



Freegrounds Infant School

‘Building the future together’

Intent

Computing is an important part of the world we live in and is constantly changing. Our curriculum reflects this, teaching a progression of both computing skills and knowledge to prepare our pupils for an ever-changing digital world. We want our pupils to understand and apply the principles associated with computing, how digital systems work and how to put this knowledge to use through programming. We also want our pupils to be digitally literate, able to use, express themselves and develop their ideas through technology. E-safety is an important thread that runs through our entire curriculum and reflects the challenges of being online, ensuring that our pupils know how to be safe. Computing is an area that is rapidly developing all around us and the content we teach is regularly reviewed and updated to reflect this.

Implementation

The starting point for all of our teaching at Freegrounds Infant School is the National Curriculum. Its aims are to ensure that all pupils:

- develop an understanding of the basic principles of computer science, including simple algorithms and logical thinking
- solve problems using technology and begin to understand how digital systems work
- use information technology purposefully to create and organise content
- use technology safely, respectfully and responsibly

We base our teaching on the Teach Computing scheme of work. Units are taught using a cycle curriculum, with key themes revisited regularly to help pupils build on prior learning in a meaningful way. E-safety is explicitly taught throughout the year, with links to the PSHE curriculum to ensure pupils understand the importance of staying safe online.

The curriculum is designed to cover the three main strands of computing, which are:

- COMPUTER SCIENCE: simple programming and understanding data
- INFORMATION TECHNOLOGY: using devices and creating digital content
- DIGITAL LITERACY: using technology safely and responsibly

Pupils primarily use Chromebooks or laptops, and also have access to a range of other devices and software. We believe it is important for pupils to begin to transfer skills by recognising similarities and differences, and applying what they already know in new situations. Children will have opportunities to use a range of hardware including tablets, cameras, microphones and programmable toys.

Where possible, computing is linked to other areas of the curriculum and real-life experiences, helping pupils to embed and understand their learning.

Assessment is ongoing to monitor progress and identify any support or challenge that may be required. We have high ambitions for every pupil, including those with SEND and those who are disadvantaged or vulnerable. Learning is carefully adapted to ensure all pupils can access the curriculum successfully, with appropriate scaffolding and opportunities for challenge.

Impact

When children leave Freegrounds Infant School, they will have built on the strong foundations developed in the Early Years, where they begin to explore technology through play, use simple digital tools and learn how to stay safe with adult guidance.

By the end of Key Stage 1, pupils will have developed the foundations of computer science, information technology and digital literacy. They will be able to use technology to explore, create and solve simple problems across a range of activities. Children will be beginning to use technology safely and responsibly, showing increasing independence, confidence and curiosity when engaging with digital tools.

They will be able to apply their learning in both familiar and new situations, helping them to make sense of the world around them and prepare for the next stage of their education. As with all subjects, we aim for our pupils to enjoy their learning in computing, develop confidence in their abilities, and feel proud of what they can achieve.



Freegrounds Infant School: Computing Curriculum Map

A	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Yr 1 & 2	How do I get home?	Florence Nightingale	The sea	The Sea	Save the planet	Brilliant World
	Computing systems and networks Technology/IT around us	Creating media – digital painting/photography – photos of the environment	Programming – Beebots Create a route on a map	Data and information – grouping data/ pictograms Group data	Programming Scratch Creating simple programme	Creating Media – stop motion
	Online safety Online relationships	Online safety Online reputation	Online safety Managing online information	Online safety Privacy and security	Online safety Copyright and ownership	Online safety Managing online information

B	Term 1	Term 3		Term 4	Term 5	Term 6
Yr 1 & 2	Let it shine!	Winter	What big eyes you've got!	Let it grow!	Kings and Queens	I spy...
	Computing systems and networks Technology/IT around us	Creating media – digital painting/photography – photos of winter in the environment – paint something wintery	Programming – Beebots Create a route for Red riding hood to travel safely to her grandma's house.	Data and information – grouping data/ pictograms Group data of plants found in the outdoor environment/pond area	Programming Scratch	Creating Media – stop motion
	Online safety Online relationships	Online safety Online reputation	Online safety Managing online information	Online safety Privacy and security	Online safety Copyright and ownership	Online safety Managing online information

Bold headings = Based on Teach Computing scheme of work ... Online safety lessons based on Project Evolve units of work

Italics = suggested computer/software skills linked to other subject / curriculum areas



Freegrounds Infant School: Computing assessment points.

Key Stage 1		
DISCIPLINARY KNOWLEDGE		• Think logically by following and creating sequences of instructions. • Decompose problems into smaller steps. • Predict and test what a program will do. • Debug by spotting and fixing errors. • Recognise patterns and use them to solve problems. • Evaluate digital work and suggest improvements. • Work safely and responsibly when using technology. • Create and communicate using digital tools.
SUBSTANTIVE KNOWLEDGE		• What algorithms are • What a computer is • How digital devices can be used • How to create and debug simple programs • How data can be represented and organised • How to stay safe online



Freegrounds Infant School: Computing Areas of Study (Substantive knowledge)

YEAR 1 & 2 – Cycle A	YEAR 1 & 2 – Cycle B
• Technology and digital devices. • Algorithms and programming. • Digital media creation. • Data and information. • Digital citizenship and online safety. • The purpose and impact of technology in everyday life.	• Technology and digital devices. • Algorithms and programming. • Digital media creation. • Data and information. • Digital citizenship and online safety. • The purpose and impact of technology in everyday life.

National Curriculum in England: Computing

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
• 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.
Attainment Targets
By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.
Key Stage 1 Subject Content
• 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.

