Newhall Junior School

Computing

Intent

At Newhall Junior School, our Computing curriculum is ambitious, inclusive and designed to develop confident, creative and responsible digital citizens. We aim to equip all pupils with the knowledge, skills and understanding needed to thrive in an increasingly digital world and prepare them for the next stage of their education and future employment.

We aim to:

- Develop secure knowledge of computer science, information technology and digital literacy.
- Build pupils' understanding of computing systems, networks, programming, data and digital media.
- Enable pupils to become confident computational thinkers who can solve problems logically and creatively.
- Teach pupils to use technology safely, responsibly and respectfully.
- Develop resilience, independence and critical thinking through practical computing experiences.
- Ensure all pupils, including those with SEND and disadvantaged pupils, can access, participate in and succeed within the curriculum.

Our curriculum follows a carefully sequenced, spiral approach, enabling pupils to revisit and build upon prior learning over time. Through the study of computing systems and networks, programming, data and information, and creating media, pupils develop secure understanding and increasingly sophisticated skills. Online safety is embedded throughout the curriculum, ensuring pupils develop a strong understanding of digital citizenship, online relationships, privacy and security.

By the end of Key Stage 2, pupils are equipped with the knowledge, skills and confidence to use technology safely, effectively and creatively, both within education and in everyday life.

Implementation

Newhall Junior School whole school curriculum map

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 3	Computing Systems and networks: Connecting computers	Creating Media: Stop-frame animation	Programming A: Sequencing Sounds	Data and information: branching databases	Creating Media: Desktop publishing	Programming B: Events and actions in programs
Year 4	Computing Systems and networks: The internet	Creating Media: Audio editing	Programming A: Repetition in shapes	Data and Information: Data Logging	Creating Media: Photo editing	Programming B: Repetition in games
Year 5	Computer Systems and Networks: Sharing Information	Creating media: Video editing	Programming A: Selection in physical computing	Data and Information: Flat-file databases	Creating Media: Vector Drawing	Programming B: Selection in quizzes
Year 6	Computing Systems and networks: Internet communication	Creating Media: Webpage creation	Programming A: Variables in games	Data and Information: Introduction to spreadsheets	Creating Media: 3D Modelling	Programming B: Sensing

Computing is taught through a carefully sequenced curriculum that develops both substantive knowledge and practical skills across Key Stage 2. Learning is structured around four key strands:

- Computing Systems and Networks
- Programming
- Data and Information
- Creating Media

These strands are revisited throughout Years 3 to 6, allowing pupils to consolidate prior learning, strengthen retention and deepen their understanding over time. Programming units are taught in a progressive sequence to ensure that key concepts build upon one another and support increasingly complex problem-solving.

Key features of our curriculum include:

- A progressive curriculum that revisits and develops key concepts across all year groups.
- Explicit teaching of computing vocabulary, knowledge and technical skills.
- Regular opportunities to apply computational thinking through programming and debugging.

- The use of digital tools to create, edit and evaluate media in a range of formats.
- Practical opportunities to collect, analyse and present data.
- Online safety embedded throughout all areas of learning.
- Adaptive teaching to ensure that all pupils can access and succeed within the curriculum.

Teachers introduce new concepts through modelling, explanation and demonstration before pupils apply their learning through practical activities and problem-solving tasks. Physical computing is used where appropriate to make abstract concepts more tangible and support deeper understanding.

Lessons include scaffolds such as visual prompts, worked examples, structured instructions and targeted questioning to support all learners. Appropriate adaptations are made to ensure pupils with SEND can access the curriculum whilst maintaining high expectations for achievement.

Assessment is ongoing and informs future learning through observation, discussion, practical outcomes, quizzes and project-based work. Teachers identify misconceptions, revisit key concepts and provide timely feedback to ensure pupils develop secure and lasting understanding.

Impact

The impact of our Computing curriculum is reflected in pupils' confidence, knowledge and ability to apply computing skills across a range of contexts. Through carefully sequenced learning, pupils develop secure understanding of computer science, information technology and digital literacy, enabling them to use technology safely, effectively and creatively.

Pupils demonstrate increasing confidence in designing, writing and debugging programs, using logical reasoning to solve problems and explain their thinking. They develop an understanding of networks, digital systems, data and media, applying their knowledge to create purposeful digital content and solve real-world problems.

Online safety is embedded throughout pupils' learning, enabling them to recognise risk, make responsible choices and use technology safely, respectfully and responsibly. Pupils understand how to manage their digital presence and interact positively within online environments.

Assessment, pupil voice and classroom outcomes demonstrate that pupils know more, remember more and can do more over time. Work produced across the curriculum showcases progression in knowledge, vocabulary, technical skills and computational thinking. All pupils, including those with SEND and disadvantaged pupils, are supported to make strong progress from their starting points.

By the end of Key Stage 2, pupils leave Newhall Junior School as confident, capable and responsible users of technology who are well prepared for the demands of Key Stage 3 and life in an increasingly digital world.