Computing Policy

St Mary's Church of England (A) Primary School keeps children safe by ensuring and promoting the safeguarding and welfare of all children in its care: all policies support the most current "Keeping Children Safe in Education Guidance" and "Safeguarding Policy", are fully consistent with the "Every Child Matters" agenda, and fully support the principles of equal opportunities for all.

'A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.'

Computing programme of Study, DfE, 2013

National curriculum in England: computing programmes of study - key stages 1 and 2

Aims 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

Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world. At St Mary's, we believe that Computing is an integral part of preparing children to live in a world where technology is continuously and rapidly evolving, so much so that children are being prepared to work with technology that doesn't even exist yet. For this reason, we feel that it is important that children are able to participate in the creation of these new tools to fully grasp the relevance of and the possibilities of emerging technologies thus preparing them for the world of work.

1. Purpose

The Computing in the National Curriculum (2013) expectations split the teaching and learning of Computing into three strands (Computer Science, Digital Literacy and Information Technology). It is therefore important that children recognise the difference between what makes each one relevant to their future, as well as their everyday lives. High quality teaching of Computing, from Reception through to Year 6, utilises a combination of practical lessons and theory lessons designed to promote discussion and nurture understanding, which are also relevant to other areas of the curriculum such as PSHE and Citizenship. This policy reflects the values and philosophy in relation to the teaching and learning of and with ICT. It sets out a framework within which teaching and support staff can operate and give guidance on planning, teaching and assessment. This policy should be read in conjunction with the scheme of learning for Computing that sets out in detail what children in different year groups will be taught and how ICT can facilitate or enhance learning in other curriculum areas.

This document is intended for:

   All teaching staff

   All staff with classroom responsibilities

   School governors

   Parents

   Inspection Teams

Copies of this policy are kept centrally and are available from the head teacher and the subject leader (Dan Cohen). Also available on the school website under 'key information' and then 'policies'.

2. Aims

Computer Science -

To enable children to become confident coders on a range of devices.

To create opportunities for collaborative and independent learning.

To develop children's understanding of technology and how it is constantly evolving.

Digital Literacy-

To enable a safe computing environment through appropriate computing behaviours.

To allow children to explore a range of digital devices.

To promote pupils' spiritual, moral, social and cultural development.

Information Technology-

To develop ICT as a cross-curricular tool for learning and progression.

To promote learning through the development of thinking skills.

To enable children to understand and appreciate their place in the modern world.

3. British Values within Computing

Children at St Mary's Primary School demonstrate the following values whilst learning about

Computing by:

Democracy

Listening to everyone's ideas in order to form a majority.

Working as part of a team and collaborating to use computing devices effectively.

Rule of Law

Developing knowledge of lawful computing behaviours.

Demonstrating respect for computing laws.

Individual Liberty

Taking responsibility for our own computing behaviours.

Challenging stereotypes and bias.

Exercising rights and personal freedoms safely through knowledge of E-safety.

Respect and Tolerance

Showing respect for other cultures when undertaking research using computing devices.

Providing opportunities for pupils of all backgrounds to achieve in computing.

4. Objectives

In order to develop the Computing and ICT capability and understanding of each child we will provide through our planning:

1. Computing through all three strands taught within the classroom.
2. Continuity throughout the school to ensure that experience and skills are developed in a cohesive and consistent way.
3. Access to computers and ipads within classes.
4. Experience of a variety of well-planned, structured and progressive activities, taught through a carousel method.

5. Experience cross-curricular links to widen children's knowledge of the capability of computing including safe use of the Internet and other digital equipment.
6. Opportunities for children to recognize the value of computing and ICT in their everyday lives and their future working life as active participants in a digital world.

By doing this we will fulfil the requirements of the National Curriculum

5. Equal Opportunities, Inclusion, Special Educational Needs and Disabilities (SEND)

It is our policy to ensure that all children, regardless of race, class or gender, should have the opportunity to develop computing and ICT capability. We aim to respond to children needs and overcome potential barriers for individuals and groups of children by:

Ensuring that all children follow the scheme of learning for Computing.

Providing curriculum materials and programmes, which are in no way class, gender or

racially prejudice or biased.

Providing opportunities for our children who do not have access at home to use the school

computers/Internet to develop independent learning.

Providing suitable challenges for more able children, as well as support for those who have

emerging needs.

Responding to the diversity of children's social, cultural and ethnographical backgrounds.

Overcoming barriers to learning through the use of assessment and additional support.

Communication or language difficulties by developing computing skills through the use of all

their individual senses and strengths.

Movement or physical difficulties by developing computing skills through utilising their

individual strengths.

Behavioural or emotional difficulties (including stress and trauma) by developing the

understanding and management of their own learning behaviours.

6. Assessment

We assess the children's work in Computing whilst observing them working during lessons. Teachers record the progress made by children against tracker statements for each lesson and/or unit of work. In doing so, this highlights implications for future teaching and informs future planning within the subject. Formative assessment occurs on a lesson-by-lesson basis determined by the learning challenge.

7. Health and Safety

The school takes very seriously and is aware of the health and safety issues surrounding children's use of ICT. We ensure that pupils have a safe environment in which to learn. Effective filters are in place to safeguard pupils. As such, we will ensure that:

- All fixed and portable appliance in school are tested by a LA approved contractor every twelve months.
- Damaged equipment is reported to the school office manager who will arrange for repair or disposal.
- E-safety is discretely taught each term by class teachers, through assemblies delivered by staff and through parent presentations.
- Children learn about rights and responsibilities when using the Internet.

8. Security, Legislation, Copyright and Data Protection

We ensure that the school community is kept safe by ensuring that:

The school ICT support is responsible for regularly updating anti-virus software.

The use of ICT and computing will be in line with the school's Acceptable Use Policy (AUP).

All staff, volunteers and KS2 children must sign a copy of the schools AUP.

Parents are made aware of the AUP at school entry.

All children are aware of the school rules for responsible use on login to the school network

and will understand the consequence of any misuse.

Reminders for safe and responsible use of ICT and computing and the Internet will be

displayed in classrooms

Software/apps installed onto the school network server must have been vetted by Computer Factory.

No personal software is to be loaded onto school computers. Further information can be

found in the school's GDPR policy.

9. Curriculum Development and Organisation

Our Scheme of Learning is based on the National Curriculum guidelines (2013). All units of teaching and learning are differentiated with additional assessment activities built in. Individual iPads in classrooms support the development of Computing and ICT capability by enabling independent learning; encouraging research, and allowing for the creative use of ICT in all subjects. Interactive whiteboards are positioned in all classrooms and are used as a teaching and learning resource across the curriculum. An immersive classroom further

enhances the children's learning, emotive and language experiences and responses through cross-curricular exploration of ideas and themes.

10. Teaching and Learning

Across Key Stage 1 and Key Stage 2, our children will use technology to:

Learn Programming by using programmable toys, program on screen, through animation, develop games (simple and interactive) and to develop simple mobile apps.

Develop their computational thinking through filming, exploring how computer games work, finding and correcting bugs in programs, creating interactive toys, cracking codes and

developing project management skills.

Develop computing creativity by illustrating an eBook, taking and editing digital images, shooting and editing videos, producing digital music and creating geometrical art.

Investigate computer networks through finding images using the Web, researching a topic, finding out how the school network operates, editing and writing code, creating an e-safety micro-site, and planning the creation of mobile apps.

Communicate and collaborate by producing a talking book, communicating clues, use email, produce wikis, create and write blog pages and design interfaces for apps.

Understand the need for productivity as a life skill through creating a card electronically, record bug hunt data, create surveys and analyse results, record and analyse weather data, create virtual spaces and research the app market.

Teacher's planning is differentiated to meet the range of needs in each class. A wide range of teaching and learning styles are employed to ensure all children are sufficiently challenged.

Children may be required to work individually, in pairs or in small groups according to the nature of the task. Different outcomes may be expected depending on the ability and needs of the individual child.

11. Internet Safety

Internet access is planned to enrich and extend learning activities across the curriculum.

However, we have acknowledged the need to ensure that all pupils are responsible and safe

users of the Internet and other communication technologies both in school and outside.

12. Roles and Responsibilities

The head teacher, in consultation with the ICT leader and staff will:

Determine the ways in which Computing and ICT supports, enriches and extends the

curriculum.

Decide on the provision and allocation of resources.

Ensure that Computing and ICT is used in a way that achieves the aims and objectives of

the school.

Oversee the planning and delivery of Computing and ICT

within the school through:

Facilitating the use of ICT across the curriculum in collaboration with all subject leaders.

Providing or organizing training to keep staff skills and knowledge up to date.

Advising colleagues about effective teaching strategies, managing equipment and

Purchasing resources.

Monitoring the delivery of the Computing and ICT curriculum and reporting to the head
teacher and governors.

Whole school coordination and support is essential to the development of Computing and

ICT capability however, it is the responsibility of each individual teacher to plan and teach

appropriate Computing and ICT activities and assist the leader in the monitoring and

recording of pupil progress in the subjects.

13. Monitoring

Monitoring termly enables the subject leader to gain an overview of Computing and ICT

teaching and learning throughout the school. This will assist the school in the self-evaluation

process identifying areas of strength as well as those for development. In monitoring the

quality of Computing and ICT teaching and learning, the subject leader will:

· Observe teaching and learning in the classroom.

· Hold discussions with teachers and children.

· Analyse children's work

· Examine plans to ensure full coverage of the Computing and cross-curricular ICT

requirements.

14. Home School Links

Our school website promotes the school and children's achievements as well as providing

information and communication between the school, parents and the local community. Facebook is used to keep parents up to date and to share children's achievements in a more accessible way. An electronic newsletter and texts are sent to parents as reminders or to inform as an addition to sending letters home with children.

15. Deployment of Computing/ICT Resources

To enable regular and whole class teaching of Computing and ICT, each teacher has access to a bank of computers as well as a shared bank of iPads.

Every class has an touch screen board linked to a main computer on the school network.