



St Anne's RC Primary School

Computing and ICT POLICY

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Introduction:

This policy expresses the school's purpose for the teaching and learning of Computing. It sets out the aims; planning of the curriculum and assessment and monitoring.

1 Vision

1.1 At St Anne's School, our Computing and ICT vision is to:

- Equip all staff and pupils with the experiences and skills of Computing and ICT that they will use in a rapidly changing technological world;
- Allow staff and pupils, in our environment, to be confident and independent in their use of Computing and ICT to solve problems across the curriculum and in their everyday lives.

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.

2.1 Through the use and teaching of Computing and ICT the school aims to:

- i. Deliver a high quality computing education across all key phases within the school (EYFS-KS2).
- ii. To use technology imaginatively to engage all learners and widen their learning opportunities
- iii. Develop computational thinking – (the ability to solve problems in a creative, logical and collaborative way) –through repeated programming opportunities and opportunities to build understanding and apply the concepts of computer science within all key phases.

- iv. Provide opportunities for pupils to become more responsible, competent, confident and creative users of information and communication technology.
- v. Equip pupils with a growing awareness of how technology is used in the world around them and of the benefits that it provides. They will be encouraged to evaluate and use information technology, including new or unfamiliar technologies.
- vi. Provide pupils with the opportunities for communication and collaboration by developing their understanding of the purposes for using technology and creating opportunities for greater home and school learning experiences.
- vii. To give pupils access to a variety of devices and resources and encourage them to reflect on the choices they make when using them.
- viii. Ensure that children, parents, staff, governors and the wider community have relevant and meaningful experiences involving Computing and ICT where possible;
- ix. Allow staff to develop professionally by enhancing their teaching skills, management skills and administrative skills through a range of CPD courses and other resources.

3 Objectives

- 3.1 The objectives of teaching Computing and ICT are to enable children to:
 - i. Develop computing skills, knowledge and understanding;
 - ii. Develop an understanding of the wider applications of computer systems and communication technology in society;
 - iii. Develop independent and logical thinking through reasoning, decision making and problem solving;
 - iv. Develop imagination and creativity;
 - v. Work independently and collaboratively.
- 3.2 It is also important to find time in other subjects for children to develop and apply their ICT skills, by publishing work, using resources to photograph/record practical work. These activities can be incorporated into all other curriculum areas.
- 3.3 Children actively take part and enjoy their Computing and ICT lessons and develop their understanding and use of specific computing vocabulary as modelled by staff (see Appendix B for vocabulary list).

4 Teaching and Learning Strategies

- 4.1 As a school we aim to achieve a consistent approach to the teaching and learning of Computing and ICT which will help to equip pupils to participate in a world of rapidly changing technology and enable them to become more creative and computational thinkers.
- 4.2 An objective of teaching of Computing and ICT is to equip children with the computational and technological skill to become independent learners, the teaching style that we adopt is as active and practical as possible. While, it is also necessary, to give children direct instruction on how to use hardware or software, the main emphasis of our teaching in Computing and ICT is for individuals or groups of children to use technology to help them progress in whatever they are studying. Interactive software and interactive whiteboards and other technological equipment are used in daily lessons.
- 4.3 We recognise that all classes have children with a wide range of Computing and ICT abilities. This is especially true when some children have access to technology at home, while others do not. We provide suitable learning opportunities for all children by matching the challenge of the task to the ability and experience of the child. We achieve this in a variety of ways, by:
- i. setting tasks which are open-ended and can have a variety of responses;
 - ii. setting tasks of increasing difficulty;
 - iii. combining SuccessMaker, Lexia and the use of iPads with ICT lesson time, allowing children to develop individual skills in Computing and ICT.
- 4.4 The Computing and ICT lessons in years 1 to 6 should be structured as follows:

Time	Section of lesson	Description
5-10 minutes	Introduction	Whole class input on the day's lesson led by teacher
15-20 minutes	Group 1 Computing/ICT activity Group 2 SuccessMaker	Teacher with the assistance of Digital Leaders (DLs) to support planned activity in Computing suite. Children are encouraged to take ownership of their learner and assist others where possible. TA to supervise children on SuccessMaker
15-20 minutes	Group 2 Computing/ICT activity Group 1 SuccessMaker	As above
5-10 minutes	Plenary	Opportunities to share work as a class, pair, group. DLs to support with clarifying misconceptions and discussing the next steps. Time to save and/or print out work.

4.5 Our Targets at St Anne's are:

- i. By the end of the Foundation Stage most children will:
Show an interest in ICT
Know how to operate simple equipment
Complete a simple program on the computer and / or perform simple functions on ICT equipment
Find out about and identify the uses of everyday technology and use information and communication toys to support their learning.
- ii. By the end of Key Stage 1:
Most children will understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
- iii. By the end of Key Stage 2:
Most children will design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

5 Computing/ICT curriculum planning

- 5.1 The school follows the National Curriculum Programme of Study for Computing and the Statutory Framework for Early Years Foundation Stage.
- 5.2 Curriculum planning is carried out in Computing and ICT in three phases (long-term, medium-term and short-term). The long-term plan maps the Computing topics that the children study throughout the year. The children incorporate ICT into their work in other subject areas.
- 5.3 Our medium-term plans, give details of each unit of work for each term. They identify the key learning objectives for each unit of work. Medium term planning takes account of differentiation and progression and is based on examples obtained from a variety of plans eg. Somerset progressions in Programming, e-Safety, Multimedia, Handling Data and Technology in our Lives. The EYFS teachers, Key Stage 1 and Key Stage 2 teachers, ICT subject leader are responsible for keeping and reviewing these plans.
 - 5.4 The EYFS teachers, Key Stage 1 and 2 teachers are responsible for writing and delivering the short-term plans with the Computing/ICT component of each lesson. These plans should list the specific learning objectives differentiation and expected outcomes for each lesson. A variety of sources have been used to support short term planning eg. Somerset and JCS.
- 5.5 Planning is reviewed termly by the Computing/ICT subject leader and feedback is provided to teachers as well as SLT.

- 5.6 Although most of the topics studied in ICT are planned to build on prior learning, many of the topic studied in computing are new. We aim to offer opportunities for children of all abilities to develop their skills and knowledge in each unit; we also plan progression into the scheme of work, so that the children can be challenged and provided with opportunities to show their skills as they move up through the school (DLs).

6 The Foundation Stage (EYFS)

- 6.1 Computing/ICT is taught through continuous provision obtained through the 6 areas of learning in the Early Years Foundation Stage curriculum. Pupils build confidence to use technology purposefully to support their learning for all Early Learning Goals as appropriate. Pupils in Foundation Stage class will have experiences using technology indoors, outdoors and through role play in both child-initiated and teacher-directed time. Key objectives for Computing/ICT are planned into activities and where possible the children successes are recorded electronically. The children have many opportunities to become familiar with the use of computers, digital cameras, sound and voice recorders, metal detectors, tuff cams, interactive whiteboards, CD players and BeeBots among others. The children also gain confidence using the computers (and start using specific vocabulary) to find out information and to communicate in a variety of ways.

7 The integration of Computing/ICT teaching in other curriculum areas

- 7.1 The integration of Computing/ICT into the curriculum contributes to teaching and learning in all subject areas. Key skills in information technology are developed through Multimedia and Handling Data threads and are integrated into learning in other curriculum areas. It also offers ways of impacting on learning which are not possible with conventional methods. Teachers use software and hardware to present information visually, dynamically and interactively, so that children understand certain concepts more quickly and creatively. For example, graphics work can link in closely with work in art, and work using databases can support work in mathematics, while the internet proves very useful for research in all subjects. Computing/ICT enables children to present their information and conclusions in the most appropriate way. The majority of software at St Anne's is generic, and can therefore be used in several curriculum areas. Opportunities for technology as a tool to support learning and teaching in all areas are identified in curriculum planning.

- 7.2 Literacy¹.** ICT is a major contributor to the teaching of Literacy. Children's reading development is supported through talking stories (Dr Seuss, Oxford Reading Tree, 2Simple). As the children develop mouse and keyboard skills, they learn how to edit and revise text on a computer. Pupils have the opportunity to develop their writing skills by communicating with people via e-mail and blogging (all key phases). We are exploring opportunities to use email to communicate with other school communities via quad blogging. Children also learn how to improve the presentation of their work by using a variety of presentation and publishing software. There is, in addition, a variety of software which targets specific grammar, typing and spelling skills (SuccessMaker, Clicker and StarSpell (SEN)). To help target reading, we now

¹ See also Section 10 (E safety and the internet); separate E safety policies

use the programme Lexia, which is a programme that helps children with their reading. It runs from Nursery all the way up to year 6. Children will have the opportunity to use Lexia in school during their ICT time and during the school day in class via iPads and laptops. The children will also have the opportunity to use Lexia at home with their individual log in details.

7.3 Mathematics. Children use Computing/ICT in mathematics to collect data, make predictions, analyse results, and present information graphically. Interactive programs underpin the effective delivery of the curriculum. SuccessMaker along with a variety of iPad apps are used to develop children's maths concepts and skills along with resources such as calculators.

7.4 Science. Software is used to animate and model scientific concepts, and to allow children to investigate processes which it would be impracticable to do directly in the classroom (Flexitree for classifying). The Internet and digital video are used to resource lessons. Data loggers are used to assist in the collection of data (light, temperature, sound) and in producing tables and graphs. There is also a variety of software that supports the explanation of scientific enquiry (virtual experiments LGfL). iPads are also used as a tool with the ability to collect, manipulate and analyze data all in one place and the student's ability to collaborate and share ideas and questions in a productive way.

- **7.5 Personal, social, citizenship and health education (PSCHE).** E-Safety is developed through PSCHE and, together with the threads of Technology in our Lives and Multimedia, builds the skills and understanding of Digital Literacy. The Internet also provides an opportunity to explore live global issues through reliable and up to date sources.

7.6 Other Subjects. Many of the other curriculum subjects can be enhanced with the use of Computing/ICT for example: when researching faiths, historical times and events and geographical information. All classrooms have interactive whiteboards and access to iPads and laptops to enhance lessons where needed with the use of Computing/ICT.

8 ICT and inclusion

8.1 At St Anne's school we teach Computing/ICT to all children, whatever their ability and individual needs. It forms part of the school's aim to provide a broad and balanced education to all children. Through our Computing/ICT teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs and those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this. The school supports and encourages the gifted and talented pupils by celebrating achievements and providing opportunities for pupils to pursue their interests. Through the 'Digital Leaders' project, pupils are encouraged to take responsibility for aspects of technology in the classroom or school.

9 Assessment

Assessment is central to classroom practice and a key professional skill. Effective assessment establishes what a child knows, understands and can do. It also informs the planning of future learning and enables a school to review the effectiveness of the curriculum and teaching.

9.1 When assessing Computing/ICT we focus on:

- i. Collecting observations, summative and formative assessment that informs future planning;
- ii. Tracking progress which is assessed using the milestones for Computing/ICT;
- iii. Teacher Assessment judgements that are supported through a portfolio of evidence for each child (stored on the network). Teachers ensure that all children's work is stored in the child's personal folder which is retained during the child's time at the school;
- iv. Providing children with opportunities to evaluate their own and others' work in a positive and supportive environment. Children in years 1-6 will use 'self assessment' sheets to assess their understanding of a unit of work. Teachers guide the children through the statements enabling them to assess their own work with a finer degree of accuracy;
- v. Open questions are used to challenge children's thinking and learning.
- vi. Sharing achievements of information with appropriate stakeholders through display, celebration events, certificates, newsletters and reports.

10 Monitoring

- 10.1 The monitoring of the standards of the children's work and of the quality of teaching in Computing/ICT is the responsibility of the EYFS teachers, Key Stage 1 and 2 teachers and the Computing/ICT subject leader. The subject leader has allocated time for carrying out the tasks of reviewing samples of the children's work, pupil informal discussions, monitoring plans and assessment and of visiting classes to observe the teaching of ICT (discreet and cross curricular), and the use of the NAACE Self Review Framework. The systematic monitoring of all threads of Computing informs the subject leader and school development plan.

11 E-Safety and the Internet

11.1 When the Internet is being used, the school's Acceptable Use Policy (AUP) should always be strictly adhered to. This is promoted by all staff to all children. The staff and children have annual training in E-safety and workshops/meetings for parents are provided (more information relating to E-Safety, Acceptable use policies for pupils and staff, email and managing the internet safely can be found in the school's E-Safety policy documentation). The following should be considered at all times:

- A progressive e-Safety curriculum which ensures that all pupils are able to develop skills to keep them safe online.

- Opportunities for learning about e-Safety are part of the Computing/ICT lessons (taught termly) as well as through PSHE and reinforced whenever technology is used.
- Clear rules for e-Safety are agreed by each class at the beginning of every year and highlighted on each class blog page. Parents and pupils sign an acceptable user policy together when a pupil first starts at the school. The school/class rules are discussed regularly by pupils and shared with parents.
- The school supports the international Safer Internet Day each February and provides opportunities for pupils to consider cyberbullying as part of Anti-Bullying week in the autumn term.
- The school has an e-safety policy in place that details how the principles of e-safety will be promoted and monitored.

12 Equal Opportunities

The school maintains its policy of equal opportunities as appropriate for Computing.

- Computers and related technology are made available to all pupils regardless of gender, race or abilities.
- The class teacher differentiates work by task, resource or support, to ensure the individual needs of more able and SEN pupils are met.
- The school is aware that not all pupils have the same access to computers at home and this is considered by staff in the planning and delivery of the curriculum.

13 Resources

- 13.1 Resources are purchased and deployed to meet the requirements of the Foundation Stage Curriculum and National Curriculum. A Computing/ICT asset register is maintained for hardware, software and curriculum resources. Computing/ICT resources are located throughout the school. The location is determined by a link to a specific subject area. There is also a wide range of resources located in the school's Computing suite. See appendix A for a list of some of these resources. The Computing Action Plan expresses the school's priorities for future expenditure and is reviewed by the Computing subject leader, governors and senior management who consider its impact on all learning. Governors and senior management ensure that they achieve value for money by implementing the principles of best value in evaluating, planning, procuring and using technology.

14 Roles and Responsibilities

- The school community works together to ensure the implementation of the Computing policy.
- The subject leader is responsible for monitoring curriculum coverage and the impact of learning and teaching; and assists colleagues in its implementation.
- Subject leaders in other curriculum areas are responsible for recognising the links between computing and English, Mathematics, Science and foundation subjects; and planning to use these to support learning across the school.
- The Computing subject leader provides an annual report to governors on the impact of the Computing curriculum and how resources are being effectively deployed.

- The class teacher is responsible for delivering an effective Computing curriculum and integrating this into their planning for other subject areas where this is appropriate.
- The school receives technical support from Mr. Malcolm Neave (technician) and he is responsible for the maintenance of computers, printers, iPads, the school network and keeping software up to date. The subject leader liaises with the technician to ensure that the systems are running efficiently.

APPENDICES

Appendix A
RESOURCES (To be updated termly based on new purchases)

<u>Whole School curriculum resources – ICT Suite</u>	<u>Class Based resources</u>	<u>Science Cupboard</u>
* Easi-Speak microphones (15)	* Interactive whiteboard – 1 per class, hall, music room, intervention room and studio	* Digital Blue Microscopes (2)
* BeeBots – with activity cards, mats and activity ideas (8)	* Laptops – linked to IWB 3 laptop trolleys for child use (80)	* Log-It boxes with sensor probes (10)
* ProBots (4)	* Classroom computers (2 per class Years 1-5 exc. J6) 1 in all other classes	* Data Loggers with sensor probes (4)
* Digital Blue recorders (5)	* Digital camera for staff/child use (1 per class)	
* Headphones all computers apart from ICT suite	* Printer – 1 per class Plus 10 for Lexia laptops	
* Digital cameras – for child use (5)	* scanner – 1 per year group	
* Flip cameras (10)		
*iPads (30)		

Other Curriculum Resources

- * SuccessMaker – site access
- * Projectors, screen and laptops
Hall, intervention rooms, music room
Printer in each classroom
Lexia – site and home access

12.2 Along with desktop and laptop computers, the school has the following:

12.2.2 Hardware

- network, including switch, router and server PC
- network shared resources, including colour laser printers
- interactive whiteboards and screen projection equipment
- DVD and video recorders
- tape and CD based listening centre and digital sound recorder
- headphones and microphones

12.2.3 Software

- word-processing and desktop-publishing programs
- painting and drawing software
- music composition package
- multimedia presentation program
- spreadsheet and database programs
- control program and models
- simulations
- encyclopaedia reference material
- virus protection
- Interactive educational programs.

12.2.4 Online material

- online content subscriptions LGfL, Espresso, Fronter (MLE)
- school website

13 Related policies

13.1 See also:

- Assessment;
- E-safety;
- Early years;
- More able and talented;
- SEN;
- Teaching and learning

Appendix B
GLOSSARY OF WORDS

<p>algorithm – an unambiguous procedure or precise step-by-step guide to solve a problem or achieve a particular objective.</p> <p>computer networks – the computers and the connecting hardware (wifi access points, cables, fibres, switches and routers) that make it possible to transfer data using an agreed method ('protocol').</p> <p>control –using computers to move or otherwise change 'physical' systems. The computer can be hidden inside the system or connected to it.</p> <p>data – a structured set of numbers, representing digitised text, images, sound or video, which can be processed or transmitted by a computer.</p> <p>debug – to detect and correct the errors in a computer program.</p> <p>digital content – any media created, edited or viewed on a computer, such as text (including the hypertext of a web page), images, sound, video (including animation), or virtual environments, and combinations of these (i.e. multimedia).</p> <p>information – the meaning or interpretation given to a set of data by its users, or which results from data being processed.</p> <p>input – data provided to a computer system, such as via a keyboard, mouse, microphone, camera or physical sensors.</p> <p>internet – the global collection of computer networks and their connections, all using shared protocols (TCP/IP) to communicate.</p> <p>logical reasoning – a systematic approach to solving problems or deducing information using a set of universally applicable and totally reliable rules.</p>	<p>program – a stored set of instructions encoded in a language understood by the computer that does some form of computation, processing input and/or stored data to generate output.</p> <p>repetition – a programming construct in which one or more instructions are repeated, perhaps a certain number of times, until a condition is satisfied or until the program is stopped.</p> <p>search –to identify data that satisfies one or more conditions, such as web pages containing supplied keywords, or files on a computer with certain properties.</p> <p>selection – a programming construct in which the instructions that are executed are determined by whether a particular condition is met.</p> <p>sequence – to place programming instructions in order, with each executed one after the other.</p> <p>services – programs running on computers, typically those connected to the internet, which provide functionality in response to requests; for example, to transmit a web page, deliver an email or allow a text, voice or video conversation.</p> <p>simulation – using a computer to model the state and behaviour of real-world (or imaginary) systems, including physical and social systems; an integral part of most computer games.</p> <p>software – computer programs, including both application software (such as office programs, web browsers, media editors and games) and the computer operating system. The term also applies to 'apps' running on mobile devices and to web-based services.</p> <p>variables – a way in which computer programs can store, retrieve or change simple data, such as a score, the time left, or the user's name.</p>
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<p>output – the information produced by a computer system for its user, typically on a screen, through speakers or on a printer, but possibly through the control of motors in physical systems.</p>	<p>World Wide Web – a service provided by computers connected to the internet (web servers), in which pages of hypertext (web pages) are transmitted to users; the pages typically include links to other web pages and may be generated by programs automatically.</p>
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