

The Nethersole CofE Academy Computing Curriculum

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



The Nethersole
C of E Academy and Nursery



The Nethersole CofE Academy Vision and Values

'Let Your Light Shine'

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.

Hope



Community



Dignity and Respect



Forgiveness



Wisdom



Thankfulness



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, to achieve their full potential.

Implementation

Our curriculum will be implemented through knowledge-led experiences, enabling the children to increase their knowledge, learn and master new skills and therefore, deepen their understanding in a wide range of subjects.

Impact

The impact of this broad, exciting, and challenging curriculum is to inspire and motivate the young people in our care to become lifelong learners. We also provide a Christian community to enable all to value faith. All pupils are encouraged to be proud of their own culture, religion and language and show respect to those of others.

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

Our 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 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.











Subject Name **Long Term Plan**











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











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









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





Subject Name **Long Term Plan with Values**

	Term 1	Term 2	Term 3
EYFS REC	<p>Computing systems and networks – Using a computer</p> 	<p>Programming 1: All about instructions</p> 	<p>Data Handling: Introduction to data</p> 
1/2 A	<p>Values Day Spring 1 - Online Safety - Using the Internet Safely.</p>  <p>Computing Unit Programming 1 – Commands unplugged</p> 	<p>Values Day Spring 2 - Online Safety - Online Emotions</p>  <p>Computing Unit Data handling – Introduction to data</p> 	<p>Values Day Summer 1 - Online Safety - Always be kind and considerate.</p>  <p>Computing Unit Creating media – Digital Imagery</p>  <p>Values Day Summer 2 - Online Safety – Posting and sharing online.</p> 

<p>1/2 B</p>	<p>Values Day Spring 1- Online Safety - What Happens When I Post Online?</p>  <p>Computing Unit Computing Systems and Networking – What is a computer?</p> 	<p>Values Day Spring 2 - Online Safety -How do I keep information safe and private online?</p>  <p>Computing Unit Programming 1 – Algorithms and debugging</p> 	<p>Values Day Summer 1 - Online Safety – It's my choice.</p>  <p>Computing Unit Data handling – International Space Station</p>  <p>Values Day Summer 2 - Online Safety – Is it true?</p> 
<p>3/4 A</p>	<p>Values Day Spring 1 - Online Safety – Beliefs, Opinions and Facts on the Internet.</p> 	<p>Values Day Spring 2 - Online Safety – Who should I ask?</p> 	<p>Values Day Summer 1 - Online Safety – When being online makes me upset.</p> 

	 <p>Computing Unit Programming – Scratch</p> 	<p>Computing Unit Computing system and networks – Emailing</p> 	<p>Computing Unit Programming – further coding with Scratch</p>  <p>Values Day Summer 2 - Online Safety – Sharing of information</p> 
<p>3/4 B</p>	<p>Values Day Spring 1 - Online Safety – What happens when I search online?</p>  <p>Computing Unit Computing systems and networks 1: Networks</p> 	<p>Values Day Spring 1 - Online Safety – How do companies encourage us to buy online?</p>  <p>Computing Unit Data handling: Comparison cards databases</p> 	<p>Values Day Spring 1 - Online Safety – Fact, opinion or belief?</p>  <p>Computing Unit Microsoft office 365: Computing systems and networks: Collaborative learning</p> <p>Values Day Summer 2 - Online Safety –</p>

			<p>What is a bot?</p> 
<p>5/6 A</p>	<p>Values Day Spring 1 - Online Safety – Online Protection.</p>  <p>Computing Unit Data Handling – Mars Rover 1</p> 	<p>Values Day Spring 2 – Online Safety - Online Communication</p>  <p>Computing Unit Skills Showcase – Mars Rover 2</p> 	<p>Values Day Summer 1 – Online Safety- - Online Reputation</p>  <p>Computing Unit Computing Systems and Networks: Exploring AI</p>  <p>Values Day Summer 2 - Online Safety – Online bullying</p> 

<p>5/6 B</p>	<p>Values Day Spring 1 - Online Safety – Life online</p>  <p>Computing Unit Stop-motion animation</p>	<p>Values Day Spring 2 - Online Safety – Sharing online</p>  <p>Computing Unit <i>Computing systems and networks – search engines.</i></p>	<p>Values Day Summer 1 - Online Safety – Creating a positive online reputation</p>  <p>Computing Unit Data handling 1 – Big Data 1</p> <p>Values Day Summer 2 - Online Safety – Capturing evidence</p> 
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Definition

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.

Subject Computing **overview adapted from the NC Purpose & Aims**

Computing equips pupils to use computational thinking and creativity to understand and change the world. It develops skills to design and build programs, create digital content, and understand how technology works. Through computing, pupils learn problem-solving, logical reasoning, and resilience. They also gain digital literacy to use technology safely, respectfully, and responsibly, preparing them for life in a digital world. Our scheme of work aims to inspire pupils to become curious and explorative thinkers with a diverse knowledge of the world – in other words, to think like computing experts. The intention is for pupils to develop the confidence to question and observe places, measure and record necessary data in a variety of ways and analyse and present their findings.

Whilst studying subject name in KS1 and KS2, children will:

KS1 Objectives

By the end of KS1, pupils should be taught to:

- Understand what algorithms are and how they are implemented as programs on digital devices.
- 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, and identify where to go for help and support when they have concerns about content or contact online.
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KS2 Objectives

By the end of KS2, pupils should be taught to:

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.
- Use sequence, selection and repetition in programs; work with variables and various forms of input and output.
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
- Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web.
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Computing **Threads / Key Concepts** -

Disciplinary Concepts

Computational Thinking

Breaking problems into smaller steps, spotting patterns, using logic, and designing solutions.

Programming & Algorithms

Understanding and creating sets of instructions (algorithms) and writing code to make things happen.

Data & Information

Collecting, organising, and presenting data in meaningful ways.

Systems & Networks

Understanding how computers, devices, and the internet work together.

Creating Media

Using technology to design, create, and edit digital content.

Digital Literacy & Online Safety

Using technology confidently and responsibly, understanding risks, and behaving respectfully online.

Key Areas of Knowledge

Declarative knowledge

Declarative knowledge in Computing refers to the facts, concepts and information that pupils need to understand. This includes knowledge of algorithms, how networks function, input and output devices and the vocabulary used to describe digital systems.

It forms the theoretical foundation that helps pupils make sense of the digital world and supports their ability to explain and reason about how and why things work.

- **What Computers Are and How They Work**
 - Basic parts of a computer and digital devices
 - Understanding hardware and software
 - How networks and the internet function
- **Online Safety and Digital Responsibility**
 - Keeping personal information private
 - Understanding risks online
 - Behaving respectfully and knowing how to report concerns

Procedural knowledge

Procedural knowledge is the practical know-how that enables pupils to apply their understanding through action.

In Computing, this involves tasks such as writing code, debugging programs, editing digital media, using data-handling tools and navigating software interfaces.

Procedural knowledge is developed through hands-on experience and allows pupils to use technology purposefully and creatively to solve problems and complete tasks.

- **Programming Fundamentals**

- What algorithms are
- How to write, test, and debug code
- Understanding concepts like sequence, selection, and repetition
- **Data and Information**
- What data is and how it is represented
- Collecting, storing, and organising data
- Using data to create charts, graphs, and meaningful information
- **Digital Media**
- Creating and editing text, images, audio, and video
- Combining media for presentations and projects



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