Computing Policy

St Gerard's Catholic Primary School

"Guided by God, St Gerard's Catholic Primary and Nursery School is an inspiring and aspirational community where we learn to love, hope, dream and achieve."

"St Gerard's Catholic Primary and Nursery School is committed to safeguarding and promoting the welfare of children and young people and expects all staff and volunteers to share this commitment".

"Computing is not about computers any more. It is about

living."

Nicholas Negroponte

Policy Date:	**October 2019**
Policy Status:	**Statutory**
Policy Review Cycle:	**18 months or as necessary**
Next Review Date:	**January 2021**

The Subject Leadership role of Computing at St Gerard's is central to improving outcomes for our children. Subject Leaders at St. Gerard's have high expectations of themselves and our children, and are passionate about their specialisms. The lead for Computing shall ensure that the children thoroughly enjoy and partake in multiple experiences of Computing through teaching in lessons, external activities, external visits and residential visits.

Responsible to:

Governors Head Teacher, Deputy Head Teacher.

Introduction:

Computing plays a vital role in the children's lives and in society today. Computers are valuable tools, which may be used to further enhance the curriculum already in place within the school. Computers, iPads and tablets act as another resource in the classroom and enables another teaching approach, which teachers can use to stimulate and inform the pupils. Pupils can also plan, create and edit their own work whilst sharing it with a larger audience. This technology is an essential tool for supporting the children's learning and the skills developed in Computing can be transferred across the curriculum. Although direct reference to British Values is not continuously made, the policy has been written with full awareness of our responsibility and commitment to this purpose.

The aims of Computing are:

- pupils will understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- pupils will analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- pupils will evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- to create responsible, competent, confident and creative users of information and communication technology.

Teaching and learning

The school uses a variety of teaching and learning styles in Computing lessons. Our principal aims are to develop the children's knowledge, skills and understanding in Computing and prepare them for life in a digital world. We ensure that the act of investigating and making something includes exploring and developing ideas, and evaluating and developing work. We do this best through a mixture of whole-class teaching and individual/group activities. Teachers draw attention to good examples of individual performance as models for the other children. They encourage children to evaluate their own ideas and methods, and the work of others, and say what they think and feel about them. We give children the opportunity within lessons to work on their own and collaborate with others, on projects in two and three dimensions and on different scales. Children also have the opportunity to use a wide range of materials and resources, including ICT. We ensure that Computing is learnt through lessons, visits/residential visits and external partners.

We recognise the fact that we have children of differing ability in all our classes, and so we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies:

- setting common tasks that are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty where not all children complete all tasks;
- grouping children by ability and setting different tasks for each group;
- providing a range of challenges with different resources;
- using additional adults to support the work of individual children or small groups.

Key Stage Expectations

By the end of key stage 1 pupils should be taught to:

• Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions

• Write and test simple programs

• Use logical reasoning to predict and computing the behaviour of simple programs

• Organise, store, manipulate and retrieve data in a range of digital formats

• Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

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

• Design and write 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; generate appropriate inputs and predicted outputs to test programs

• Use logical reasoning to explain how a simple algorithm works 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
• Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely
• Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

E-safety
All staff, pupils and parents must be fully aware of e-safety procedures and requirements. These are detailed in the E-safety Policy.

Keeping Children Safe 2019

Guidance from this document states:

'Governing bodies and proprietors should ensure that children are taught about safeguarding, including online safety. Schools should consider this as part of providing a broad and balances curriculum.'

We ensure that pupils have a safe environment in which to learn. We ensure effective filters are in place to safeguard pupils. We have a whole school approach to e-safety and all staff undergo regular training.

Computing curriculum planning
Computing is a foundation subject in the National Curriculum. At St Gerard's Catholic Primary and Nursery School we use the national skills and objectives set out in key stages of work as the basis for our curriculum planning in Computing. We may adapt the national scheme to the local circumstances of our school as we may use the local environment as the starting point for aspects of our work.

We carry out the curriculum planning in Computing in three phases: long-term, medium-term and short-term. Our long-term plan maps out the themes covered in each term during the key stage. Our Computing subject leader works this out in conjunction with teaching colleagues in each year group and the Key Stage Leads (EYFS, KS1 and KS2).

Our medium-term plans, which we have adopted from the national scheme and a commercial scheme, give details of each unit of work for each term. These plans define what we will teach and ensure an appropriate balance and distribution of work across each term. Each class teacher is responsible for developing and using the medium term plans. Copies are available to the Subject Leader

Class teachers complete a weekly plan which may include a stand-alone Computing lesson or a cross-curricular lesson. These list the specific learning objectives for each lesson and give details of how to

teach the lessons. The class teacher keeps these individual plans, and the class teacher and subject leader often discuss them on an informal basis.

We plan the activities in Computing so that they build upon the prior learning of the children. While we give children of all abilities opportunity to develop their skills, knowledge and understanding, we also build planned progression into the scheme of work, so that there is an increasing challenge for the children as they move up through the school. These skills are then assessed by the class teacher with the subject lead to ensure progression for all children.

The Early Years Foundation Stage

We encourage creative work in the reception class as this is part of the Foundation Stage of the National Curriculum. We relate the creative development of the children to the objectives set out in the Early Learning Goals, which underpin the curriculum planning for children aged three to five. Foundation Stage planning for Knowledge and Understanding of the World shows how we engage our Nursery and Reception children. The technology strand in the Knowledge and Understanding of the World, requires that, 'children recognise that a range of technology is used in places such as homes and schools'. This helps the children understand their place in the world and lays foundations for Computing in Key Stage 1.

We provide a rich environment in which we encourage and value creativity. Children experience a wide range of activities that they respond to, using the various senses. We give them the opportunity to work alongside other specialist adults. The activities that they take part in are imaginative and enjoyable.

Contribution of Computing to teaching in other curriculum areas

English

Computing contributes to the teaching of English in our school by enabling them to research, present and evaluate their work. Computing can be used as a prompt: a video or image may be used to spark writing from pupils. Pupils may use a MS Word or Book Creator to record their writing for display or to merge with video, sound or image. Pupils might take photographs of their work before editing and improving using a suitable iPad application.

Mathematics

Computing contributes to the teaching of mathematics in our school by giving opportunities to develop the children's understanding of presenting information through diagrams and graphs using both hand drawn and computer generated versions. Pupils can also use video or voice recordings to explain and prove calculations and generalisations. Pupils will also access maths-themed iPad applications

Personal, social and health education (PSHE) and citizenship

Computing contributes significantly to the teaching of personal, social and health education and citizenship. Children develop self-confidence and resilience by having opportunities to explain their views on issues such as safety and the safe use of technology. They will also begin to understand the need to discern between reliable and unreliable information.

Spiritual, moral, social and cultural development

Groupings allow children to work together and give them the chance to discuss their ideas and feelings about their own work and the work of others. Their work in general helps them to develop a respect for the abilities of other children and encourages them to collaborate and co-operate across a range of activities and experiences. The children learn to respect and work with each other and with adults, thus developing a better understanding of themselves. We also provide children with the opportunity to discuss moral questions, or what is right and wrong through various topics such as e-safety and the limits of computing technology. The Computing programme of study enables children to be better prepared for life in the 21st Century and the ever-evolving technological world.

Teaching Computing to children with special needs

We teach Computing to all children, whatever their ability. Computing forms part of our school curriculum policy to provide a broad and balanced education for all our children. Our teachers provide learning opportunities that are matched to the needs of children with learning difficulties. Work in Computing takes into account the targets set for individual children in their support plans.

Assessment and recording

We assess the children's work in Computing whilst observing them working during lessons. Teachers record the progress made by children against the learning objectives for their lessons. At the end of a unit of work we make a judgement against the National Curriculum skills identified as ARE. The teacher records the child's attainment, and then uses this information to plan future work for each child. This method of recording also enables the teacher to make an annual assessment of progress for each child, as part of the child's annual report to parents. We pass this information on to the next teacher at the end of each year.

The Computing subject leader keeps evidence of the children's work in a portfolio. Evidence will also be collated through school and class displays, the website and Twitter feeds. This demonstrates what the expected level of achievement is in art and design in each year of the school. Teachers meet regularly to review individual evidence of children's work against the national exemplification material produced by the DfEE.

Resources

We have a range of resources to support the teaching of Computing across the school. We have number of computers in public areas in the school as well as iPads and laptops available for pupil use. There is also provision for devices suitable for EYFS. An audit of resources will be completed termly by the Computing team and an order will be given to the school office to replenish the resources. Specialist materials will be supplied by any specialist partners that deliver any learning or activities across the year groups.

Monitoring and review

The monitoring of the standards of children's work and of the quality of teaching in Computing is the responsibility of the Computing leader. The work of the subject leader also involves supporting colleagues in the teaching of Computing and being informed about current developments in the subject. The Computing subject leader gives the head teacher an annual summary report in which she evaluates the teaching and learning in the subject, and indicates areas for further improvement. The Computing subject leader has specially-allocated regular management time, which she uses to review evidence of the children's work, monitor assessments and when instructed by SLT to undertake lesson observations of Computing teaching across the school.

All activities and visiting partners will adhere to our Safeguarding policy and procedures.

Accountability

An annual action plan and termly summary report is produced for the Leadership team. These are then summarised by the Leadership team member with responsibility for the curriculum and shared with the Governing Body.

Agreed by Governing Body:

Date of next Review: January 2021: