

Computing Subject Overview

***'Coding is today's language of creativity. All of our children deserve a chance to become creators instead of consumers of computer science.'* Maria Klawe.**

Curriculum Aims and Principles

At Greet, we are driven by a collective mission of ensuring that children understand that there are **no limits to what they can achieve**. It is through this relentless ambition and high expectations that we seek to **achieve excellence** for our children, to develop their **social intelligence** and their understanding of how to live **ethical lives**. Our school mission and values form the drumbeat of day-to-day life at Greet. They are the driving forces behind our curriculum design.

Our curriculum has the children of Greet at its heart. It is rooted in our school, our families and our local community whilst ensuring learners are also taught about national and global issues. We endeavour to give our children a strong sense of their own identity and their place in the world, and to respect the same for others. They will know the story of humankind, its place in history and how they can have a positive impact on the future, so they are fully prepared for the challenges of the 21st Century.

All of our curriculum areas are carefully planned and mapped using **our core curriculum principles**. These ensure our curriculum is: **values driven**; focused on **the essentials**; **coherent, connected** and **cumulative**; incorporates **carefully selected knowledge**; **vocabulary rich**; **ambitious**; and **builds cultural capital**. Please see our 'Curriculum Aims and Principles' document for more details.

For all subject areas we have **carefully selected and sequenced the key knowledge and vocabulary** our children need to build the foundations of future academic success. Knowledge and vocabulary are **explicitly mapped on our medium term plans**. This knowledge and vocabulary is **delivered as a minimum requirement**. Content is arranged sequentially and logically with key concepts are revisited in a range of contexts within a year group, across year groups and across subjects. Our curriculum threads link key themes across the school.

Computing at Greet

Developing computing skills is vital- technology surrounds us and is developing at an ever-increasing pace. In order to equip our children for this, we expose them to a range of technology so that they become digitally literate and feel confident in adapting to new technologies as they arise. Children leave Greet with the knowledge and skills to become active participants in an increasingly digital world.

Computing has deep links with mathematics, science, and design and technology. 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.

Our Computing curriculum aims to ensure that all pupils can understand and apply the most important principles and concepts of computer science. The include: abstraction, logic, algorithms and data representation. The curriculum must give children the necessary skills to break down a problem, predict what will happen and use logic to find a solution through practical experience.



Our computing curriculum **aligns closely to the National Curriculum** and provides our children with the opportunity to:

- understand and apply the fundamental principles and concepts of computer science.
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- become responsible, competent, confident and creative users of information and communication technology.

At Greet Primary School we teach **an ambitious, knowledge rich computing curriculum** through the use of the Purple Mash scheme of work. This ensures that our computing curriculum content is mapped **sequentially and logically** with **key vocabulary and knowledge revisited** to support children to **know more and remember more**.

We teach computing as a discrete subject so children have the opportunity to think like 'computer scientists', **understanding the subject as a discipline in its own right**.

Online safety units are taught explicitly and discretely in addition to digital literacy units. These messages and the theme of safe technology use are then woven throughout other lessons. These lessons mean that our computing curriculum sits closely alongside our PSHE and safeguarding curriculums.

EYFS

During their time in Nursery and Reception children explore and investigate numerous digital technologies. They are introduced to Computer Science through investigation and the use of programmable toys (bee-bots and remote controlled cars). They are supported to take photographs of each other and our local area during their 'Me and My Community' unit and use chrome books and laptops to develop their keyboard and track pad skills. As a group they listen to music and take part in online quizzes. Children also start to become digitally aware by learning about technology around them in their 'Marvellous Machines' topic, as well as discovering why technology needs to be used safely.

Key Stage 1

In Key Stage 1 children learn how to use technology effectively through effective searching. They learn to use technology safely outside of school. Their computer science skills then develop through topics on grouping and sorting and coding. They develop their information technology skills by being introduced to using spreadsheets, creating pictures and music and presenting ideas using technology. There are clear cross curricular links as they investigate pictograms and create animated stories.

Key Stage 2

In Key Stage 2 children learn about data, algorithms, repetition, iteration and computer networks. Children create and debug more complicated programs with specific goals, learning to understand concepts like variables and sequence, selection and repetition in programs. They build on knowledge learnt in Key Stage 1 further developing information technology skills, making clear connections to their audience when creating digital content and using criteria to evaluate their work. Children learn safe and respectful behaviours when using a range of different technologies including preserving their privacy for their own and others' safety.

Entitlements

Through the computing curriculum every child will:

- receive 45 minutes computing lesson each week.
- take part in a range of computer science information technology and digital literacy units.
- have access to up to date digital technology to use and apply their computing skills across the curriculum.
- have access to computing lunchtime and after school clubs.

Assessment

We assess children' learning of computing through:



- Teachers assessing outcomes of each lesson
- Teachers completing an end of year assessment tool to assess against National Curriculum objectives.

