Elliston Academy

What does Computing look like at Elliston Primary Academy?

Intent

At Elliston Academy, we believe that it is vital for all our pupils to learn from and about Computing and Technology, so that they can understand the world around them. Through teaching our computing curriculum, we aim to equip our children to participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology. It is our intention to enable children to find, explore, analyse, exchange and present information as well as having the skills to manipulate, develop and interpret different forms of technology in an ever-changing world.

In such a fast-moving curriculum, we are constantly looking at new ways of delivering relevant and exciting activities, while still delivering the fundamental skills needed for computing. Using technology safely and responsibly is a main priority and ensuring all pupils can use the internet and equipment appropriately is of paramount importance. We encourage our pupils to make links across the curriculum, the world and our local community, to reflect on their own experiences, which are designed in our curriculum, allowing horizontal and vertical links with previous year groups.

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.

Our ambitious computing curriculum is now structured in 3 areas that allow all pupils from EY to year 6 to progress through different categories of knowledge. These are:

Digital Literacy	Information Technology	Computer Science
(Mechanics, searching/selecting information and E-safety)	(Digital Artefacts and computing contexts)	(Algorithms, programming, data and systems)

Each area of the curriculum gives pupils time to practice and rehearse the knowledge needed to be proficient at computing and be ready for the next age of learning.

Implementation

The Elliston Academy bespoke computing curriculum offers a cross curricular scheme of work for EYFS, Key Stage 1 and Key Stage 2 which matches the expectations of the National Curriculum. The curriculum looks at the progression needed for all pupils to develop and embed skills and knowledge within the strands of: computer science, information technology and digital literacy. The curriculum is designed to support teaching and learning and the acquisition of subject knowledge in all areas. Children will have the opportunity to explore and respond to key issues such as digital communication, cyber-bullying, online safety, security and social media.

Impact

The impact this curriculum will have shows that:

•Children will be confident users of technology, able to use it to accomplish a wide variety of goals, both in school and at home.

•Children will have a secure and comprehensive knowledge of the implications of technology and digital systems which is important in our ever-evolving society.

•Children will be able to apply the British Values of democracy, tolerance, mutual respect, rule of law and liberty when using digital systems.

•Solve 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.

Aims

The Elliston Academy 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 those programs execute by following precise and unambiguous instructions (Computer Science)

•Create and debug simple programs (Computer Science)

•Use logical reasoning to predict the behaviour of simple programs (Computer Science)

•Use technology purposefully to create, organise, store, manipulate and retrieve digital content (Information Technology)

•Recognise common uses of information technology beyond school (Information Technology)

•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. (Digital Literacy)

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. (Computer Science)

•Use sequence, selection, and repetition in programs, work with variables and various forms of input and output. (Computer Science)

•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. (Computer Science)

•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. (Information Technology)

•Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. (Digital Literacy)