# ***Computing*** at The Nethersole CofE Academy Primary School

**To be light (living in our community and reaching out beyond it) bringing out the God-colours in the world.'**

*Jesus said, 'You're here to be light, bringing out the God-colours in the world.'* ***Matthew 5:16***

| HOPE | COMMUNITY | DIGNITY & RESPECT | FORGIVENESS | WISDOM | THANKFULNESS |
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Summer 2025

# Intent -

**Our curriculum intent at The Nethersole CofE Academy is to provide a broad, exciting, and challenging curriculum of the highest quality for the children in our care; encouraging, motivating and ensuring all children develop a love of learning, in order to achieve their full potential.**

# Vision -

**The Nethersole Church of England Academy Primary School and Nursery has a Christian foundation that inspires its life and work. Following the teaching of Jesus, we accept the challenge - *'to be light [living in our community and reaching out beyond it], bringing out the God-colours in the world.' Matthew 5:16***

At the heart of our school is the belief that everyone is a child of God, fearfully and wonderfully made in his image. Our work therefore is to nurture and love every individual, child and adult, to find and develop their gifts, overcoming barriers and growing in confidence to **flourish** - to let their light shine as the very best God version of themselves. Effective teaching and learning underpin this. We wish to inspire everyone to take responsibility for creation, civilisation, and the well-being of each of other, embracing and treasuring our differences.

Our Christ led vision is for a world of justice, respect, and love, and of people who are not afraid to love and sacrifice themselves for others. Our inspiration is Jesus, who loves us in sacrifice, forgives us and reminds us that we each have something special to do to bring out the God colours of the world. We believe that there is a space for everyone to shine brightly and differently and that this adds to the richness of our school family, our community and the wider world.

Our Christian Vision for everyone to be unique shining lights in God's world is illuminated by our biblically based **Christian Values** that we learn to radiate in our daily lives - in our attitudes, relationships, behaviour, choices and decisions.

# Curriculum Design -

Our curriculum is ambitious for our children and is based on the National Curriculum. Nevertheless, we recognise that this is the minimum entitlement for our children. Each subject is taught as a discrete discipline. Whilst developing our curriculum, links were considered very carefully to build on knowledge and skills within each subject, across the school and across subjects. We also carefully considered our local context, diversity, environmental awareness and health education when designing our curriculum.

# The 4R's

The Nethersole CofE Academy Primary School encourages children to display the following positive learning behaviours -

**Resilient Learners -** Children persevere, and they do not give up, even when a task is difficult.

**Responsible Learners -** Children will have their equipment ready, reading books and reading diaries in school daily. Tables tidy and organised.

**Resourceful Learners -** Children will use their previous learning to support their new learning. They will utilise working walls and choose appropriate equipment.

**Respectful Learners -** Children show kindness to all and illustrate good manners to all.

# What is Computing?

**EYFS Definition –** Computing in EYFS helps children explore technology in everyday life. They learn to use simple devices, understand cause and effect, and develop problem-solving and creative skills through play. It supports early learning in communication, language, and maths, while encouraging safe and responsible use.

**KS1 Definition -** Computing in KS1 helps children understand how technology works and how it can be used safely. They learn basic skills such as creating and saving work, using simple programs, and understanding instructions (algorithms). Children begin to explore coding through age-appropriate tools and develop problem-solving and logical thinking and learn about keeping personal information private and safe online.

**KS2 Definition -** Computing in KS2 helps children deepen their understanding of how technology works and how to use it responsibly. They learn to design, write, and debug programs, use technology to create and present content, and understand networks and the internet. Online safety is a key focus, including understanding risks, protecting personal information, and behaving respectfully online.

## Computing Intent -

At Nethersole C of E Academy, our Computing curriculum is rooted in our Christian vision to "let our light shine", enabling every child to develop confidence, curiosity and purpose as they engage with the digital world. Through the Kapow Primary Computing scheme, pupils are inspired to become curious, explorative and reflective thinkers, developing the knowledge and skills needed to think like computing experts.

We intend for pupils to build confidence in observing, questioning, creating, measuring, recording and analysing information, using a range of digital tools and programming approaches. Carefully sequenced learning supports pupils in developing secure foundations in digital literacy, computer science and information technology, empowering them to apply their learning creatively and effectively across the curriculum.

Our Computing curriculum fosters an understanding of how technology shapes lives at local, national and global levels, both now and over time. Pupils are encouraged to reflect on the opportunities and responsibilities that come with digital technologies, developing the skills to become responsible, ethical and resilient digital citizens who use technology to serve others and contribute positively to the wider community.

In line with our vision to let every child's light shine, the curriculum is ambitious, inclusive and accessible, ensuring all pupils—regardless of background, need or starting point—are supported to participate fully and achieve their potential.

Through our Computing curriculum, pupils at Nethersole are equipped not only with technical skills, but with the confidence, creativity and moral understanding to use technology wisely, express their ideas boldly and let their light shine in a digital world.

## Computing Implementation -

- ✓ The Computing curriculum at Nethersole C of E Academy is implemented through the Kapow Primary Computing scheme of work, which provides a coherent, progressive and well-sequenced curriculum

aligned with the National Curriculum. Knowledge and skills are carefully mapped to ensure logical progression, enabling pupils to deepen their understanding over time.

## ✓ Curriculum Design and Sequence

✓ Learning is structured around the key strands of computer science, information technology and digital literacy, including online safety. Concepts are revisited and built upon through a spiral curriculum, allowing pupils to consolidate prior learning while extending their skills and understanding. This ensures increasing depth, challenge and independence as pupils move through the school.

## ✓ Teaching and Learning

✓ Lessons are practical, promoting active learning through exploration, problem-solving and creativity. Pupils are given regular opportunities to write and debug programs, use digital tools, collect and analyse data, and evaluate the impact of technology. Clear modelling, vocabulary-rich teaching and the use of worked examples support pupils in developing confidence and fluency in computing knowledge.

✓ Teachers use Kapow's high-quality resources, lesson guidance and assessments to deliver engaging lessons with confidence. Ongoing professional development within the scheme supports teachers' subject knowledge, ensuring consistency and high standards across the school.

## ✓ Inclusion and Adaptation

✓ In line with our vision to let every child's light shine, the Computing curriculum is inclusive and accessible to all learners. Tasks are scaffolded, vocabulary is clearly introduced and reinforced, and adaptive strategies are used to support pupils with special educational needs or gaps in learning. Challenge is built in through open-ended tasks and extension opportunities, allowing all pupils to succeed and excel.

## ✓ Online Safety and Digital Citizenship

✓ Online safety is embedded throughout the curriculum and taught explicitly each year, ensuring pupils understand how to stay safe, respectful and responsible online. Pupils are encouraged to reflect on their choices and develop strong moral awareness, linking digital behaviour to our Christian values and responsibility to others.

## ✓ Enrichment and Cross-Curricular Links

✓ Computing is used to enhance learning across the wider curriculum, including data handling in mathematics, research skills in foundation subjects and creative digital outcomes in English and art. This approach ensures pupils see computing as a meaningful and relevant tool for learning and life.

## ✓ Whole School Long Term Plan –

| | Term 1 | Term 2 | Term 3 |
|---|---|---|---|
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| **EYFS REC** | **Computing systems and networks – Using a computer** | **Programming 1: All about instructions** | **Data Handling: Introduction to data** |
| **1** | **Values Day Spring 1 - Online Safety -** Using the Internet Safely.<br><br>**Computing Unit**<br>Programming 1 – Commands unplugged | **Values Day Spring 2 - Online Safety -** Online Emotions<br><br>**Computing Unit**<br>Data handling – Introduction to data | **Values Day Summer 1 - Online Safety -** Always be kind and considerate.<br><br>**Computing Unit**<br>Creating media – Digital Imagery<br><br>**Values Day Summer 2 - Online Safety –** Posting and sharing online. |
| **2** | **Values Day Spring 1- Online Safety -** What Happens When I Post Online**?**<br><br>**Computing Unit**<br>Computing Systems and Networking – What is a computer? | **Values Day Spring 2 - Online Safety -**How do I keep information safe and private online?<br>**Computing Unit**<br>Programming 1 – Algorithims and debugging | **Values Day Summer 1 - Online Safety –** It's my choice.<br><br>**Computing Unit**<br>Data handling – International Space Station |

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| | **Computing Unit**<br>Data Handling – Mars Rover 1 | **Computing Unit**<br>Skills Showcase – Mars Rover 2 | **Computing Unit**<br>Computing Systems and Networks: Exploring AI<br><br>**Values Day Summer 2 - Online Safety –** Online bullying |
| **5/6 B** | **Values Day Spring 1 - Online Safety –** Life online<br><br>**Computing Unit**<br>Stop-motion animation | **Values Day Spring 2 - Online Safety –** Sharing online<br><br>**Computing Unit**<br>*Computing systems and networks – search engines.* | **Values Day Summer 1 - Online Safety –** Creating a positive online reputation<br><br>**Computing Unit**<br>**Data handling 1 – Big Data 1**<br><br>**Values Day Summer 2 - Online Safety –** Capturing evidence |

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| | | | **Values Day Summer 2 - Online Safety –** Is it true? |
| **3/4 A** | **Values Day Spring 1 - Online Safety –** Beliefs, Opinions and Facts on the Internet.<br><br>**Computing Unit**<br>Programming - Scratch | **Values Day Spring 2 - Online Safety –** Who should I ask?<br><br>**Computing Unit**<br>Computing system and networks - Emailing | **Values Day Summer 1 - Online Safety –** When being online makes me upset.<br><br>**Computing Unit**<br>Programming – further coding with Scratch<br><br>**Values Day Summer 2 - Online Safety –** Sharing of information |
| **3/4 B** | **Values Day Spring 1 - Online Safety –** What happens when I search online?<br><br>**Computing Unit**<br>Computing systems and networks 1: Networks | **Values Day Spring 1 - Online Safety –** How do companies encourage us to buy online?<br><br>**Computing Unit**<br>Data handling: Comparison cards databases | **Values Day Spring 1 - Online Safety –** Fact, opinion or belief?<br><br>**Computing Unit**<br>Microsoft office 365: Computing systems and networks: Collaborative learning<br><br>**Values Day Summer 2 - Online Safety –** What is a bot? |
| **5/6 A** | **Values Day Spring 1 - Online Safety –** Online Protection. | **Values Day Spring 2 – Online Safety -** Online Communication | **Values Day Summer 1 – Online Safety- -** Online Reputation |

## Examples of Links –

(Vertical Link – small steps within year groups or classes.)

(Diagonal Link – between subjects – how learning something in one subject supports the children to learn something similar in another subject.)

**English**
**KS1**

- Use of simple multimedia (images, audio) develops storytelling and speaking skills.
- Debugging simple algorithms strengthens sequencing and narrative order.

**KS2**

- Digital presentations and blogs support composition, audience awareness and editing.
- Research skills reinforce reading comprehension and information retrieval.
- Discussion of online communication supports persuasive writing and digital etiquette.

**Mathematics**

**KS1**

- Data handling activities reinforce counting, sorting and comparing.
- Directions and controls support early positional language.

**KS2**

- Coding supports logical reasoning, prediction and problem-solving.
- Use of variables, repetition and conditions links to algebraic thinking.
- Data collection and spreadsheets strengthen statistics and graph interpretation.

**Science**

**KS1**

- Collecting and presenting simple data links to observing and recording results.
- Digital tools support early exploration of the natural world.

**KS2**

- Data logging and spreadsheets support fair testing and variables.
- Simulations and digital presentation reinforce scientific explanation.
- Evaluating sources links to scientific enquiry skills.

**Geography**

**KS1**

- Using technology to explore maps and local environments.

**KS2**

- Digital mapping and databases support locational knowledge.
- Data analysis links to population, climate and environmental studies.
- Research into global issues links computing and geography meaningfully.

**History**

**KS1**

- Ordering events digitally reinforces chronology.
- Using digital images and artifacts supports enquiry.

**KS2**

- Researching historical sources develops digital literacy.
- Presentations and timelines support explanation and evaluation.
- Discussion of technology over time links past and present.

**Art & Design**

**KS1**

- Using simple digital drawing tools supports creativity and fine motor skills.
- Combining images and text reinforces visual communication.

**KS2**

- Digital design tools support pattern, symmetry and composition.
- Evaluating digital artwork encourages reflection and critique.

**Religious Education & PSHE**

**KS1**

- Learning about respectful communication online.
- Understanding emotions and behaviour in digital spaces.

**KS2**

- Online safety supports moral decision-making.
- Discussion of digital responsibility links to Christian values and British Values.
- Ethical use of technology supports reflection and empathy.

## Impact -

The Kapow Primary Computing curriculum is designed to ensure clear progression in computing knowledge and skills from Early Years through Key Stage 2. Units are carefully sequenced and build progressively on prior learning, enabling pupils to move from developing basic digital skills and simple algorithms to writing, refining and evaluating more complex programs, analysing data, and understanding digital systems and online responsibility.

This structured progression supports pupils in developing confidence and fluency across the key strands of computing:

- Computer Science (programming and computational thinking)
- Information Technology (digital content creation and data handling)
- Digital Literacy, including online safety

Pupils develop from basic exploration and guided practice to independent problem-solving and creative application, preparing them effectively for the next stage of their education and for life in a digital world.

**Consistent and High-Quality Teaching**

Teaching is strengthened by comprehensive planning and assessment tools provided through Kapow Primary:

- Long-term planning clearly maps units across year groups, ensuring full National Curriculum coverage and appropriate progression.
- Short-term planning includes detailed lesson plans, learning objectives, vocabulary and guidance on misconceptions, supporting high-quality, confident delivery by staff.

This ensures consistency across year groups and supports teachers in building secure subject knowledge.

**Pupil Engagement and Ownership of Learning**

Pupils are active participants in their computing learning:

- Each unit includes pupil-friendly learning overviews that help pupils understand the purpose of their learning.
- Key vocabulary is clearly introduced and revisited, supporting retention and technical language development.
- Regular opportunities for reflection enable pupils to evaluate their work and recognise progress over time.

As a result, pupils increasingly demonstrate confidence, resilience and enthusiasm when tackling computing challenges.

**Assessment and Monitoring of Progress**

Assessment is integral to the Kapow Computing curriculum:

- Formative assessment is embedded within lessons through observation, questioning and practical outcomes.
- Summative assessments at the end of each unit support accurate judgements about pupil progress.
- Progress is monitored using Kapow's assessment guidance, enabling gaps to be identified and addressed through targeted support or challenge.

Findings inform future planning and ensure that teaching meets the needs of all learners.

Outcomes for Pupils

As a result of the well-sequenced Kapow Computing curriculum:

- They confidently apply computing skills across the wider curriculum.
- Pupils demonstrate safe, responsible and ethical use of technology.
- Children develop the skills, creativity and independence needed to let their light shine in a digital world.