

NEWTON BLUECOAT CE PRIMARY SCHOOL

COMPUTING CURRICULUM

Whole-School Overview 2026–27

CREATE • CODE • CONNECT • QUESTION • STAY SAFE

“Shine from the inside out”

Developing confident, creative and responsible users of technology.

Our Computing Vision

At Newton Bluecoat, Computing equips children to understand, create with and make thoughtful choices about technology. We want pupils to become confident digital learners who can solve problems, communicate ideas, handle information and use technology safely and responsibly.

Our curriculum develops three connected dimensions: Computer Science, Information Technology and Digital Literacy. The existing curriculum map and skills progression are retained, while the revised overview makes progression, vocabulary, computational thinking and online safety more explicit.

By the end of Year 6, our digital learners will...

- design, write, test, debug and refine programs, using algorithms, procedures, selection, repetition and variables where appropriate;
- understand how computing devices, networks and internet services support communication and access to information;
- collect, organise, interrogate, analyse and present data using appropriate digital tools;
- create and refine digital content for a clear purpose and audience using text, images, sound, video, animation and presentations;
- search effectively, question the reliability of information and acknowledge ownership and copyright;
- make informed choices about online communication and behave safely, respectfully and responsibly;
- understand digital footprints, privacy, secure passwords and routes for reporting concerns;
- select appropriate technology to solve problems, communicate ideas and support learning across the curriculum;
- evaluate digital outcomes and explain how they could be improved;
- approach unfamiliar technology with curiosity, resilience and computational thinking.

The Computing Journey

COMPUTE	CREATE	DATA	CONNECT	STAY SAFE
Algorithms, programming & debugging	Digital content for purpose & audience	Collect, organise, analyse & present	Devices, networks, search & communication	Responsible, secure online choices

Whole-School Computing Journey

The current Newton Bluecoat Computing Curriculum Map is retained below. It provides a clear six-unit journey for each year group and includes coding, online safety, data, searching and digital creation.

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Online Safety	Grouping and Sorting	Pictograms	Lego Builders	Coding	Spreadsheets
Year 2	Coding	Online Safety	Spreadsheets	Questioning	Effective Searching	Making Music
Year 3	Coding	Online Safety	Spreadsheets	Touch Typing	Emails	Databases
Year 4	Coding	Online Safety	Spreadsheets	Effective Searching	Logo	Animation
Year 5	Coding	Online Safety	Spreadsheets	Databases	3D Modelling	Word Processing
Year 6	Coding	Online Safety	Spreadsheets	Blogging	Understanding Binary	Spreadsheets

EYFS Foundations

The skills progression begins in Reception. Children recognise uses of technology, make good and bad choices, operate simple equipment, explore software, use a mouse and keyboard, create pictures and recordings, collect information as photos or sound, and begin to understand that technology can be used to play, learn, create and communicate.

Online Safety as a Golden Thread

Although Online Safety appears as a named unit in the curriculum map, the progression document shows that safe and responsible use is broader than a single block. Expectations develop from telling an adult and keeping information private to digital footprints, secure passwords, cyberbullying, reporting concerns, responsible communication, source reliability and protecting devices.

Progression in Computing

STRAND	HOW KNOWLEDGE AND SKILL DEVELOP
Computer Science – Programming	Follow and give instructions → articulate algorithms → program floor robots and Logo → debug sequences → use repeat and procedures → explore inputs, sensors and selection → use variables → plan, program, test and refine increasingly complex outcomes.
Information Technology – Creating	Create pictures, sound and recordings → combine text and images → edit presentations → use animation and green screen → manipulate multimedia for audience and purpose → use transitions, hyperlinks and editing tools → evaluate effectiveness.
Information Technology – Data	Pictograms and simple collections → graphs and branching databases → query databases → use data loggers → spreadsheets and databases → complex searches → generate, process, interpret, store and present data while checking accuracy.
Digital Literacy – Technology & Networks	Recognise technology in everyday life → understand the Internet and online tools → save and communicate online → understand school networks and search → identify device and Internet components → understand Internet services and how information moves.
Digital Literacy – Search & Information	Use simple searches → choose keywords → compare sources → understand that online information may be inaccurate → consider reliability and influence → understand search ranking → acknowledge ownership and copyright.
Online Safety	Make good choices and tell a trusted adult → keep information private → understand digital footprints and cyberbullying → use secure passwords and reporting tools → communicate responsibly and protect devices.

Thinking Like a Computer Scientist

- What is the problem I am trying to solve?
- Can I break the problem into smaller, manageable steps?
- What algorithm or sequence will achieve the intended outcome?
- Can I predict what the program will do before I run it?
- Where is the bug or error, and what evidence helps me fix it?
- Could I make the solution more efficient by using repetition, a procedure, selection or a variable?
- How can I test whether my solution works reliably?

Computational Thinking & Digital Creation

HABIT OF MIND	WHAT IT LOOKS LIKE
Decomposition	Breaking a task or problem into smaller parts that can be understood and solved.
Algorithmic thinking	Planning a precise sequence of steps to achieve an outcome.
Logical reasoning	Predicting what will happen and explaining why.
Debugging	Finding, explaining and correcting errors in an algorithm or program.
Pattern & efficiency	Recognising repeated processes and using procedures, repeat or variables to make solutions more efficient.
Evaluation	Testing outcomes against purpose and improving a digital solution.

Creating for Purpose and Audience

- Children move from recording voices, taking photographs and creating simple pictures to selecting digital tools deliberately for a task.
- Text, images, sound, animation and video are combined and edited with increasing control.
- Pupils consider audience, atmosphere, structure and purpose when creating presentations or videos.
- By upper KS2, children select and refine digital media, use transitions and hyperlinks, consider copyright and evaluate the effectiveness of their own and others' work.

Data & Information

The progression moves from organising information in pictograms to branching databases, databases, spreadsheets and data loggers. Older pupils ask increasingly complex questions, identify inaccurate or poor-quality data, refine searches and use the whole data process: generate, process, interpret, store and present information.

Knowledge & Vocabulary

PHASE	EXAMPLES OF CORE COMPUTING VOCABULARY
EYFS / KS1	technology, device, safe, private, online, instructions, algorithm, program, code, debug, robot, pictogram, data, search, website, Internet, keyboard, mouse, save, image, sound
Lower KS2	sequence, procedure, repeat, input, output, sensor, Logo, database, branching database, spreadsheet, network, keyword, email, digital footprint, cyberbullying, report, copyright, animation
Upper KS2	selection, variable, efficiency, binary, data process, query, analyse, plausibility, search ranking, reliability, collaboration, audience, multimedia, hyperlink, 3D modelling, online communication, secure password

Three Dimensions of Computing

Computer Science: Understanding computation: algorithms, programming, logical reasoning, debugging, control and how digital systems work.

Information Technology: Using digital tools purposefully to create, organise, analyse, store and communicate information.

Digital Literacy: Using technology confidently, critically, safely and responsibly, including searching, communication, online behaviour and evaluation of information.

Curriculum Development Note

The current documents provide substantial progression in established computing skills and a clear Year 1–6 unit map. As technology changes, the curriculum should be reviewed regularly so that online safety, digital literacy and emerging technologies remain current, while preserving the secure foundations in programming, data and digital creation already present in Newton Bluecoat's progression.

Implementation

- Computing is taught through the existing sequenced curriculum map, with regular opportunities to retrieve and apply prior knowledge and skills.
- Teaching connects Computer Science, Information Technology and Digital Literacy rather than treating them as isolated areas.
- Programming follows a plan–program–test–debug–refine cycle, with pupils increasingly expected to predict outcomes and explain errors.
- Teachers explicitly teach computing vocabulary and model precise language when discussing algorithms, devices, data, online behaviour and digital content.
- Pupils use a range of hardware and software and increasingly select appropriate digital tools for a specific purpose and audience.
- Online safety is reinforced throughout computing and wider school life, including privacy, respectful communication, digital footprints, reporting concerns, reliability and ownership.
- Data learning moves beyond making charts: pupils learn to ask questions, collect and interrogate information, identify poor-quality data and choose appropriate ways to present findings.
- Computing skills are applied across the wider curriculum where this strengthens learning, communication, creativity or problem-solving.

Impact: What Will We See?

- Children are confident, curious and increasingly independent users of technology.
- Pupils can explain algorithms, predict outcomes, debug programs and refine solutions with increasing sophistication.
- Children create digital content that shows growing awareness of purpose, audience and appropriate tool choice.
- Pupils collect, organise, analyse and present data and can comment on its accuracy and usefulness.
- Children understand how technology and the Internet support communication and access to information.
- Pupils search more effectively and increasingly question reliability, ownership and online influence.
- Children know how to behave safely and respectfully online and can explain what to do when something concerns or upsets them.
- By the end of Year 6, pupils have secure foundations in Computer Science, Information Technology and Digital Literacy for Key Stage 3.

Subject Leadership & Monitoring

The Computing subject leader monitors implementation and impact through planning scrutiny, pupil voice, lesson visits/learning walks, discussion with teachers and review of digital and recorded outcomes. Monitoring considers progression in programming and computational thinking, purposeful use of digital tools, data handling, vocabulary, online safety, retention of prior learning and pupils' ability to explain and evaluate their choices.

COMPUTING HELPS CHILDREN CREATE, SOLVE PROBLEMS, QUESTION INFORMATION AND USE TECHNOLOGY WITH WISDOM.