all the other subjects of the curriculum.

Publishing children's work

The Computing National Curriculum requires children to have a breadth of experience in publishing their work in a variety of ways. These might include blogs, presentations or games. This element of computing is vital as it enables them to understand how they need to present their work to a wider and global audience and what presentation and e-sagety issues this entails.

Equality

Positive attitudes towards computing are encouraged, so that all pupils, regardless of race, gender, ability or special needs, including those for whom English is a second language, develop an enjoyment and confidence with computing.