



## St Monica's Catholic Primary School

### **Computing and ICT Policy**

Status	School need
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#### **Rationale**

The use of information and communication technology is an integral part of the national curriculum and is a key skill for everyday life. Computers, tablets, cloud storage, smart phones and watches, programmable robots, digital and video cameras and video conferencing are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At St Monica's, we recognise that pupils are entitled to quality hardware and software and a structured and progressive approach to the learning of the skills needed to enable them to use it effectively. This policy is a statement of how the school will endeavour to fulfil the mission through the teaching of computing and the use of ICT across the curriculum.

The school believes that ICT and computing:

- Gives pupils immediate access to a rich source of materials.
- Can present information in new ways which help pupils understand access and use it more readily.
- Can motivate and enthuse pupils.
- Can help pupils focus and concentrate.
- Offers potential for effective group working.
- Has the flexibility to meet the individual needs and abilities of each pupil.

There are separate policies for e-safety, acceptable use of ICT for Staff and acceptable use of ICT for Pupils. Throughout this document, Computing is used to describe the curriculum content of the National Curriculum. ICT refers to the hardware and software that we use in school, and includes computers, roamers/Beebots, cameras, iPads, Interactive Whiteboards, projectors, visualisers, CD players, phones etc.

#### **1. Aims**

### 1.1 The school's aims are to:

- Provide a relevant, challenging and enjoyable curriculum for computing for all pupils.
- Meet the requirements of the national curriculum programmes of study for Computing.
- Use ICT and computing as a tool to enhance learning throughout the curriculum.
- To respond to new developments in technology.
- To develop the understanding of how to use ICT and computing safely and responsibly and equip pupils with the confidence and capability to use ICT and computing effectively throughout their later life.

## 2. Teaching and learning style

2.1 Our principal aim is to develop children's knowledge, skills and understanding, therefore we use a variety of teaching styles in lessons. Sometimes we do this through whole-class teaching, while at other times we engage the children in enquiry-based research activity, in small groups or independently. We encourage the children to ask, as well as answer, questions about the uses of ICT and the software that we use. They have the opportunity to work with a variety of technology and different programmes and applications.

2.2 We recognise that in all classes, children have a wide range of abilities, and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways, including:

- Setting tasks which are open-ended and can have a variety of responses;
- Setting tasks of increasing difficulty (we do not expect all children to complete all tasks)
- Grouping children by ability in the room and setting different tasks for different ability groups, or pairing weaker and stronger pupils for some sessions.
- Providing resources of different complexity, matched to the ability of the child
- Undertaking revision and review tasks to promote deep learning/ knowledge retention.

## 3. Computing curriculum planning

3.1 Planning for Computing is implemented using two core documents: the National Curriculum Programme of Study for Computing and the Statutory Framework for Early Years Foundation Stage.

The national curriculum for computing aims 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 programmes 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.

3.2 We believe that an engaging and motivating Computing curriculum will enable our learners to:

- Use computational thinking and creativity to understand the world.
- Build knowledge of principles of information and computation, how digital systems work, and how to put this knowledge to use through programming and creating content.
- Become digitally literate – able to use, express themselves and develop ideas through a variety of pieces of information and communication technology.
- Computational thinking – the ability to solve problems in a creative, logical and collaborative way – is developed through repeated programming opportunities and opportunities to build understanding and apply the concepts of computer science.
- Pupils have a growing awareness of how technology is used in the world around them and of the benefits that it provides. They are supported to evaluate and use information technology, including new or unfamiliar technologies.
- Pupils are taught how to stay safe on the internet (see e-Safety policy and Acceptable Use policies).
- Opportunities for technology as a tool to support learning and teaching in all areas are specifically identified in curriculum planning.

### 3.3 From the DfE National Curriculum - Computing Programmes of Study in Key stages 1 and 2 (2014) by the end of key stage 1 pupils should be taught:

#### 3.3.1 Problem solving

- Understand what algorithms are;
- The child can understand how algorithms are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions.

#### 3.3.2 Programming

- Create and debug simple programs.

#### 3.3.3 Logical Thinking

- Use logical reasoning to predict the behaviour of simple programs.

#### 3.3.4 Using IT beyond School

- Recognise common uses of information technology beyond school.

#### 3.3.5 e-Safety

- Use technology safely and respectfully.
- Keep personal information private;
- Identify where to go for help and support when they have concerns about content or contact on internet or other online technologies.

#### 3.3.6 Creating Content

- Use technology purposefully to organise, store and retrieve digital content;
- Use technology purposefully to create and manipulate digital content.

### 3.4 By the end of key stage 2 pupils should be taught:

#### 3.4.1 Problem solving

- Design and write programmes that accomplish specific goals;
- Control or simulate physical systems;
- Solve problems by decomposing them into smaller parts.

#### 3.4.2 Programming

- Use sequence, selection, and repetition in programmes and work with variables;
- Work with various forms of input and output.

#### 3.4.3 Logical Thinking

- Use logical reasoning to explain how a simple algorithm works;
- Use logical thinking to detect and correct errors in algorithms and programmes;
- Understand computer networks including the internet;
- Understand how networks can provide multiple services, such as the world-wide web.

#### 3.4.4 e-Safety

- Use technology safely, respectfully and responsibly;
- Recognise acceptable/unacceptable behaviour using digital technologies;
- Know a range of ways to report concerns and inappropriate behaviour;
- Be discerning in evaluating digital content;
- Understand the opportunities networks offer for communication and collaboration.

#### 3.4.5 Creating Content

- Select, use and combine a variety of software (including internet services) on a range of digital devices;
- Design and create a range of programs, systems and content that accomplish given goals;
- Collecting, analysing, evaluating and presenting data and information.

#### 3.4.6 Searching

- Use search technologies effectively;
- Appreciate how search results are selected and ranked.

3.5 St Monica's has created their own curriculum based on the 2014 National Curriculum for Computing and suited to our specific circumstances.

3.6 We are currently using Discovery Education (Espresso) Coding to teach a coherent coding curriculum across the school with clear progression from Year 1 to Year 6. Reception use Beebots to teach basic programming (coding). Throughout the school a variety of other software and online resources are used to teach other aspects of the computing curriculum.

## **4. The Early Years Foundation Stage**

4.1 Pupils build confidence to use technology purposefully to support their learning for all Early Learning Goals as appropriate.

4.2 Pupils in Reception will have experiences using technology in guided sessions and through role play in both child-initiated and teacher-directed time. They have access to Beebots, a listening station, role play technology, an interactive whiteboard and games and activities set up on the PC. The iPads can be used to access appropriate apps. The children see technology in use every day modelled by the staff, including staff recording their progress using photographs and a database of targets using the software on the teachers' iPads.

## **5. The contribution of computing to teaching in other curriculum areas**

5.1 ICT and computing capability should be achieved through core and foundation subjects. Where appropriate, ICT and computing are incorporated into planning for all subjects. The technology we have can be used in a variety of creative ways to assist with the teaching of all subjects. Each class has class PC with a projector, and access to a class sets of laptops and iPads and more recently chromebooks (currently 18, but this will hopefully be expanded in 2020-21)

### **5.2 English**

The use of word processing or publishing software and safe online platforms to 'publish' work completed in class, and in some cases to compose original work, is encouraged. We have 5 licenses for Clicker 6 which help children with SEN learn to write, assisting with spelling, punctuation and word choice. Online sites will continue to be used to teach phonics in an effective and exciting way. Other software such as Wordshark may be used to help children with spelling difficulties. A variety of apps on the iPads will be used for phonics, spelling, punctuation and grammar learning. Pupils and staff can make use of photographic and video technology to record work including role play and drama, and to edit and share performances.

### **5.3 Mathematics**

There is an obvious link with the Data Handling aspects of Maths and ICT and computing. In addition, a lot of use is made of technology to demonstrate mathematical concepts in a visual way and to allow children to practise their maths skills.

### **5.4 Personal, social and health education (PSHE) and citizenship**

E-safety is an important part of the Computing/PSHE curriculum for every year group and is taught in an age-appropriate way at each stage. Children are taught to stay safe online, both in school and out of school, and to be aware of how to assess the safety or integrity of information they see or receive online. We also cover the variety of uses to which we put technology in everyday life.

### **5.5 Spiritual, moral, social and cultural development**

ICT is used to assist with delivering the R.E curriculum and with collective worship.

## **6. Computing and Inclusion – Gifted and Talented, and Special Educational Needs**

6.1 We believe that all children have the right to access ICT and computing. In order to ensure that children with special educational needs achieve to the best of their ability, it may be necessary to adapt the delivery of the ICT and computing curriculum for some pupils. Where appropriate ICT and computing can be used to support SEN children on a one to one basis where children receive additional support. Some children in school with additional needs use technology to assist them with their learning or communication needs.

6.2 We will ensure that all children are provided with the same learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. As a result, we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to ICT and computing and all staff members follow the equal opportunities policy.

Resources and opportunities for SEN children and gifted & talented will be made available to support and challenge appropriately.

- 6.3 A minority of children will have particular teaching and learning requirements which go beyond the provision for that age range and if not addressed, could create barriers to learning. This could include G&T children, those with SEN or those who have EAL. Teachers will take account of these requirements and plan, where necessary, to support individuals or groups of pupils to enable them to participate effectively in the curriculum and assessment activities.
- 6.4 During any teaching activities teachers should bear in mind that special arrangements could be made available to support individual pupils. This is in line with the school inclusion policy. These children should be identified and discussed at pupil progress meetings to ensure appropriate provisions or interventions are put into place.

## **7. Assessment for learning**

- 7.1 The impact of the Computing curriculum is monitored regularly by the Computing Subject Champion through pupil discussion, samples of work, monitoring long-term and short-term planning, and discussion with teachers.
- 7.2 Formative assessment is used by the class teacher and teaching assistant during whole class or group teaching. Children's confidence and difficulties are observed and use to inform future planning. Each class teacher maintains a record, indicating pupils that are working beyond or below age-expected attainment. This is passed on to the next class teacher.
- 7.3 Children are aware of the 'I can' statements and are encouraged to set success criteria for their work. Children are encouraged to evaluate their own and others' work in a positive and supportive environment, including peer assessment.
- 7.4 The Subject Champion is responsible for monitoring the standard of the children's work and the quality of teaching in line with the schools monitoring cycle. Computing lessons are observed once a year on a two-year cycle (half the staff in each year). The Subject Champion is also responsible for supporting colleagues in the teaching of computing, for being informed about current developments in the subject, and for providing a strategic lead and direction for the subject in the school. This includes hosting staff meetings once or twice a year, book monitoring according to the school's rota, and providing support and advice to staff throughout the year.

## **8. Training**

- 8.1 For ICT and computing more than with other subjects, there are regular and ongoing training needs for staff. Much of this training is done in-house via short sessions as part of staff meetings or Inset Days. We also use external training providers where necessary.
- 8.2 The ICT/Computing Subject Champion conducts regular audits of the training needs of teachers and teaching assistants to improve their subject knowledge and confidence.

Requests for training in Computing can be part of individual teacher's performance management plan.

## **9. Resources**

9.1 The school acknowledges the need to continually maintain, update and develop its resources. The ICT/Computing Subject Champion writes an annually-updated 5-year Acquisition plan that is shared with Governors. Faults are reported to Brindley Data Services or other appointed provider via the Subject Champion and/or a book kept on the lapsafe trolley so that they can be repaired.

9.2 At the end of March, the ICT equipment in schools will comprise:

- Every classroom from Reception to y6 has a PC connected to the school network and a whiteboard and projector with sound, DVD and video facilities. YR through to Y4 have interactive whiteboards
- A Lapsafe containing 27 laptops that is shared between the classes.
- A charging trolley containing 18 Chromebooks
- Two sync and charge units containing 32 iPad minis with a mac mini server to allow effective administration of them.
- Reception and Year 2 to have two iPad minis each to stay in class for use by children.
- Three PCs in the staff room for use by staff during PPA time
- A set of 6 rechargeable BeebBot roamers, plus 3 more sophisticated roamers for older children
- Every member of teaching staff is entitled to a laptop provided by school.
- Each classroom to have an iPad for staff use for recording, assessment etc.
- Teaching assistants have iPads for their work with children. Two also have laptops for their functions as Website Administrator and GDPR officer.
- A variety of audio and visual equipment including cameras, CD players, visualisers etc.
- A laptop, visualiser and projector (with screen) in the Hall to assist with collective worship and training / parent information events.
- Network infrastructure – switches and wireless access points.
- MS Windows server to control and manage the laptops and PC logins, and to store data. This server is backed up to a remote cloud.

9.3 A service level agreement with Brindley Data Services is currently in place to help support the Subject Champion to fulfil this role both in hardware & audio visual. A member of Brindley Data Services or other appointed provider Networks' staff is in school once a fortnight and can come in on other days if there is a significant problem that is affecting teaching and learning. They are also able to support us remotely as we have cloud-based G-Suite for Education and they can also, when necessary, remotely access our PCs from their office to undertake some helpdesk issues.

## **10. Monitoring and review**

10.1 It is the responsibility of the Subject Champion to monitor the standards of children's work and the quality of teaching in Computing and ICT. The role also involves supporting colleagues in their teaching, staying informed about current developments in the subject, and providing a strategic lead and direction for Computing in the school.

10.2 This policy will be reviewed regularly according to the School Development Plan.

Signed:

Date:

Chair of Governors