

Computing Policy

Burchetts Green CE Infant School



'Living life in all its fullness – an opportunity to flourish' John 10:10

INTENT

In Computing at Burchetts Green CE Infant School, we encourage children to become confident and creative users of information and communication technology, understanding its importance in their lives and in the ever-changing world around them.

We ensure that children understand how to act as responsible online citizens, staying safe online to protect their own wellbeing and that of those around them. Our aims for computing reflect the aims of the National Curriculum.

It is our intention to enable children to find, explore, analyse, exchange and present information. Our curriculum enables pupils to explore and develop a range of skills, solving problems and presenting information using different equipment and software.

We equip children with the key digital literacy skills they need to express themselves and develop their ideas through information technology and computer science. Children use computational thinking and creativity to solve problems, and to understand and change the world. They should leave school computer literate. Children at Burchetts Green CE Infant School should be able to use a range of technologies to enrich their learning across the curriculum. Their knowledge and skills should be at a level suitable for the next stage in their computing education.

National Curriculum Coverage — Key Stage 1 Computing Curriculum	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 Making 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	✓				✓	✓	✓			✓		

IMPLEMENTATION

The computing curriculum at Burchetts Green CE Infant School reflects the aims set out in the National Curriculum Programmes of Study. Units of learning are planned half-termly and will be taught as discrete lessons each week. Teaching is mostly whole-class based, supported by appropriate differentiation. At times, small group work is also used for children to practise or apply their computing skills in other subject areas across the curriculum. When whole-class teaching takes place, children often work in pairs. This allows skills of communication and cooperation to be promoted.

Long term curriculum planning for computing is created so that each Programme of Study (POS) strand is taught on balance and revisited throughout the course of the academic year.

The strands of computing are: Computer Science, Information Technology and Digital Literacy.

Our computing curriculum is organised so that children have the opportunity to develop skills using a wide range of software.

Unit summaries

	Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Year 1	Technology around us Recognising technology in school and using it responsibly.	Digital painting Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	Moving a robot Writing short algorithms and programs for floor robots, and predicting program outcomes.	Grouping data Exploring object labels, then using them to sort and group objects by properties.	Digital writing Using a computer to create and format text, before comparing to writing non-digitally.	Programming animations Designing and programming the movement of a character on screen to tell stories.
Year 2	Information technology around us Identifying IT and how its responsible use improves our world in school and beyond.	Digital photography Capturing and changing digital photographs for different purposes.	Robot algorithms Creating and debugging programs, and using logical reasoning to make predictions.	Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer.	Making music Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.	Programming quizzes Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.



COMPUTING CURRICULUM SKILLS PROGRESSION

	RECEPTION	YEAR 1	YEAR 2
Computer Science	In Early Years, computing is used to support and enhance learning across all areas of learning. Technology is used to form part of a language rich environment. Children use the Smart board to select games, songs and dances they would like to join in with; keeping them engaged whilst supporting their physical development. <i>iPads are used during <u>freeflow</u> to provide children with opportunities to express themselves and communicate with one another.</i>	- Give and follow instructions. - Predict what will happen for a short series of instructions. - Describe the action needed to make something happen and begin to use the word 'algorithm.' - Press buttons in the correct order to achieve a result. - Begin to use software/apps to create movement and patterns on a screen. - Use the word 'debug' when correcting mistakes in programming.	- Discuss the order of instructions needed to make something happen and talk about this as an 'algorithm'. - Programme a robot or software to perform a particular task. - Watch a program execute and debug if necessary.
Information Technology	Throughout the Reception year, computing learning is also child initiated. This can be seen during <u>freeflow</u>, where pupils have access to computers and the light box. <i>Apps are used to support early maths and phonics skills, as well as provide additional opportunities for children to understand the world by researching and using maps and images as part of discussions.</i>	- Use a camera. - Create digital content for a purpose - Be creative with different technology tools. - Retrieve and manipulate digital content - Store digital content. - Use a keyboard to enter text. - Record sound and playback. - Create digital artwork. - Use a programme to write and illustrate a short story. - Save my work in the right place and retrieve it. - Use a basic word processing package.	- Organise digital content - Be creative with different technology tools - Use technology to organise and present my ideas. - Save documents in the right place and retrieve it. - Create a simple digital painting. - Use technology to organise and present ideas. - Use the keyboard to add, delete and space text. DATA - Make a chart or graph using data collected. - Talk about data shown in a chart or graph. - say what kind of information could be used to help investigate a question.
Digital Literacy	Children also enjoy experimenting with cameras and <u>BeeBots</u>. They are taught how to stay safe with technology by telling an adult if they have any problems.	- Recognise the way we use technology in our world. - Tell an adult when something unexpected or worrying is seen online - Agree and follow sensible e-safety rules.	- Explain why personal information needs to be kept private. - Describe the things that happen online which an adult must be told about.

IMPACT

At Burchetts Green CE Infant School we ensure that our computing planning and teaching is high quality, providing variety and promoting interest in the subject. Children enjoy computing. When speaking with children across the school, they are enthusiastic about their learning and are able to articulate why the subject is important. They can explain how to stay safe online and what to do if they encounter any issues. Computing allows children to develop skills which are relevant to their everyday life and they are able to use their own knowledge and understanding to enhance their learning. As the strands of computing are revisited throughout Year 1 and Year 2, there is a clear skills progression within the subject. Pupils become adept at using specific software, such as Scratch, but are also given ample opportunity to explore a range of programmes. This allows them to use and apply their skills with confidence. Within Computer Science, for example, pupils explore algorithms using BeeBots in Year 1. They then progress to writing simple code using Scratch in Year 2.

The quality of teaching is high. Teachers use their subject knowledge to engage and inspire pupils. As a school, we strive to use IT across the curriculum to support and enhance learning experiences, too. Planning for each computing unit is adapted from the MTP. The short-term planning is either taught as a series of sessions over a half-term. In computing, pupils show enthusiasm and very good attitudes to their learning. They are proud of their outcomes and are able to discuss the relevance of their learning, both across the curriculum and within their lives outside of school. Well planned units mean pupils are shown clear models and they make good progress learning and using skills.

By the time children leave Burchetts Green CE Infant school, they are;

- Aware of how to be safe, responsible users of information technology. They know what to do if they encounter any issues online.
- Computer literate. They can use technology to find, share and present information.
- Able to use technology confidently and creatively to design programmes and solve problems

VOCABULARY

There should be an emphasis on the teaching and modelling of key terminology for computer science, digital literacy and information technology in order for children to be able to understand and articulate their knowledge and understanding.

E-SAFETY

A secure understanding of E-safety underpins all of our teaching. Specific E-safety units are taught at the start of the year in and then revisited throughout each half term. Specific key days, such as Safer Internet Day, are used as opportunities to further emphasise key messages of E-safety across the school community. This interlinks with the PSHE curriculum.

This policy was approved at a meeting of the Education Committee on 24th April 2024