Computing: Intent, Implementation & Impact Statement

This document outlines: the intent and rationale behind the Computing curriculum, how to deliver it and how to measure pupil progress.

INTENT

School Curriculum Intent:

For our learners our curriculum provides:

- a value-based curriculum, building from a foundation of Christian values developed at the Infant School (C of E), and enhanced at the Junior School (Community), to prepare our learners to be inclusive, respectful of themselves and others, and enable them to contribute fully within our modern, multi-cultural, British society;
- responsible citizens, successful learners and confident individuals;
- opportunities to enrich the life of our learners and provide vibrant experiences to make learning real, to open their minds to wider worlds beyond their own, and to enable them to empathise with each other, and others in different circumstances, from different backgrounds, places and times;
- a linked, language-rich curriculum to develop deep understanding and cultural capital;
- development of characteristics to enable them to contribute fully within their school and wider community, now and into the future;
- skills to develop positive relationships, and high expectations of behaviour; enabling everyone to be the best possible versions of themselves;
- a range of knowledge and skills to be equipped for the next stage of education.

At Burbage C of E Infant School, our intention is that pupils will be able to use their computing skills across the curriculum and to inform and enhance life-long learning. We use a scheme of work called The National Centre for Computing Education (Teach Computing) for our discreet computing lessons and the online Project Evolve scheme to teach internet safety.

We intend for pupils to have a foundational understanding of computing to include algorithms, simple programs, logical reasoning, and prediction. We also aim for pupils to purposefully and creatively store, manipulate and retrieve digital content as well as being able to recognise how technology is used across the wider world.

We believe that young children need a strong, but age-appropriate, understanding of how to keep safe when using modern computing technology and the internet. This will then allow pupils to feel protected, well-informed, and able to self-regulate when using technology and the internet, and all it has to offer.

IMPLEMENTATION

School Curriculum Implementation:
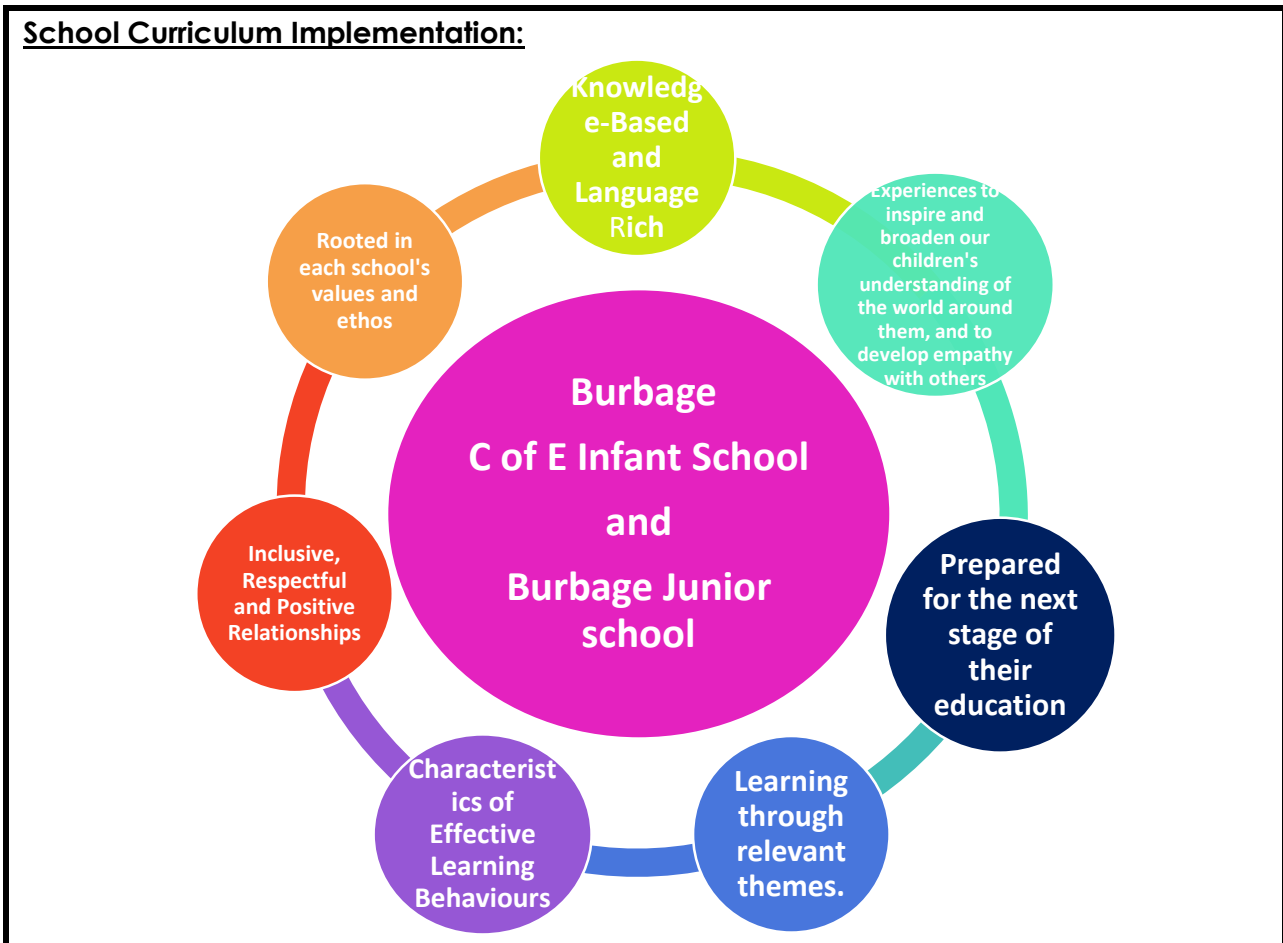
The National Centre for Computing Education (Teach Computing) provides a comprehensive framework for teaching computing in Key Stage 1 (ages 5-7). The curriculum is designed to be flexible and adaptable, so it can be tailored to meet the needs of individual schools and pupils.

Here are some of the key principles of how Teach Computing is implemented in Key Stage 1:

- A focus on computational thinking: computational thinking is the ability to break down problems into smaller, more manageable steps and to use algorithms to solve them. Teach Computing places a strong emphasis on developing children's computational thinking skills;

- A hands-on approach: children learn best by doing, so Teach Computing encourages hands-on activities and projects. This includes using a variety of digital technologies, such as computers, tablets and smartphones;

- A focus on creativity and problem-solving: Teach Computing encourages children to be creative and to use their computing skills to solve problems. This helps children to develop a growth mindset and to persevere in the face of challenges;

- A focus on digital literacy: children need to be able to use digital technologies safely and responsibly. Teach Computing helps children to develop their digital literacy skills, so they can make informed decisions about how to use technology in their lives.

Here are some examples of how Teach Computing is implemented in Key Stage 1 classrooms:

- Children will use a variety of digital technologies to create their own stories, pictures, and music;

- Children will learn how to program robots to follow instructions;

- Children will use data to answer questions about their world;

- Children will learn about the different ways that technology is used in their lives.

Teach Computing also provides a variety of resources to help teachers implement the curriculum, including:

- Lesson plans: these plans provide teachers with detailed instructions for teaching computing lessons;

- Activity sheets: these sheets provide children with hands-on activities to complete;

- Assessment tools: these tools help teachers to assess children's learning.

Teach Computing is committed to providing all children with the opportunity to develop their computing skills and knowledge. By using a variety of teaching methods and resources, Teach Computing helps to ensure that all children are prepared for the digital world.

		Autumn 1	Autumn 2		Spring 1	Spring 2		Summer 1	Summer 2	
Foundation Stage	PROJECT EVOLVE	Self-Image & Identity	Online bullying	Health, well-being & Lifestyle	Privacy & Security	On-line Reputation	On-line Relationships	Copyright & Ownership	Managing online Information	
	National Centre for Computing Education	Digital painting			Data and information			Programming		
Year 1	PROJECT EVOLVE	Copyright and Ownership	Health, well-being & Lifestyle	Online bullying	Self-Image & Identity	Privacy & Security	Managing online Information	On-line Reputation	On-line Relationships	
	National Centre for Computing Education	Technology Around Us		Digital Printing		Digital Writing	Moving Robot	Introduction to Animation		
Year 2	PROJECT EVOLVE	Online Relationships		Self-image and Identity		Copyright and Ownership	Online Reputations	Privacy and Security	Managing Online Information	Online Bullying	Health, Wellbeing and Lifestyle
	National Centre for Computing Education	Computing systems and networks		Digital photography		Data and information	Programming A – Robot Algorithms	Creating media – making music	Programming B – Introduction to quizzes	

Although the National Centre for Computing Education (Teach Computing) does not cover EYFS we have devised 3 activities which the children will develop and work on each term. We have called them Digital Printing, Grouping Data, Programming. They also have access to iPads.

To ensure that the children have 'skills and knowledge,' lessons are sequenced and structured so that prior learning is always considered and revisited. Each lesson will always start with a recap of previous learning to build a depth to the children's understanding.

- The computing curriculum fulfils and exceeds the requirements of the National Curriculum. All subject studies from the National Curriculum are included in the curriculum map. Within and across year groups, the topics are repeated to develop children's skills in understanding the programs and how to use creativity to further develop new and effective programs that will impact the future.

- Early computing skills are developed in EYFS through activities which may not involve the use of technology. This includes developing knowledge of sequence and steps in a process – adding to their schema about instructions, which will provide a strong foundation when learning about algorithms.

- Computing scheme of work; covers the national curriculum objectives and develop learning in a progressive sequence.

National Curriculum Coverage – Years 1 and 2	1.1 Technology around us	1.2 Digital painting	1.3 Moving a robot	1.4 Grouping data	1.5 Digital writing	1.6 Programming animations	2.1 Information technology around us	2.2 Digital photography	2.3 Robot algorithms	2.4 Pictograms	2.5 Digital music	2.6 Programming quizzes
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	✓			✓	✓		✓	✓	✓	✓		

Loving   Living   Learning

IMPACT

School Curriculum Impact:	Pupils who take responsibility for their own actions and make a positive contribution to society.
Prepared for the next stage of their education	Knowledge of British and global society beyond their own through the curriculum.
	Able to use technology effectively and safely.
	Excellent behaviour and attendance.
	Healthy lifestyle choices- safe, healthy and fulfilling lives.
	All children to make good progress from their starting point.
	Pupils who enjoy learning and can independently explore and enquire.

The National Centre for Computing Education (Teach Computing) assesses children's learning in Key Stage 1 through a variety of methods, including:

- Observations: teachers observe children's engagement in computing activities, their understanding of computing concepts, and their ability to apply their computing skills to solve problems;

- Formative assessment: teachers use formative assessment tools, such as exit tickets and quizzes, to gauge children's understanding of key computing concepts and skills;

- Summative assessment: children complete summative assessments, such as end-of-unit projects and tests, to demonstrate their mastery of key computing concepts and skills.

Teach Computing also provides a variety of resources to help teachers track and evidence children's progress in computing, including:

- Tracking sheets; these sheets can be used to track children's progress against the computing curriculum;

- Evidence logs: these logs can be used to document children's learning through observations, formative assessments, and summative assessments;

- Portfolios: these portfolios can be used to collect samples of children's work, such as code, drawings, and written explanations.

By using a variety of assessment methods and resources, Teach Computing helps teachers to ensure that all children have the opportunity to develop their computing skills and knowledge.

Here are some specific examples of how Teach Computing assesses children's learning in Key Stage 1:

- In Year 1, children are assessed on their ability to:

    - Use a mouse or trackpad to control a cursor on a screen;
    - Use a keyboard to type letters and numbers;
    - Understand the concept of algorithms and how they are used to solve problems;
    - Create simple programs using a block-based coding language.

- In Year 2, children are assessed on their ability to:

    - Use a variety of digital technologies to create and share information;
    - Apply their understanding of algorithms to solve problems;
    - Create more complex programs using a block-based coding language;
    - Use data to answer questions and solve problems.

Teach Computing's assessment methods are designed to be fair, reliable, and valid. They are also aligned with the expectations of the National Curriculum for England.