



Computing Subject Statement

*This document supports the school vision
Caring For Others And Courageously Striving
For Excellence*

Our computing curriculum aims to promote pupils' understanding of, and commitment to, our school values; **compassion, resilience, trust** and support pupils' spiritual, moral, social and cultural development; including their understanding of right and wrong, of equal opportunities for all and of the school learner behaviours – to be **aspirational, community-minded, curious, determined and independent.**

We aim to provide computing lessons which equip pupils with the knowledge and skills to stay safe online and express themselves and develop their ideas through information and communication technology as they prepare for the future workplace and as global citizens in a digital world.

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

Teaching and Learning

Our computing curriculum offers pupils opportunities to consolidate and build on prior learning and utilise common programs within the Microsoft suite. There are opportunities for them to work independently and collaboratively and lessons are practical; pupils have access to devices including laptops and iPads. Online safety is given a high priority and guidance about how to stay safe online is revised regularly.

In most lessons, teachers use Purple Mash software which provides a wide range of resources to ensure that the national curriculum is taught effectively to pupils in all year groups.

EYFS Year R

In the current Statutory Framework for EYFS, computing activities are included as part of *Understanding the world* as planned opportunities for children to foster their understanding of our culturally, socially, technologically and ecologically diverse world. They also contribute to pupils' *Physical Development* as fine motor control and precision helps with hand-eye co-ordination.

In the National Curriculum for Computing

In **Key Stage 1**, pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- 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; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

In **Key stage 2**, pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- 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; and the opportunities they offer for communication and collaboration
- 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 that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Assessment and progression

- Information about prior attainment recorded on Target Tracker supports lesson planning including differentiation
- Assessment tasks on Purple Mash and teacher questioning are used to assess children's prior knowledge
- Formative assessment (Assessment for Learning) by the teachers (and teaching assistants) is part of every lesson so that misconceptions can be addressed as they arise

Computing Programme of Study

Computers

Year 1	Recognise common uses of information technology in the home and school environment.
Year 2	Recognise common uses of information technology beyond school.
Year 3	Recognise familiar forms of input and output devices and how they are used. Make efficient use of familiar forms of input and output devices.
Year 4	Use other input devices such as cameras or sensors.

Networks

Year 3	Understand that computer networks enable the sharing of data and information
Year 4	Understand that the internet is a large network of computers and that information can be shared between computers.
Year 5	Understand what servers are and how they provide services to a network. Begin to use internet services to share and transfer data to a third party.
Year 6	Understand how computer networks enable computers to communicate and collaborate. Begin to use internet services within his/her own creations to share and transfer data to a third party.

Using computers

Year 1	Use technology purposefully to create digital content.
Year 2	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Use technology purposefully to create digital content comparing the benefits of different programs.
Year 3	With support select and use a variety of software to accomplish goals.
Year 4	With support select and use a variety of software on a range of digital devices. With support select, use and combine a variety of software on a range of digital devices to accomplish given goals.
Year 5	Independently select and use appropriate software for a task. Independently select, use and combine a variety of software to design and create content for a given audience.
Year 6	Independently select, use and combine a variety of software to design and create content for a given audience, including collecting, analysing, evaluating and presenting data and information.

	Design and create a range of programs, systems and content for a given audience. Independently select, use and combine a variety of software to collect, analyse, evaluate and present data and information.
E-Safety	
Year 1	Understand where to go for help and support when he/she has concerns about content or contact on the internet or other online technologies.
Year 2	Use technology safely and keep personal information private.
Year 3	Use technology safely and respectfully, keeping personal information private. Use technology safely and recognise acceptable and unacceptable behaviour.
Year 4	Use technology responsibly and understand that communication online may be seen by others. Understand where to go for help and support when he/she has concerns about content or contact on the internet or other online technologies.
Year 5	Understand the need to only select age appropriate content
Year 6	Use technology respectfully and responsibly. Identify a range of ways to report concerns about content and contact in and out of school.
Searching the Net	
Year 3	Use simple search technologies. Use simple search technologies and recognise that some sources are more reliable than others.
Year 4	Understand how results are selected and ranked by search engines.
Year 5	Use filters in search technologies effectively. Use filters in search technologies effectively and appreciates how results are selected and ranked.
Year 6	Be discerning when evaluating digital content. Use filters in search technologies effectively and is discerning when evaluating digital content.
Coding	
Year 1	Predict the behaviour of simple programs. Understand what algorithms are and how they are implemented on digital devices.
Year 2	Use logical reasoning to predict the behaviour of simple programs. Create simple programs. Create and debug simple programs. Debug simple programs by using logical reasoning to predict the actions instructed by the code. Understand that programs execute by following precise and unambiguous instructions
Year 3	Design, write and debug programs that control or simulate virtual events. Use logical reasoning to explain how some simple algorithms work.
Year 4	Decompose programs into smaller parts. Use logical reasoning to detect and correct errors in algorithms and programs. Select, use and combine a variety of software, systems and content that accomplish given goals
Year 5	Design, input and test an increasingly complex set of instructions to a program or device. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. Design, write and test simple programs that follow a sequence of instructions or allow a set of instructions to be repeated. Design write and test simple programs with opportunities for selection, where a particular result will happen based on actions or situations controlled by the user. Use logical reasoning to explain how increasingly complex algorithms work to ensure a program's efficiency.
Year 6	Include use of sequences, selection and repetition with the hardware used to explore real world systems. Solves problems by decomposing them into smaller parts. Create programs which use variables. Use variables, sequence, selection, and repetition in programs. Use logical reasoning to explain how increasingly complex algorithms work and to detect and correct errors in algorithms and programs efficiently.