At St Mary's we champion every child to be the **best that they can be.** Our knowledge-led curriculum therefore endeavours to develop our children's **character**, **core skills**, **creativity** and sense of **community**.
Supported by our school's vision, ethos and position as a junior school, we believe that our specialist knowledge of the Key Stage 2 age range ensures **improving outcomes, opportunities and experiences for all our children.** To achieve this, we are aspirational for our pupils, instilling high expectations, the passion, perseverance and stamina to succeed.

Computing Policy

Ely St Mary's CofE Junior School

Written/reviewed by:	Leah Mason Rachel Clarke	**Date:**	January 2022
Next review due by:	January 2027		

1. Introduction & Aims

The use of computers and computer systems is an integral part of the National Curriculum and knowing how they work is a key life skill. In an increasingly digital world there now exists a wealth of software, tools and technologies that can be used to communicate, collaborate, express ideas and create digital content.

At Ely St Mary's Church of England Junior School we recognise that pupils are entitled to a broad and balanced computing education with a structured, progressive, approach to the learning how computer systems work, the use of IT and the skills necessary to become digitally literate and participate fully and safely in the modern world.

1.1 Objectives

At Ely St Mary's we implement the National Curriculum for Computing 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
- are responsible, competent, confident and creative users of information and communication technology

The school believes that IT, computer science and digital literacy:

- are essential life skills necessary to fully participate in the modern digital world.
- allows children to become creators of digital content rather than simply consumers of it.

- provides access to a rich and varied source of information and content.
- communicates and presents information in new ways, which helps pupils understand, access and use it more readily.
- can motivate and enthuse pupils.
- offers opportunities for communication and collaboration through group working • has the flexibility to meet the individual needs and abilities of each pupil.

2. Procedures and practice

2.1 Teaching & Planning:

At St Mary's, children are taught to understand how to use computing in a responsible manner and will enable them to stay safe and thus online safety is a planned element within every computing unit taught to the children. This ensures online safety awareness is maintained at all times rather than being the focus of a single day or week (e.g. Safer Internet Day or Anti-bullying Week).

The curriculum taught is broad and balanced and covers all three strands of computing: Computer Science, Digital Literacy (Inc. Online Safety) and information technology. It is imaginative, stimulating, progressive and set in contexts meaningful to the children. Children will apply their knowledge, skills and understanding in realistic and challenging situations to:

- communicate,
- input and analyse data,
- program products
- and to produce digital art and music (creative expression).

2.2 Organisation:

Computing and Internet Safety is taught both incidentally and as a discrete subject and is taught in a variety of ways across the school, sometimes in blocks during special events/dates; within each computing unit and weekly lessons; within PSHE lessons.

Pupils will complete a minimum of 38 hours per year on this subject. Pupils will therefore complete 6 Internet Safety units per year and 6 Computing units per year, with Y6 focusing on 4 units, in depth, including cross curricular design technology.

Children's work in Computing is recorded in their electronic folders (one drives), with samples collated in pupils' Science (STEM) books and on display (computing working walls). Where necessary, the Computing lead will collate examples of children's Internet Safety/Computing work, pupil voice and observation both for monitoring purposes and CPD.

2.3 Resources:

Pupils have access to computing resources both to support learning in the wider curriculum and specifically for the teaching of Computing lessons. These resources are organised accordingly with laptop trolleys available to access day to day, alongside a specially allocated STEM Room containing winbooks, laptops, Stop Go animation cameras, microbits and Lego We Do programming resources. This approach to resourcing ensures that staff and pupils have sufficient access to quality resources to enable them to progress competently through the KS2 Computing curriculum.

All pupils are also assigned their own office 365 account and one drive. This enables pupils to access Microsoft resources from home in the event of a school closure.

To complement the delivery of the Computing curriculum, staff and pupils have access to software such as iLearn. In addition, we maintain links with a local school who supports staff by providing CPD with a focus on programming.

2.4 Health and Safety:

The teaching of Computing is supported by the Trust's Online Safety Policy (which includes the staff and pupil acceptable use agreements).

Our Blended Learning Policy make lines with National Online Safety online to provide parent friendly guidance and expectations for online learning and live lessons, where required.

A member of our Designated Safeguarding Team is also trained in leading online safety to further complement our pastoral provision and ensure the safety and wellbeing of all pupils.

The school works with our technology provider to regularly review online access and can rapidly remedy any concerns we become aware of e.g. by blocking additional sites where required.

2.5 Equal opportunities:

Every child has the right to access the full Computing curriculum regardless of gender, race, ability and financial disadvantage.

Learning objectives, activities and adult support will be adapted to meet the needs of all pupils including those with SEND and higher attaining children. See both our SEND policy and our Most Able Policy.

Pupils with special educational needs are supported within Computing lessons and by the curriculum itself. For example, all pupils engage with touch typing practice each year with a view to developing their speed and accuracy for use of technology in later education and employment. However, this also assists pupils with literacy difficulties who may use assistive technology (e.g. Clicker) to record their learning: by being more confident in using the keyboard, pupils can gain the maximum benefit from programmes such as Clicker. In addition, where pupils present with difficulties in understanding risk or social situations, social stories are used to support them in developing an improved awareness and strategies to keep themselves safe when online.

Pupil Premium funding can also be allocated to facilitate disadvantaged pupils in accessing extracurricular opportunities (e.g. Construction Club; Stop Go Animation Club) and in subsidising enrichment trips, visits and experiences relating to Computing.

Each classroom maintains 2-4 devices which are also configured to be quickly deployed to support home learning in the event of school closure alongside the pupils' Microsoft account.

2.6 Assessment:

Assessment is based on a combination of teacher assessment and pupil self-evaluation in Computing. Feedback is offered verbally and through live marking/feedback, during lessons and when planning for future lessons. During a unit, teachers will document pupils' strengths and next steps to be addressed through further teacher input and to celebrate pupils' achievements and progress – see the schools Feedback Policy.

Annually, staff will use the Upper and Lower Key Stage 2 progression grid to benchmark pupils against, recording each pupil's individual attainment level on Pupil Asset according to whether they are working towards/ at/ above the age-related expectation for Computing.

Both unit-based feedback and annual assessments inform teacher comments in children's end of year reports to parents.

Most able learners in Computing are recorded as 'exceeding' on Pupil Asset. These pupils are identified by and supported to develop a selection of the following characteristics:

- Rapid and sound memorisation of mathematical material, learning and understanding mathematical ideas quickly;
- Make connections between the concepts they have learned;
- Reason logically: can verify, justify and prove, working systematically and accurately: able to communicate their reasoning and justify their methods. They are adept at posing their own questions and pursuing lines of enquiry;
- Demonstrate curiosity and enthusiasm for mathematical problems, taking a creative approach and are more analytical: being able to think flexibly, adapting problem-solving approaches. They sustain their concentration throughout longer tasks and persist in seeking solutions and enjoy working at increased depth;
- Design and construct products with a high level of precision and quality;
- Be open to making changes throughout processes to make the best possible product;
- Have a precise awareness of what tools and materials are required in order to achieve the desired outcomes;
- Use a variety of programming languages, including the use of sequence, selection, repetition and variables;
- Use interactive approaches, running and debugging programs and showing tenacity in solving problems;
- Quick, confident, efficient take up of new computing applications;
- Exploring and developing skills and experience independently;
- Intrigued rather than frustrated by problems;
- Enjoy researching scientific facts and applying theories;
- Have scientific hobbies and/or members of scientific clubs and societies
- Able to sustain their interest and concentration and go beyond an obvious answer with greater depth

2.7 Monitoring and Evaluation:

The implementation of this policy will be monitored by the subject leads for Computing and Heads of Phase/Year.

The quality of Computing will be evaluated through lesson drop ins, pupil voice, work sampling.

The link Computing school governor will support the monitoring of this subject area at least annually (e.g. via our Governor Day).

3. Contribution of Computing to other subjects in the curriculum

Computing plays an important role across the STEM curriculum as well as in its own right. Examples of cross curricular links within our Computing progression include: D&T programming products; Maths & Science analysing and presenting data, applying the use of formula, coordinates.

We make explicit links with the Music and Art curriculum also, incorporating creative application units within our curriculum so pupils can express themselves creatively through digital medium and compare the approaches and products.

All pupils will also have the opportunity to achieve a Crest Award, SuperStar or Discovery Award, which will offer and inspire further opportunities for pupils to collaborate and apply STEAM-based knowledge, ideas and skills as they carry out 8 investigations.

Computing lessons, particularly online safety, make numerous links with our PSHE curriculum, including explicit links via units such as rights, rules and responsibilities; working together; myself and my relationships; antibullying; managing safety and risk; digital lifestyles. These important links support pupils in developing a sound awareness of technology and the associated risks for their physical and emotional wellbeing as well as the extent to which varying online sources can be trusted and validated.

4. Concluding notes

4.1 Consultation

This policy and the Computing curriculum was written by Leah Mason & Rachel Clarke, co-leaders for Computing education, in consultation with:

- Teaching staff & LGB representatives – Professional Development Meeting February 2020
- Governors – Governor Day monitoring visit January 2020 and subsequently February 2022.

4.2 Monitoring and review

This policy will be monitored and reviewed by the subject leaders responsible for Computing. All staff also have the safeguarding responsibility to ensure pupils are safe online and any concerns are quickly and efficiently reported to a safeguarding lead, where appropriate.

4.3 Links to other policies

- Full Computing Coverage Map and Progression of Skills can be found in the Ely St Mary's Curriculum Document here: https://www.elystmarys.org.uk/web/overview/503308
- SEND Policy
- Pupil Premium Strategy
- Most Able Policy
- Feedback Policy