Progression in Computing

Who's who?

Subject Leader: Mrs Hayton

Teaching staff: Mrs Watts, Mr Armstrong, Mrs Hayton, Mrs Tinniswood, Miss Dixon

Our Aims

"A high-quality computing education equips pupils to understand and change the world through computational thinking. It develops and requires logical thinking and precision. It combines creativity with rigour: pupils apply underlying principles to understand real-world systems, and to create purposeful and usable artefacts."

Computing curriculum, Programmes of Study (2019)

As computing is an increasing part of life today, at Rosley C of E School it is essential that all our pupils gain the confidence and ability that they need in this subject and to prepare them for a rapidly-evolving technological world.

We aim that all pupils understand how to use technology safely and the importance of 'keeping safe online', that all our pupils are digitally literate in the key computing skills and recognise the links with other subjects, and that they are able to express their ideas using computer technology and are inspired to be creative with technology.

Our pupils' ask us for computing that is fun and creative. We aim to provide a computing curriculum which allows them to learn new skills which can be transferred across the curriculum and to increase their confidence in technology which will help them in later life.

YEAR A 2021 - 2022

YEARS RECEPTION, 1 & 2		
TERM	**UNIT OF STUDY**	**LEARNING/KEY SKILLS**
Autumn	**Technology around us**	• To recognise common uses of information technology beyond school • To use technology purposefully to create, organise, store, manipulate, and retrieve digital content • To 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. • To identify rules that help keep us safe and healthy in and beyond the home when using technology • To know that the work they create belongs to them • To name their work so that others know it belongs to them
Spring	**Algorithms & Programming**	• To understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions • To create and debug simple programs • To use logical reasoning to predict the behaviour of simple programs • To recognise common uses of information technology beyond school
Summer	**Information book**	• To use technology purposefully to create, organise, store, manipulate and retrieve digital content • To 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

YEAR 3 & 4		
TERM	**UNIT OF STUDY**	**LEARNING/KEY SKILLS**
Autumn 1	**Computer systems & networks- communication**	• To understand computer networks, including the internet; how they can provide mutiple services, such as the world wide web; and the opportunities they offer for communication and collaboration • To 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 • To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact
Autumn 2	**Online safety**	• Learning depends on results from assessment
Spring 1	**Programming- Repetition in games**	• To design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • To use sequence, selection, and repetition in programs; work with variables and various forms of input and output • To use logical reasoning to explain how some simple algorithms work, and to detect and correct errors in algorithms and programs • To 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
Spring 2	**Data & Information- Branching databases**	• To 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 • To use technology safely, respectfully and responsibly

Summer 1	**Programming- Kodu 3D game lab**	- To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts - To use sequence, selection, and repetition in programs; work with variables and various forms of input and output - To use logical reasoning to explain how simple algorithms work and to detect and correct errors in algorithms
Summer 2	**Creating media- desktop publishing**	- To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content - To 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 - When searching on the internet for content to use, they can explain why they need to consider who owns it and whether they have the right to reuse it - To demonstrate the use of search tools to find and access online content which can be reused by others - To use key phrases in search engines and use search technologies effectively
YEAR 5 & 6		
TERM	**UNIT OF STUDY**	**LEARNING/KEY SKILLS**
Autumn 1	**Systems & Networks- Communication**	- To 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 - To 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

		• To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact • To describe and assess the benefits and the potential risks of sharing information online • To assess and justify when it is acceptable to use the work of others • To give examples of content that is permitted to be reused
Autumn 2	**Programming- variables**	• To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • To use sequence, selection, and repetition in programs; work with variables and various forms of input and output • To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • To 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
Spring 1	**Programming- HTML**	• To design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts. • To 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, presenting data and information.

Spring 2	**Creating media- web page design**	• To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • To 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 • To use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour. • To explain why copying someone else's work from the internet without permission can cause problems and give examples of what those problems might be • When searching on the internet for content to use, to explain why they need to consider who owns it and whether they have the right to reuse it • To assess and justify when it is acceptable to use the work of others • To give examples of content that is permitted to be reused • To demonstrate the use of search tools to find and access online content which can be reused by others • To demonstrate how to make references to and acknowledge sources I have used from the internet
Summer 1	**Data & Information- Flat file databases**	• To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • To 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
Summer 2	**Computational thinking- programming- variables using physical devices**	• To design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

		• To use sequence, selection, and repetition in programs; work with variables and various forms of input and output • To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • To 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