

Rooted in the Christian faith and embracing all within the community, we encourage, enrich and enable everyone to be the best they can be. 'Go and do likewise' Luke 10:37



Strategy for Computing

(Intent, implementation, impact)

Part 1 – Intent

At Riddlesden St. Mary's C.E. Primary School, we aim to instil a love and confidence of computing in all our pupils whilst ensuring they have the knowledge, skills and a wide variety of age-appropriate experiences with real life application.

The use of information and communication technology is an integral part of the National Curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At St Mary's, we recognise that pupils are entitled to quality hardware and software and a structured and progressive approach to the learning of the knowledge and skills needed to enable them to use it effectively.

The purpose of this strategy is to state how the school intends to make this provision.

Aims:

St Mary's aims are to:

- Provide a relevant, challenging and enjoyable curriculum for ICT and computing for all pupils.
- Meet the requirements of the National Curriculum programmes of study for ICT and computing (Teach Computing).
- Use ICT and computing as a tool to enhance learning throughout the curriculum (out of the box engaging lessons).
- To respond to new developments in technology.
- To equip pupils with the confidence and capability to use ICT and computing throughout their later life (use of word/PowerPoint/emails).
- To develop the understanding of how to use ICT and computing safely and responsibly.

The National Curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication.
- 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.

St Mary's believes that ICT and computing:

- Gives pupils immediate access to a rich source of materials.
- Can present information in new ways which help pupils understand access and use it more readily.
- Can motivate and enthuse pupils.
- Can help pupils focus and concentrate.
- Offers potential for effective group working.
- Has the flexibility to meet the individual needs and abilities of each pupil.

Part 2 – Implementation:

Objectives – taught through Teach Computing:

The Teach Computing units for key stages 1 and 2 are based on a the key principles of inclusivity, ambition and being research informed. The units are designed in a spiral curriculum approach. This means that each of the themes is revisited regularly (at least once in each year group), and pupils revisit each theme through a new unit that consolidates and builds on prior learning within that theme. This style of curriculum design reduces the amount of knowledge lost through forgetting, as topics are revisited yearly. It also ensures that connections are made even if different teachers are teaching the units within a theme in consecutive years.

  Computing Long Term Plan 2025 - 2026 						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computing systems and networks	Creating media 1	Data and Information	Creating media 2	Programming A	Programming B
Year 1	<u>Technology around us</u> Recognising technology in school and using it responsibly.	<u>Digital painting</u> Choosing appropriate tools in a program to create art, making comparisons with working non-digitally.	<u>Grouping data</u> Exploring object labels, then using them to sort and group objects by properties.	<u>Digital writing</u> Use a computer to create and format text, before comparing to writing non-digitally.	<u>Moving a robot</u> Writing short algorithms and programs for floor robots, and predicting outcomes.	<u>Programming animations</u> Designing and programming the movement of a character onscreen to tell stories.
Year 2	<u>Information technology around us</u> Identifying IT and how its responsible use improves our world.	<u>Digital photography</u> Capturing and changing digital photographs for different purposes.	<u>Pictograms</u> Collecting data in tally charts and using attributes to organise and present data on a computer.	<u>Digital music</u> Using a computer as a tool to explore rhythms and melodies before creating a musical composition.	<u>Robot algorithms</u> Creating and debugging programs, and using logical reasoning to make predictions.	<u>Programming quizzes</u> Designing algorithms and programs that use events to trigger a sequence of code to make a quiz.
Year 3	<u>Connecting computers</u> Identifying that digital devices have inputs, processes and outputs, and how devices can be connected to make networks.	<u>Stop frame animation</u> Capturing and editing digital still images to produce a stop frame animation that tells a story.	<u>Branching databases</u> Building and using branching databases to group objects using yes or no questions.	<u>Desktop publishing</u> Creating documents and modifying text, images and page layouts for specific purposes.	<u>Sequencing sounds</u> Creating sequences in a block-based programming language to make music.	<u>Events and actions in programs</u> Writing algorithms and programs that use a range of events to trigger sequences of actions.
Year 4	<u>The internet</u> Recognising that the internet is a network of networks including the web and why we should evaluate online content.	<u>Audio production</u> Capturing and editing audio to produce a podcast ensuring that copyright is considered.	<u>Data logging</u> Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	<u>Photo editing</u> Manipulating digital images, and reflecting on the impact of the changes and whether the required purpose is fulfilled.	<u>Repetition in shapes</u> Using a text-based programming language to explore count-controlled loops when drawing shapes.	<u>Repetition in games</u> Using a block-based programming language to explore count-controlled and infinite loops when creating a game.
Year 5	<u>Systems and searching</u> Recognising IT systems in the world and how some can enable searching on the internet.	<u>Video Production</u> Planning, capturing and editing video to produce a short film.	<u>Flat-file databases</u> Using a database to order data and create charts to answer questions.	<u>Introduction to vector graphics</u> Creating images in a drawing programme by using layers and groups of objects.	<u>Selection in physical computing</u> Exploring conditions and selection using a programmable microcontroller.	<u>Selection in quizzes</u> Exploring selection in programming to design and code an interactive quiz.
Year 6	<u>Communication and collaboration</u> Exploring how data is transferred by working collaboratively online.	<u>Webpage creation</u> Designing and creating webpages, considering copyright, aesthetics and navigation.	<u>Introduction to spreadsheets</u> Answering questions by using spreadsheets to organise and calculate data.	<u>3D modelling</u> Planning, developing and evaluating 3D computer models of physical objects.	<u>Variables in games</u> Exploring variables when designing and coding a game.	<u>Sensing movement</u> Designing and coding a project that captures inputs from a physical device.

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.

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.

Resources and access:

St Mary's acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible computing infrastructure by investing in resources that will effectively deliver the strands of the National Curriculum and support the use of computing across the school. Teachers are required to inform the computing lead of any faults as soon as they are noticed, alongside any requirements for student logins (Primary T for Chrome logins).

- All classes use the chrome book trolley on their allocated day. Teachers teach cross curricular lessons during this time along with their year groups computing curriculum objectives.
- All classes have access to the iPad trolleys on their identified day (see below). For any computing areas that are more accessible through the iPad, the class teacher will contact the computing lead for a timetable adjustment if needed.
- Each half term, the timetable adjusts to offer more sessions for KS1 and KS2 year groups to allow for further research and computing skill development.

Autumn, Spring and Summer 1

	Monday	Tuesday	Wednesday	Thursday	Friday
Chromebooks	Y6 - Music pm	Y6 Y4	Y6 Y5	Y3 Y2	Y4 – MTC Y5
Ipads	Y4	Y1 Y2	Y3	Y5 or 6	Y5 or 6

Autumn, Spring and Summer 2

	Monday	Tuesday	Wednesday	Thursday	Friday
Chromebooks	Y4 -MTC am Y6 - Music pm	Y4 Y3	Y6 Y2	Y3 Y2	Y1 Y5
Ipads	Y4	Y1 Y2	Y3	Y5 or 6	Y5 or 6

- The computing lead offers an after-school clubs in computing for children who have shown to have particular skills in this area. This club focusses on developing coding skills through the use of Micro:bits.
- Pupils may use ICT and computing independently, in pairs, alongside an LSA or in a group with a teacher. This could be incorporated into guided groups.
- To set homework online, or linked to their unit of learning, for children where necessary.
- Teachers to use the cross curricular icon on any worksheets where ICT has been incorporated.
- Keeping the plates spinning.
- Use of the ICT progression document shows what is bespoke for RSM throughout topics/ideas for cross curricular links.



Cross curricular link examples:

I know the 7 continents and 5 oceans – children to explore google maps to find out where polar bears live (geography).

I know how to describe the simple physical properties of a variety of everyday material – children to research physical properties of shape – create data to present as a class pictogram (maths).

I know how to listen with concentration and understanding to a range of recorded music – children to use headphones with Chromebook to listen to different genres of music (music).

I know how to recognise, find and name a half as one of two equal parts of an object, shape or quantity – Children to play Fractionios Pizzeria on PM (maths).

Hook lesson opportunity - Children to research on a search engine – where is our local seaside? Children to make notes/questions. What you want to find out more about? Etc (geography).

Part 3 – Impact

Assessment and record keeping:

Teachers regularly assess capability through observations and looking at completed work. All class teachers have access to their pupils' work within Teach Computing and Purple Mash to support with assessment. Key objectives to be assessed are taken from the National Curriculum to assess key computing skills each term.

Assessment can be broken down into:

- Formative assessments to be carried out during and following short focused tasks and activities.
- Summative assessment to review pupils' computing capability. Use of independent open-ended tasks, provide opportunities for pupils to demonstrate capability in relation to the term's work – great opportunity for the cross curricular activities.

Computing assessment is done by class teachers and submitted to SLT termly. They simply grade each child in their class with:

Red – significantly at risk of delay

Yellow – at risk of delay

Green – on track

Blue – greater depth

[illegible]

Teachers regularly update their class website page with information on computing coverage. Each half term, class teachers email the computing lead with a short paragraph and pictures to showcase the learning they have been completing during this half term. The computing lead then puts this together to show learning throughout school.

Security:

- The computing technician /coordinator will be responsible for regularly updating anti-virus software.
- Use of ICT and computing will be in line with the school's 'acceptable use policy/E-safety policy'.
- All pupils and parents will be aware of the school rules for responsible use of ICT and computing and the internet and will understand the consequence of any misuse.

Parental involvement:

Parents are encouraged to support the implementation of ICT and computing where possible by encouraging use of ICT and computing skills at home during home-learning tasks and through the school website. They will be made aware of e-safety and encouraged to promote this at home.