Computing

Edmund Waller Curriculum

Intent
Implementation
Impact

Know, Explore, Communicate

Intent

The computing curriculum at Edmund Waller aims to equip our learners with the skills to be confident, productive and creative members of modern society. The impact and importance of computing as subject on almost every aspect of our children's lives cannot be overstated. Also due to the nature of the rapid pace of development, it is a subject where the development of transferrable skills and knowledge are absolutely crucial to the children as they progress through the school.

At Edmund Waller, we follow Switched on Computing schema. The overall aim of the computing curriculum is that pupils leave primary school as confident, capable and creative users of digital technology, with a secure understanding of the fundamental principles of computer science and as safe, responsible and discerning digital citizens.

Our curriculum starts from the national curriculum programmes of study for Key Stages 1 and 2. As with the national curriculum, the scheme we follow aims to develop pupils' computational thinking and creativity so that they can 'understand and change the world'. The scheme recognises that computing has three inter-related aspects, and these are covered in each year:

- Computer Science (the foundations of computing, covering coding and computational thinking)

- Information Technology (the applications of computing, including working with documents, data and digital media)

- Digital Literacy (the implications of computing for individuals and society)

The school also recognises the 'spiral' nature of progression within computing: new knowledge, skills and understanding within each of the strands of the subject build on what's gone before. Thus, for example, in programming pupils are introduced to a simple sequence of recorded button presses on a Bee Bot in Year 1, then move on to building programs by snapping together blocks to move sprites in Scratch Jr before going on to create their own animations, quizzes and games in Scratch. Pupils progress from simpler to more complex programming languages, but also build up their conceptual understanding of programming from sequence, through repetition and selection to variables, input and output.

Implementation – Computing Long term plan

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1 (Title/Focus)	We are Treasure Hunters Solving problems using programmable toys	We are TV Chefs Filming the steps of a recipe	We are Digital Artists Creating work inspired by Great Artists	We are Publishers Creating a Multimedia eBook	We are Rhythmic Creating sound patterns	We are Detectives Using data to solve clues
Year 2 (Title/Focus)	We are Astronauts Programming on Screen	We are Games Testers Working out the rules for games	We are Photographers Taking, selecting and editing digital images	We are Safe Researchers Researching a topic	We are Animators Creating a stop-motion animation	We are Zoologists Collecting data about bugs
Year 3 (Title/Focus)	We are Programmers Programming an animation	We are Bug Fixers Finding and correcting bugs	We are Presenters Green screen presentation	We are who we are Presentations about ourselves	We are co-authors Producing a Wiki	We are opinion pollsters Collecting and analysing data
Year 4 (Title/Focus)	We are Software Developers Developing a simple educational game	We are Makers Coding for a micro:bit	We are Musicians Creating music in GarageBand	We are Bloggers Sharing experiences and opinions	We are Artists Fusing geometry and art	We are Meteorologists Recording and presenting the weather
Year 5 (Title/Focus)	We are Game Developers Developing an interactive game	We are Cryptographers Cracking Codes	We are Architects Creating a virtual space	We are Web Developers Making sense of the internet	We are Adventure Gamers Creating an interactive presentation	We are VR Designers Experimenting with Virtual/Augmented Reality
Year 6 (Title/Focus)	We are Toy Makers Coding and physical computing	We are Computational Thinkers Mastering algorithms in maths	We are Publishers Creating a year book or magazine	We are Connected Developing skills for social media	We are Advertisers Creating a short television advert	We are AI Developers Learning about AI and machine learning

Outcomes

- 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.

Outcomes

- 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