

## COMPUTING POLICY

Computing at Cheddington aims to develop proficiency in the children that enables them to pick up new technologies intuitively and to apply their skills to any given situation in everyday life. Information Communications Technology and the skills required to effectively access it are an integral part of learning. The teaching of this subject gives children the ability to engage with and access the world around them; as well as furthering their learning in all curriculum areas. The uses of ICT, safety issues, and study skills are all taught, thus ICT is viewed as a tool, rather than an end in itself. The importance of ICT as a motivating force in both teaching and learning is recognised and celebrated.

Children develop computational thinking through logical thinking, perseverance and resilience, recognising patterns, breaking down problems, working collaboratively, removing unnecessary detail and making judgements about work. It enables children to use ICT to create programs and systems and to become digitally literate in a range of media. Computing allows the children to develop the ability to understand and apply abstraction, logic, algorithms and data representation. The teaching of computing encourages children to analyse problems; to write basic programs; to evaluate and apply technologies analytically; and to be competent, responsible and creative users of ICT.

Children demonstrate the school's values throughout computing lessons. Children show teamwork by working together on projects and discussing their ideas. Respect is demonstrated by understanding how to use technology in an appropriate manner and respecting the equipment. Children show passion by communicating and sharing ideas passionately. Determination and patience are shown by patiently persisting with problem solving and debugging tasks.

### Intent

Through a planned coherent curriculum in Computing pupils will become confident computer scientists equipped with the skills and knowledge needed to flourish in an ever-changing digital world. They will be educated on how to use technology positively, responsibly and safely and encouraged to be creators not just consumers.

To do this they will have opportunities to develop an understanding of computer science, information technology and digital literacy. These strands will be revisited repeatedly to ensure the children develop a deep understanding of computing. They will use a variety of software, learn key skills and build confidence. They will become computational thinkers able to approach problems across the whole curriculum and in everyday life.

In Early Years the children experience computing in a range of contexts. They develop problem solving skills through activities such as story sequencing and pattern spotting. They develop confidence using a keyboard and mouse through digital painting and educational games online. They learn that computers can be used to find out information.

At KS1 this learning is through the study of digital painting, digital writing, grouping data, digital photography, making music and pictograms. Children look at technology and information technology within the school and in the world around them and are introduced to early programming concepts using floor robots and Scratch Jr. They learn how to stay safe online.

At KS2 this learning is extended through the study of a broad range of computing applications such as animation, desktop publishing, spreadsheets, audio editing, video editing, web page creation and 3D modelling. Pupils learn about networks and the Internet and how to work collaboratively. They learn key programming concepts including sequence,

selection and repetition using block-based programming languages to design games, create music and control physical devices. They learn how to keep safe online and where to look if they need help.

The curriculum intent is implemented through ensuring that the National Curriculum is covered effectively by each year group as outlined in the Computing curriculum grid (See Appendix 1) and students' effective progression through a fluent and coherent computing curriculum will be guided by the Progression in Computing Roadmap (See Appendix 2). Children are given an advance organiser at the start of each unit which details some key information, and vocabulary for the current topic. This is not used as part of an assessment, but to support children with their acquisition of knowledge and are used as a reference document. Effective modelling by teachers ensures that learners are able to achieve their learning intention, with misconceptions addressed within it. Through using a range of assessment tools, differentiation is facilitated by teachers, to ensure that each pupil can access the Computing curriculum. Assessment in Computing is on-going teacher assessment and is recorded as the children achieve a particular competence in an identified milestone.

Children in Key Stage 1 and 2 receive 1 hour of Computing teaching each week. Early Years pupils will develop their computing knowledge and understanding by having opportunities to explore and use computational thinking and everyday computing resources through access to high quality continuous provision and teacher led activities.

The role of the subject manager is to lead Computing within the school, being its advocate by identifying clear targets and success criteria for its development, taking into account changes to the National Curriculum and the needs of the children to allow children to make deep, sequential learning across the school. To support this, regular monitoring of the subject is undertaken to allow for evaluation of teaching and learning and understanding children's perceptions of the subject. Additionally, the subject manager liaises and supports teaching staff with their computing curriculum understanding.

Computing is monitored throughout the year. This is done through three different strands. A traditional review of completed work is undertaken and combined with formative and summative data. The EMU sessions (Evaluate, Monitor and Understand) allow for the collapse of the traditional academic year groups to allow a single delivery of subject matter which supports the creative and critical thought of the pupils. These sessions also provide the opportunity to hear pupil voice and reflect on children's interaction with the task, teacher and each other as well as creative and critical thought. Additionally, the learning behaviours can be observed which are interwoven with our school values (respect, teamwork, passion, determination and patience). The final strand is to identify next steps to support the development of the subject and the pupils progress.

The technologies used in Computing are ones that many of the children are fortunate enough to grow up using. However, the use of them in school affords all children the opportunity to explore and experience a range of technologies which they may use or build on throughout education and wider life. Internet safety is taught to all pupils to enable them to interact with others online and to use technologies in a respectful and safe way, understanding the risks they may encounter and appropriate actions to take if they feel uncomfortable with anything. In line with additional school policies, Computing is delivered in an age-appropriate way with adaptations made based on the needs of the children.

Policy reviewed: Autumn 2022

Date of next review: Autumn 2026

Appendix 1

Computing Curriculum Grid

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Technology around us	Digital painting	Moving a robot	Grouping data	Digital writing	Programming animations
Year 2	Information technology around us	Digital photography	Robot algorithms	Pictograms	Making music	An introduction to quizzes
Year 3	Connecting computers	Stop-frame animation	Sequence in music	Branching databases	Desktop publishing	Events and actions
Year 4	The Internet	Audio editing	Repetition in shapes	Data logging	Photo editing	Repetition in games
Year 5	Sharing information	Video editing	Selection in physical computing	Flat-file databases	Vector drawing	Selection in quizzes
Year 6	Communication	Web page creation	Variables in games	Introduction to spreadsheets	3D Modelling	Sensing

Appendix 2

# Progression in Computing

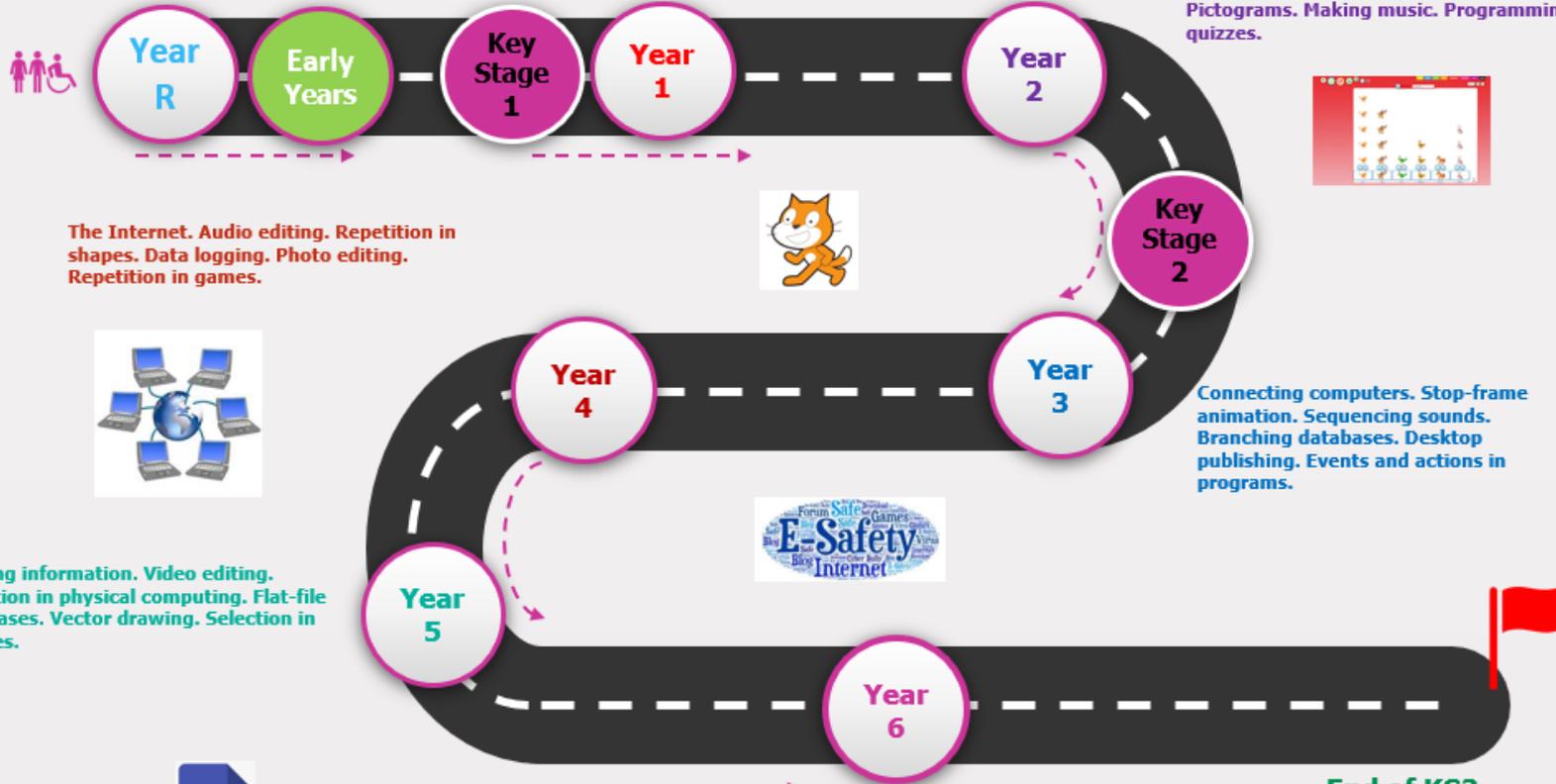
## The Journey Starts

All children to achieve a GLD by end of Reception



Technology around us. Digital painting. Moving a robot. Grouping data. Digital writing. Programming animations.

Information technology around us. Digital photography. Robot algorithms. Pictograms. Making music. Programming quizzes.



The Internet. Audio editing. Repetition in shapes. Data logging. Photo editing. Repetition in games.



Sharing information. Video editing. Selection in physical computing. Flat-file databases. Vector drawing. Selection in quizzes.



Internet communication. Webpage creation. Variables in games. Introduction to spreadsheets. 3D modelling. Sensing.



Connecting computers. Stop-frame animation. Sequencing sounds. Branching databases. Desktop publishing. Events and actions in programs.

## End of KS2

Children will leave Cheddington Combined School with a firm understanding of how to use technology positively, responsibly and safely.