St Mary's
Catholic Primary School and Nursery

COMPUTING SUBJECT STATEMENT

CURRICULUM AIMS

At St Mary's we shape our curriculum so that all pupils are provided with high quality teaching and learning, with Jesus Christ at the centre of all we do. We aim to teach pupils how to grow into positive, responsible citizens, who can work and co-operate with others while developing the knowledge and skills to achieve their true potential.

"The Christian life is a call to a deeper communion with God and with one another, and this finds particular expression in our schools, which are rightly recognised as being families themselves, where no one is a stranger and where everyone, whatever his or her background or academic ability, is welcomed, treasured, supported and helped to become the person whom God calls them to be."

Bishop Malcolm MacMahon.

We aim to provide a Catholic Christian education based on the life and teaching of Jesus Christ, in which the values of the Gospel underpin all aspects of school life;

To provide a friendly, nurturing environment in which the dignity of each person as a child of God is recognised and developed; and to promote the full potential of each child through a curriculum which develops spiritual, academic, creative, social and emotional growth;

To provide a curriculum which is enriching and challenging, where pupils experience the opportunity to learn in a wide range of contexts.

INTENT

At St Mary's, we understand the immense value that technology plays not only in supporting the Computing and whole school curriculum but overall in the day-to-day life of our school. Our aims are to fulfil the requirements of the National Curriculum for Computing whilst also providing enhanced collaborative learning opportunities, engagement in rich content and developing the pupil's conceptual understanding.

"A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world…core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge

and understanding, pupils are equipped to use information technology to create programs, systems and a range of content." **National Curriculum**

Our Computing curriculum aims to develop the heart and mind of every child. Computing teaching at St Mary's has strong links with mathematics, science and design and technology. Our aim is to provide a broad and balanced curriculum whilst also ensuring that pupils become digitally literate and digitally resilient. Technology is ever evolving and we aim to develop pupils who can use and express themselves and develop their ideas through information and communication technology at a suitable level for the future workplace and as active participants in a digital world.

The aims of our Computing curriculum are to develop pupils who:

- Are responsible, competent, confident and creative users of information and communication technology.
- Know how to keep themselves safe whilst using technology and on the internet and be able to minimise risk to themselves and others.
- Become responsible, respectful and competent users of data, information and communication technology.
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Can analyse problems in computational terms, and have repeated practical experience writing computer programs in order to solve such problems.
- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Become digitally literate and are active participants in a digital world.
- Are equipped with the capability to use technology throughout their lives.
- Understand the importance of governance and legislation regarding how information is used, stored, created, retrieved, shared and manipulated.
- Have a 'can do' attitude when engaging with technology and its associated resources.
- Utilise computational thinking beyond the Computing curriculum.
- Understand and follow the SMART E-Safety rules.
- Understand the E-Safety messages can keep them safe online.
- Know who to contact if they have concerns.
- Apply their learning in a range of contexts, e.g. at school and at home.
- Know where to locate the CEOP button and how to use it.

IMPLEMENTATION

EYFS

We follow the guidelines set out in the Technology section of the Understanding the World criteria in the Early Years Foundation Stage Framework. The criteria underpins our curriculum planning and we continually provide technology based activities for the children in order to enhance their confidence using technologies. At St Mary's we understand the

importance of learning through play and have invested in a range of technology in the classroom and outdoor areas for the children to have assess to throughout the school day, to support and enhance their learning. The resources range from iPad, digital cameras, remote control cars, walkie-talkies, mark making boards and recordable talking flowers.

By the end of EYFS, our pupils should be taught to:

- Know how to operate simple equipment, e.g. turn on a CD player and use a remote control.
- Show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones.
- Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements.
- Know that information can be retrieved from computers and iPad.
- Complete a simple program on a computer or iPad.
- Use ICT hardware to interact with age-appropriate computer software.
- Recognise that a range of technology is used in places such as homes and schools.
- Select and use technology for particular purposes.

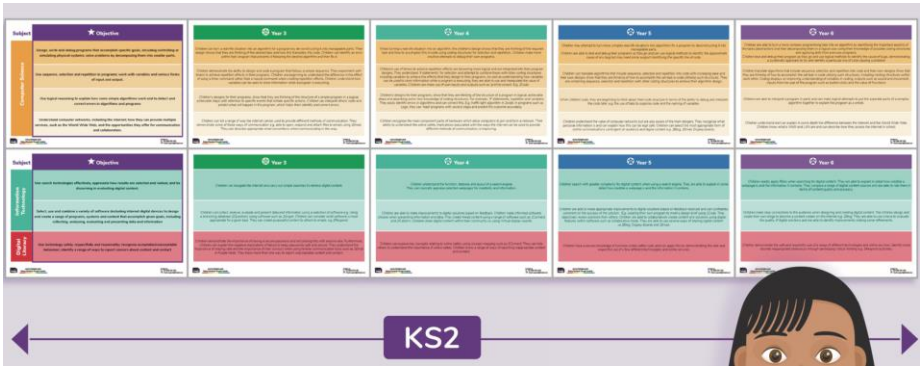
KS1 & KS2

To ensure high standards of teaching and learning in computing, we implement a curriculum that is progressive throughout the whole school. Computing is a foundation subject in the National Curriculum and at St Mary's, implementation of the computing curriculum is in line with 2014 Primary National Curriculum requirements for KS1 and KS2 and the Foundation Stage Curriculum in England.

This provides a broad framework and outlines the knowledge and skills taught in each key stage.

Computing teaching at St Mary's delivers the requirements of the National Curriculum through half-termly units. Teachers plan using the Purple Mash Scheme of Work, which highlights the knowledge, skills and vocabulary for each year group and is progressive from year to year. Our Computing curriculum is broken down into three strands that make up the computing curriculum. These are Computer Science, Information Technology and Digital Literacy. Computer Science underlines the knowledge and skills relating to programming, coding, algorithms and computational thinking. Information Technology underlines the knowledge and skills relating to communication, multimedia and data representation and handling. Digital Literacy underlines the knowledge and skills relating to online safety and technology uses, all of which are covered at St Mary's, whether combined or discreetly. Our Computing curriculum is supplemented by the Purple Mash scheme of work, which we follow from Year 1-6, ensuring consistency and progression throughout the school.

We recognise that computing is a specialist subject and not all teachers are computing specialists. Computing at St Mary's may be taught by one of our HLTA's whilst teaching staff have their PPA time. The Purple Mash scheme of work enables clear coverage of the computing curriculum whilst also providing support and CPD for less confident teachers to deliver lessons. All teachers have received Purple Mash training.



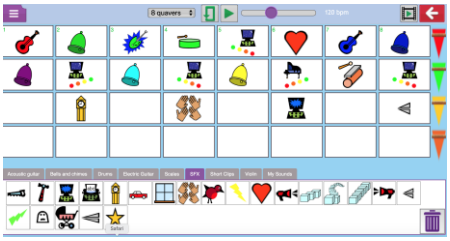
Computing lessons are broken down into weekly units, usually with two units taught per half-term. Repetition of a unit does not mean pupils are repeating an activity, it simply means pupils are building on established skills whilst also embedding previous concepts. Units are practical and engaging and allow computing lessons to be hands on. Units cover a broad range of computing components such as coding, spreadsheets, Internet and Email, Databases, Communication networks, touch typing, animation and online safety.

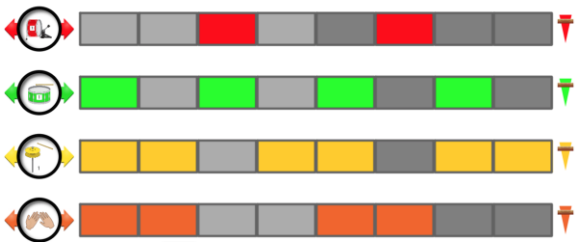
Year 3	Purple Mash Unit:	Classroom Monitor Objectives Covered:
Autumn 1	Unit 3.4 Touch Typing Unit 3.3 Spreadsheets	• Choose from a variety of software and internet services to accomplish given goals. • Design and create content to accomplish a given goal. • Collect and combine information and data.
Autumn 2	Unit 3.5 Email	• Choose from a variety of software and internet services to accomplish given goals. • Design and create content to accomplish a given goal. • Collect and combine information and data. • Use technology responsibly. • Recognise acceptable / unacceptable behaviour and content.
Spring 1	Unit 3.2 Online Safety	• Use technology responsibly. • Recognise acceptable / unacceptable behaviour and content.
Spring 2	Unit 3.6 Branching Databases	• Choose from a variety of software and internet services to accomplish given goals. • Design and create content to accomplish a given goal. • Collect and combine information and data.
Summer 1	Unit 3.1 Coding	• Design and debug programs that accomplish specific goals. • Design and create programs that use a sequence. • Control physical systems. • Use logical reasoning to detect and correct errors in programs.
Summer 2	Unit 3.7 Simulations Unit 3.8 Graphing	• Choose from a variety of software and internet services to accomplish given goals. • Design and create content to accomplish a given goal. • Collect and combine information and data.

When teaching computing, teachers also follow the children's interests to ensure their learning is engaging, broad and balanced. Teachers should ensure that ICT and computing capability is also achieved through core and foundation subjects, and where appropriate and

necessary, ICT and computing should be incorporated into work for all subjects using our wide range of interactive ICT resources.

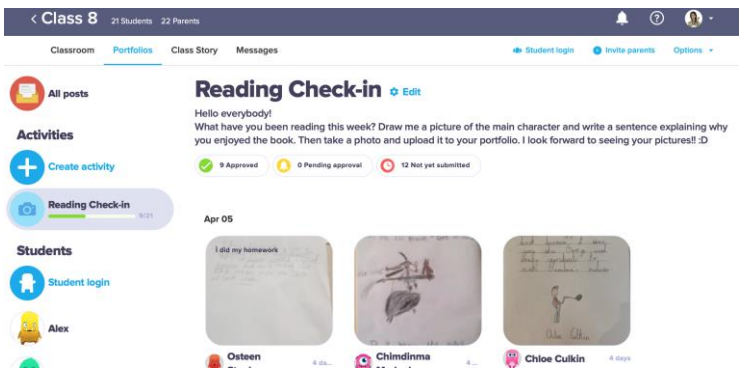
Through our Purple Mash subscription our teachers can deliver thematic, cross curricular lessons that also follow children's interests and provide flexibility. Purple Mash has an online portal of age-appropriate software, games and activities as well as topic materials and materials to support children's learning in other subject areas for all key stages. Through computing lessons pupils will also use the Purple Mash software to 'make music' using the 2Sequence program, design and make using the 2Animate software and make links with maths through spreadsheets using 2Calculate.





Computing teaching at St Mary's is practical and engaging and a variety of teaching approaches and activities are utilised based on teacher judgement and pupil ability. We have a wide range of resources to support our computing teaching including but not limited to; a fully resourced computing suite, iPads, bee-bots, pro-bots, webcams, floor roamers etc. Pupils may use iPads independently, in pairs, alongside a TA or in a group with the teacher. Teachers and pupils are also aware of the importance of health and safety and E safety and therefore pupils are always supervised when using technology and/or accessing the internet.

Pupils at St Mary's are encouraged to engage with ICT and technology outside of school. Each teacher and pupil at St Mary's has their own unique Purple Mash login and password. Computing work can be stored and saved using pupil log in details and homework or '2do's' can also be set for pupils to access and complete tasks at home that link with their current class learning. Display boards around the school showcase a range of computing/ICT related work. Parents at St Mary's are also encouraged to support the implementation of ICT and computing where possible by encouraging use of ICT and computing skills at home during homework tasks and support pupils beyond the classroom by registering with Timetables Rockstars, Numbots, Class Dojo's etc.



Alongside our curriculum provision pupils at St Mary's also have the opportunity to participate in after school computing clubs. Examples of clubs include iPad club, coding club, bee-bot club and Digital Leaders club. These clubs aim to provide additional computing support and enjoyment whilst further challenging pupils who possess exceptional computing abilities.

At the start of each academic year we recruit a team of 12 Digital Leaders across Years 5 and 6. These children work alongside the Computing Leaders to enhance and promote the use of Computing across the school. The team meet fortnightly in the Computing Suite with some of their roles including: organising and keeping school resources in good working order; designing logos to represent the Digital Leader team; creating posters to display around the school which promote e-Safety and leading Safer Internet Week assemblies.

INCLUSION

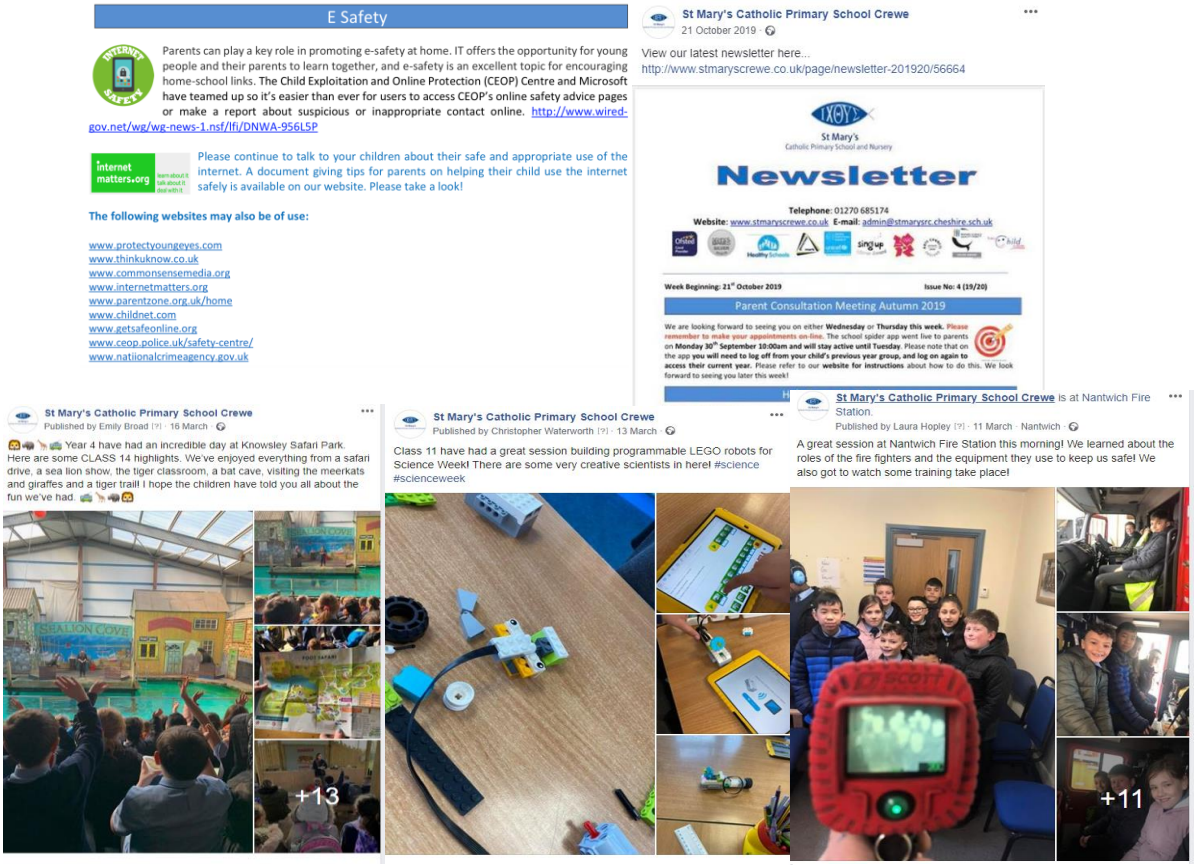
All children receive Quality First Teaching. Any children with identified SEND or in receipt of pupil premium funding may have work additional to and different from their peers in order to access the curriculum dependent upon their needs. In addition, our school offers a vibrant, demanding and varied curriculum, providing all our pupils with a range of opportunities in order for them to reach their full potential, enjoy and achieve regardless of their starting points.

At St Mary's we provide a variety of opportunities for computing learning inside and outside the classroom. Computing and safeguarding go hand in hand at St Mary's. We provide a huge focus on internet safety both inside and outside of the classroom and beyond. Additional to all pupils studying an online safety unit through their computing lessons, every year we also take part in National Internet Safety Day in February. The Computing leads, alongside class teachers, will plan additional internet safety lessons, workshops and activities to take part in

following a specific yearly theme. Internet Safety assemblies are also held with the support of our school Digital Leaders.

(Internet Safety Workshops held throughout February)

Finally, at St Mary's we actively encourage parent partnership within the computing curriculum both inside and outside of school. Parents are made aware of e-safety issues through the school website, Facebook page, links, letters, information newsletters, parent presentations, shared activities and guidance.



IMPACT

Our Computing Curriculum is high quality, well thought out and is planned to demonstrate progression and build on and embed current skills. We focus on progression of knowledge and skills in the different computational components and as in other subjects, discreet vocabulary progression also forms part of the units of work.

If pupils are keeping up with the curriculum, they are deemed to be making good or better progress.

We measure the impact of our curriculum through the following methods:

- Pupil discussions and interviewing the pupils about their learning (pupil voice).
- Governor monitoring with our link governor.
- Staff meetings with opportunities for dialogue between teachers.
- Photo evidence and images of the pupils' practical learning.
- Video analysis through recording of performance in lessons.
- A reflection on standards achieved against the planned outcomes.
- Learning walks and reflective staff feedback (teacher voice).
- Display
- CPD
- Purple Mash Portfolio