

Aim of the Computing Curriculum:

Our children are growing up in an increasingly technological world. The ability to use and understand all aspects of Information Technology is an essential life skill. We aim to deliver a high-quality computing education which 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. The national 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.

How is the Computing programme of study implemented?

In Key stage 1:

The computing curriculum is broken down into 3 main areas for Key stage 1: Logical Reasoning/Algorithms/Debug, create/organise and E-safety.

At the start of every unit of work, children begin with an E-safety lesson. These lessons focus on the importance of using technology safely and respectfully; keeping personal information private and identify/ knowing where to go for help and support when they have concerns about content or contact on the internet or other online technologies. Children use digital devices to begin to understand what algorithms are and how they are implemented. They have access to Sphero as a modern digital device and use this to: program devices; understand that programs execute based on unambiguous instructions; create and debug simple programs and use logical reasoning to predict the behaviour of simple programs. Our computing curriculum ensures that the children become digitally literate and develops the children's understanding of the importance of computing and the impact it plays on the world around us.

In Key stage 2:

The computing curriculum is broken down into 3 main areas for Key stage 2: Logical Reasoning/Algorithms/Debug, select/use/combine and E-safety.

At the start of every unit of work, children begin with an E-safety lesson. These lessons focus on the importance of using technology safely and respectfully; keeping personal information private and identify where to go for help and support when they have concerns about content or contact on the

internet or other online technologies. Children continue to build on their knowledge of algorithms and reasoning through the use of Scratch. In Key Stage 2, children also look at how computers are connected to networks and what this means. They also extend their computing vocabulary. We aim to introduce resources that are in line with new technology and Year 5 and 6 have access to a green screen and Microbit.

How is Computing assessed focusing on prior knowledge and progression?

Assessing children's prior knowledge is pivotal in all lessons to ensure children make progress and build upon previous knowledge. Children's knowledge and understanding of key skills are tracked throughout the school using the schools' formative and summative assessment systems. Our computing curriculum has been designed to be developmental, therefore units build on previous units making assumptions that children have completed the earlier stages.

How do we ensure the Computing curriculum is for everyone?

Inclusion is core in all subjects delivered within the Computing curriculum. Resources, activities and targeted teaching is used to ensure all children meet their potential and build upon prior knowledge. Children have the opportunity to work in pairs, to support each other, using both iPads and laptops and to have targeted support during the lesson.

How do we ensure key content is remembered as pupils move through school?

Skills from Key stage 1 are deliberately revisited to ensure we build on prior knowledge. In year 3, Scratch looks at animation and algorithms, which builds on the use of algorithms taught using Sphero in Year 1 and 2. Then in Year 4, this embeds animation and in Year 5 variables are added. Finally, in Year 6, these skills are applied to another program.

Our e-safety curriculum deals with topical issues building content and depth as children progress through school using Project Evolve.

How will the Computing curriculum prepare children for the future and allow children to apply the key skills learnt?

Upon leaving Canterbury Cross Primary School, we hope that the children become highly proficient in computing and have the foundations to develop their computing skills further so that they are digitally literate. We hope the children have a clear understanding of how to use the internet safely.