Computing Policy

Updated: 01.03.2021 by Mrs. Tweddle

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Statement of intent

Our intent at St Mary's is to facilitate and promote the skills and knowledge children need to reach their potential in school and beyond. We aspire is to create motivated 'life-long' learners with Computing to enhance and extend teaching and learning across the whole curriculum. Therefore, we want to model and teach our pupils on how to use technology positively, responsibly and safely.

Our broad, balanced and differentiated curriculum encompassing computer science, information technology and digital literacy will allow children to become masters of technology. The curriculum will also provide opportunities for pupils to apply their knowledge creatively that will help our pupils become skilful computer scientists. As Computing is continually developing and new technologies emerging, we as a school will strive to ensure that we support children's learning with modern technology and an all-encompassing curriculum.

With the understanding that Computing will undoubtedly continue to be an integral part of society, forming a major part in the children's life at home, in further education and places of work, we endeavour to ensure the Computing experiences and abilities that the children are equipped with at St Mary's, are effective and transferrable life skills.

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Introduction

Through adherence to this policy, St Mary's C of E Primary School will not only ensure statutory compliance with the national curriculum, but also that all pupils have a solid foundation in Computing, using technology positively, responsibly and safely, whilst obtaining essential, transferable skills for life beyond the classroom.

The aims of our policy include:

- Meeting the requirements of the Foundation Stage Curriculum, KS1 and KS2 National Curriculum.
- Ensuring all children know how to stay safe online (see separate Online Safety Policy for details).
- Developing children's individual Computing capability and understanding.
- Developing Computing as a tool for learning and investigation.
- Innovative use of resources and stimulating interest in new technologies.
- Enhancing teaching and learning in other areas of the curriculum by cross-curricular use of Computing.
- Equipping pupils with the confidence and capability to use Computing throughout their education, home and further work life.
- Ensuring children, parents, staff, governors and the wider community have relevant and meaningful experiences of Computing.
- Children having a growing awareness of how Computing is used in the world around them and of the benefits that it provides.

1. Legal framework

1.1.   This Policy will have regard to the following statutory and non-statutory guidance:

- DfE (2014) Statutory framework for the early years foundation stage.
- DfE (2013) Computing programmes of study: key stages 1 and 2.

2. Roles and responsibilities

2.1.   The Head Teacher and Computing Subject Leader are responsible for:

- Ensuring there is a shared vision for Computing within the school
- Promoting and facilitating Computing within the school
- Ensuring consistent implementation of the National Curriculum, Computing Policy, Online Safety Policy and the whole school Computing Scheme of Work
- Co-ordinating the integration of Computing into the curriculum, ensuring continuity and progression throughout the year groups

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- Ensuring constant review and updating of the Development Plan for Computing as well as extending the school's Computing vision
- Working with staff to encourage the use of Computing as a teaching & learning tool across the curriculum
- Co-ordinating Computing training for staff to raise awareness, build on experience and develop confidence
- Ensuring there is equal opportunities in the use of Computing throughout the school.
- Encouraging parental involvement in Computing
- Managing and updating the school website on a regular basis
- Co-ordinating the purchase and allocation of Computing resources, depending on budget priorities
- Overseeing equipment maintenance and liaising with One IT in matters relating to Computing in the curriculum
- Supporting and maintaining the online learning platform to enable access to home learning facilities for children and parents.
- Carry out Computing monitoring, scrutiny of work and planning and discussions with pupils as well as analysing pupil's progression

2.2. Teaching staff are responsible for:

- Providing quality teaching of Computing as detailed in the Scheme of Work followed by the school
- Planning and delivering the teaching of online safety, a review and update to be carried out at the beginning of each half term or at appropriate times during the use of Computing
- Conforming to online safety rules within the Online Safety Policy
- For integrating effective use of Computing through cross-curricular links to further develop Computing skills as well as enhance learning in all other curriculum areas
- Ensuring that there is equality of opportunity in the use of Computing in the classroom
- Maintaining the good condition of IT equipment within the classroom and inform the Computing Subject Leader of any problems that may arise
- Implementing all relevant policies associated with Computing (Online Safety, Internet Acceptable Use and Health and Safety Policy)
- Assessment of pupils, to be carried out half-termly and then submitted to the Computing Subject Leader

3. Teaching

3.1. The Computing Subject Leader will be responsible for overseeing the planning, resourcing and monitoring of the school's Computing programme.

3.2.   The subject matter covered in Computing reflects the requirements of the new National Curriculum, which came into effect on 1 September 2014.

3.3.   The Computing Scheme of Work will be delivered by all teaching staff in a range of teaching and learning situations with respect to the needs of individual pupils. The school is currently following the NCCE's Teach Computing Scheme of Work – adapted to our mixed year group classes.

3.4.   The teaching of Computing will be taught alongside other subjects in a cross-curricular way.

3.5.   The teaching of Computing within the classroom situation can be approached in a number of different ways;

- Individual teaching – to include one to one teaching.
- Whole-class and half-class teaching for demonstration, support teaching and exposition.
- Group work – organised by comparable ability, mixed ability, friendship or randomly. The groups can be of various sizes depending on the program being used. Group work allows intervention by teaching staff, as well as the very effective use of cascade learning.

3.6   Effective teaching requires a wide range of techniques to be utilised by the teaching staff. These include explaining, instructing, questioning, observing, assessing, diagnosing and providing feedback.

3.7   Teaching must recognise the following articles:

Article 12 (respect for the views of the child) Every child has the right to express their views, feelings and wishes in all matters affecting them, and to have their views considered and taken seriously. This right applies at all times, for example during immigration proceedings, housing decisions or the child's day-to-day home life.

Article 13 (freedom of expression) Every child must be free to express their thoughts and opinions and to access all kinds of information, as long as it is within the law.

4. Curriculum

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4.1.   During reception class, in accordance with the 'Statutory framework for the Early Years Foundation Stage', focus will be put on the seven areas of learning. The Computing aspects of learning would be evident in:

- Understanding the world - involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment.

4.2.   Purpose of Computing programmes of study: key stages 1 and 2:

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The 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. 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.

4.3.   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 problem
- are responsible, competent, confident and creative users of information and communication technology

Key Stage 1

4.4.   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

4.5.   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

4.5   These aims promote and ensure that the following articles of the Rights of the Child are adhered to and respected:

Article 28 (right to education) Every child has the right to an education. Primary education must be free and different forms of secondary education must be available to every child. Discipline in schools must respect children's dignity and their rights. Richer countries must help poorer countries achieve this

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5. Assessment

5.1.   Assessment in Computing will be undertaken as part of a broader evaluation of pupil progress measured against National Curriculum assessment criteria.

5.2.   The Computing Subject Leader and Class Teacher will ensure that assessment:
- Is embedded as an essential part of teaching and learning.
- Involves sharing learning objectives and success criteria with pupils.
- Aims to help pupils to know and recognise the standards they are aiming for.
- Involves pupils in peer and self-assessment.
- Provides subject specific feedback which leads pupils to recognising their next steps and how to take them.
- Involves both teacher and pupils reviewing and reflecting on assessment data.
- Teachers will make informed judgements on the pupil's progress using evidence for assessment opportunities.
- This evidence will be recorded in a simple and easily understood format.

5.3   Progression in Computing is set out in the Whole School Computing Progression document to ensure children cover the many different skills, each year, set out in the national curriculum.

5.4   It must be noted that progression in Computing capability is more than the development of Computing skills. Although the acquisition of Computing skills is important it is not sufficient on its own to develop Computing capability. Pupils need quality time to consolidate their skills by applying them in a wide range of situations. They also need to have the opportunity to reflect on how they have used Computing in different contexts before they can become fully capable of answering when and when not to use Computing. Progression in Computing capability will develop as children start to decide which Computing tools are most suitable for a given task.

6. Safeguarding Children: Online safety

6.1   At St Mary's we believe that the use of Computing in schools brings great benefits. To live, learn and work successfully in an increasingly complex and information rich

society, our children must be able to use technology effectively. The use of these exciting and innovative technology tools in school and at home has been shown to raise educational standards and promote pupil achievement. The school has a 'managed system' that enables the children to make full use of the Internet and learn how to deal with inappropriate material. We do recognize that the use of these new technologies can put young people at risk within and outside the school and as such the school has developed a separate policy which details our approach to Online Safety and safeguarding children and staff when using technology. Please refer to the Online Safety Policy for more details.

7. Equal Opportunities

7.1   The planned use of Computing/IT in the curriculum will enable all children to benefit from participation. There will be no barriers to access or opportunity based on race, sex, religion, ethnic group, culture or ability. Working towards equality of opportunity requires that teachers will treat all children as individuals with their own abilities, difficulties and attitudes. The staff will aim to create an environment in which, from the earliest age, children and their teachers learn to respect and value each other. It is important that all children are given the opportunities to work in groups, as well as an individual situation, and that groupings be organised with consideration being given to the educational needs of the children. It is also important to emphasise the children are more important than the activity in which they are engaged. Computing, as with all parts of the curriculum, is child-centred.

7.2   The equal opportunities available within Computing ensure that the following articles of the Rights of the Child are adhered to and respected:

Article 2 *(non-discrimination) The Convention applies to every child without discrimination, whatever their ethnicity, gender, religion, language, abilities or any other status, whatever they think or say, whatever their family background.*

8. Special Educational Needs and Differentiation

8.1   As with all children, full access will be given to the use of Computing/IT in the curriculum, in accordance with statutory requirements and the schools Special Needs Policy. The school will explore the possible benefits of, and where practicable, secured access for the child to, appropriate information and communication technology, for example word processing facilities, specialist curriculum subject software, and other exciting programs to stimulate learning and the individual child's academic level.

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8.2   In the case of children with special needs the computer can aid communication, as it does not necessarily rely on the spoken word. Computing/IT can allow children with special needs to explore a variety of tasks before they are even able to manipulate a pencil or read. Careful use of Computing/IT will allow all children to progress in areas in which they would probably have otherwise experienced frustration.

8.3   More able and talented children can use the computer to deepen their ability so that the final product is dependent upon their personal understanding of the use of Computing/IT. The efficient use of Computing/IT can help develop physical, intellectual, emotional and social skills for children of all abilities, and used carefully can have a particularly profound effect on children with special educational needs.

8.4   The fact that Computing/IT encourages children to accept responsibility for their own learning and due to its versatility, it can provide clear opportunities for differentiation and can be achieved by:

- task – same topic, differing tasks and strategies
- outcome – the same topic as others, but their work indicates different levels of achievement
- progression – a series of small structured tasks with increasing difficulty and decision-making skills

8.5   The majority of programs within the school are 'content-free' thus allowing children to explore at their own level of attainment. The use of a roller-ball mouse and word-banks within some of the programmes are ideal for Special Educational Needs children. Classroom organisation, curriculum planning and the use of resources will take account of the requirements of Special Educational Needs children. Where considered necessary the school will endeavour to provide the hardware to support children's development.

8.6   These aims promote and ensure that the following articles of the Rights of the Child are adhered to and respected:

Article 23 (children with a disability) A child with a disability has the right to live a full and decent life with dignity and, as far as possible, independence and to play an active part in the community. Governments must do all they can to support disabled children and their families.

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9. Resources

9.1   Each teacher has a teacher station comprising a desktop computer, interactive/SMART whiteboard. The mobile laptop charging trolley contains 20 laptops, enough to accommodate at least pairs to have one laptop depending on class size. There are two additional desktop computers in teaching classrooms. We also have 12 iPads and a mobile charging trolley available for access for all children.

9.2   A timetable is in place to ensure equality of access for each class to the laptops and/or iPads. This is reviewed and revised regularly.

9.3   Central resources include:
- Laptops
- iPads
- Digital video cameras
- Microphones
- Mice
- Bee bots
- Roamers
- Metal detectors
- Batteries and chargers

9.4   When choosing resources for Computing lessons, teachers must make sure that the following Right of the Child is respected:

Article 17 (access to information from the media) Every child has the right to reliable information from a variety of sources, and governments should encourage the media to provide information that children can understand. Governments must help protect children from materials that could harm them.

10.   Staff Using IT Equipment and Development

10.1   Staff are encouraged to use computers in school in order to prepare resources or to develop personal competence and confidence in the use of IT.

10.2   Each staff member has their own school email account and are strongly encouraged to regularly check and respond to emails.

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10.3   Staff are able to use a school laptop enabling remote access, for accessing child-sensitive data from home. No child's data shall be accessed from school using any other method.

10.4   Training is provided on a variety of subjects throughout the year and staff meetings are used to introduce staff to the available software on the network computers and how it can be used within the curriculum.

10.5   All staff are offered individual training when requested or it felt appropriate.

10.6   Use of Mobile Telephones in School; The school provides the loan of mobile phones to staff who require communication aides whilst taking children on trips out of school. This adheres to the school policy that bans the use of personal Mobile phones (include photographic capability) on the school premises (apart from in designated areas – Staff room & Head Teachers Office).

11.   Health and Safety – Computing/IT Equipment

11.1   Both staff and children are aware of the need for health and safety to be kept in mind when using IT equipment. In particular, the following safety issues have been considered when using Computers/IT equipment in school:

- Comfort - users should be comfortably positioned with easy access to all equipment.
- Space - enough space around a workstation including special educational equipment and peripherals.
- Seating – correct height for knees to fit comfortably under the desk.
- Laptops – placed on tables for use and not to be carried around classroom.
- Cables – covered and secure. Children are not to connect or unplug electrical equipment.
- Digital projectors – Users are aware that they must not look directly into the light beam emitting from the digital projector.

11.2   All pupils are taught to handle equipment correctly and to switch computers on and off using the correct procedures. The dangers of electricity are stressed and all of the above are presented so as to ensure the pupils respect the equipment and respect other people's work on the computer. All users are also reminded of the need to take regular breaks when using Computing/IT equipment.

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11.3   Annual PAT checks are carried out by accredited persons of all electrical equipment. This is to ensure that they conform to all current safety regulations.

12.   Monitoring and review

12.1.   The Computing Subject Leader will meet with other curriculum leaders at least once a year, to review and evaluate the Computing Scheme of Work along with cross-curriculum links.

12.2.   This police policy will be reviewed annually to ensure that it complies with the latest legislation, guidance and best practice.

12.3.   The next scheduled review date for this policy is **April 2022**.

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