

Why we teach ICT at Coton Green

Computing Vision

The aim of our Computing curriculum is to raise aspirations of all groups of children, including those that are seen as disadvantaged to allow them to be digitally literate in an evolving world where they will need to be digitally competent for jobs of the future.

When planning and teaching Computing at Coton Green, we believe that it is an essential part of the curriculum; a subject that not only stands alone but is woven through, and should be an integral part of, all learning. As well as the benefits of IT, we are also aware of the risks and this is why we prepare our children to stay safe online through our e-safety lessons and safer internet days.

At Coton Green Primary, we believe that computing skills and an understanding of technology play a key part in helping our children to fulfil their potential and achieve their goals. We provide children with a variety of computing and technological experiences across a range of media. Our aim is to equip children with the knowledge and confidence to succeed in a busy multimedia society.

From the moment children enter Coton Green Primary school, technology and computing play an important part in their education. From watching teachers use a range of devices, to creating their own work on a computer, children have the opportunity to experience a wide range of technology. Our aim is to begin a lifelong relationship with technology and develop children's digital confidence.

How we teach ICT at Coton Green

The pupils have a directed time to be taught ICT in which they will have access to either a Laptop or iPad. The lessons are all planned out with power points to aid the pupils and help to explain technical vocabulary which is used the lessons. The pupils will then use the applications to enhance their learning. We are currently following the computing scheme of work created on the 'Purple Mash' website which covers all aspects expected to be taught on the ICT National Curriculum. ICT is used throughout the curriculum including Maths 'TT Rockstars', Reading 'Reading Plus' and PSHE 'Internet Legends with google.com'

Key features of our curriculum:

The skill areas involved in the computing curriculum clearly follow the areas of skills set out in the Computing National Curriculum to encourage children to use computational thinking and to be creative to understand and change the world.

The skill areas that children develop across all study of computing are:

1. Programming- skill based and focuses explicitly on coding and programming
2. Online Safety- consistent and progressive online safety message
3. Digital Literacy- provide children with a wide variety of multi-media knowledge and opportunities.

These skills will be continually developed throughout their time at Coton Green through opportunities to code and programme in a variety of programs, become aware of potential risks online and how to be safe online and to learn a variety of skills on different devices to allow them to be digitally competent.

In EYFS, technology is included as part of cross curriculum activities during ‘Understanding the World’, which is a specific area of learning. Children are provided with a range of materials and objects to play with that work in different ways for different purposes. They look and discuss materials recording what they see.

During KS1 and KS2, children will begin to learn skills including using a mouse and they will use computers to create art, write and begin to learn simple coding. As a school, we have chosen the Purple Mash Computing Scheme of work to teach our children. The scheme supports our teachers in delivering fun and engaging lessons across a range of topics. Each child has their own unique log in and their own area where they can save and access their projects. This gives children ownership of their own work and allows teachers to review and assess their learning.

Examples of the subjects taught across the mixed age year groups can be seen below- As can be seen to avoid repetition there is a Cycle A and B. A is illustrated below.

Year 1/2 - Cycle A			Year 3/4 - Cycle A		
Predominant Area of Computing*			Predominant Area of Computing*		
Computer Science	Information Technology	Digital Literacy	Computer Science	Information Technology	Digital Literacy
*Most units will include aspects of all strands.			*Most units will include aspects of all strands.		
Unit 1.1 Online Safety & Exploring Purple Mash Number of lessons – 4 Programs – Various	Unit 2.5 Effective Searching Number of lessons – 3 Programs – Browser	Unit 1.4 Lego Builders Number of lessons – 3 Programs – 2DIY	Coding Number of lessons – 6 Main Programs – 2Code See table below for breakdown.	Unit 3.2 Online safety Number of lessons – 3 Programs – Various	Unit 3.3 Spreadsheets Number of lessons – 3 Programs – 2Calculate
Unit 1.9 Technology outside school Number of lessons – 2 Programs – Various	Unit 1.2 Grouping & Sorting Number of lessons – 2 Programs – 2DIY	Unit 2.6 Creating Pictures Number of lessons – 5 Programs – 2PaintAPicture	Unit 3.4 Touch Typing Number of lessons – 4 Programs – 2Type	Unit 3.5 Email (including email safety) Number of lessons – 6 Programs – 2Email, 2Connect, 2DIY	Unit 3.6 Branching Databases Number of lessons – 4 Programs – 2Question
Unit 1.8 Spreadsheets Number of lessons – 3 Programs – 2Calculate	Unit 1.7 Coding Number of lessons – 6 Programs – 2Code	Unit 2.1 Coding Number of lessons – 5 Programs – 2Code	Unit 3.7 Simulations Number of lessons – 3 Programs – 2Simulate, 2Publish	Unit 3.8 Graphing Number of lessons – 3 Programs – 2Graph	
Year 5/6 - Cycle A			Predominant Area of Computing*		
			Computer Science	Information Technology	Digital Literacy
			*Most units will include aspects of all strands.		
Coding Number of lessons – 6 Main Programs – 2Code See table below for breakdown.	Unit 5.2 Online safety Number of lessons – 3 Programs - Various	Unit 5.3 Spreadsheets Number of lessons – 6 Programs – 2Calculate	Unit 5.4 Databases Number of lessons – 4 Programs – 2Question, 2Investigate	Unit 5.5 Game Creator Number of lessons – 5 Programs – 2DIY 3D	Unit 5.6 3D Modelling Number of lessons – 4 Programs – 2Design and Make
Unit 5.7 Concept Maps Number of lessons – 4 Programs – 2Connect					

On-line Safety:

Online safety is at the heart of our computing curriculum. We believe that it is essential for children to have the knowledge and confidence to use technology safely and know what to do if they do not feel safe online. Every year, each child will complete an e-safety module to ensure their knowledge is up to date.

Teaching Principles:

Cognitive science is a fundamental part of our teaching principles, and they have been designed based on research into the working memory and long-term memory, considering how learning can be constructed to maximise the information retained by children. These principles underpin the long and medium term planning of Computing, as well as the way in which individual lessons are planned, delivered and sequenced.

By carefully considering our development of schemata the children will come across a variety of devices including laptops and iPads etc and a variety of programs (Purple Mash). Through retrieval practice, students will embed knowledge of the different skills. Lessons are planned so that the cognitive demand is suitable for all learners meaning new knowledge is learnt through smaller, manageable steps.

Verbal feedback is a key component of the teaching of computing,

Staff Development:

Staff development is focused on subject knowledge to support staff in their Computing teaching.

Regular updates and CPD are given regarding subject knowledge. The focus of the subject specific training will be on ensuring that subject knowledge is strong across the school, especially for early career teachers.

How well are pupil's learning?

Assessment:

Formative assessment is used in every lesson to identify any learners who need further support. Teachers use spaced retrieval and low stakes testing to assess knowledge and understanding.

Summative assessment is used to make end of year judgements on attainment and informs the next teacher of each child's starting point in terms of knowledge and skills.

Throughout all of computing lessons, we encourage problem solving, resilience and risk taking. Lessons allow children to use the tools independently and come up with their own solutions to problems and glitches. Computing also promotes creativity, lateral thinking and gives children a chance to use trial and error to improve their work. Our vision is to create a positive life-long relationship between the children and the technology around them, which will go with them in to secondary school and beyond.



Monitoring:

Monitoring is undertaken by the subject lead and on occasions members of the senior leadership team. The focus is directed by the current Action Plan considering whole-school or staff specific focuses, such as the impact of iPads. It can be made up of one or a combination of: pupil conversations, professional discussions with staff, and learning walks (all of which would involve looking through evidence of learning saved online). Leaders monitor the quality of teaching, providing feedback to ensure that teachers are providing high quality Computing lessons. Feedback is then given promptly with the intent of developing practice, followed by a discussion if clarification is needed or to plan CPD that would be beneficial.

How are teachers supported to deliver this curriculum?

Planning is provided to teaching staff via the 'Purple Mash' website which covers all areas that are required to be taught from the government's national curriculum document for all subjects taught in Primary Education KS1 and KS2.

Mr Darren Birch

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