St. Clare's Catholic Primary School Computing Policy

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The Intent of our Computing Curriculum

Mission Statement

St Clare's is a Christ-centred family where everyone is valued and respected. We learn and grow, whilst strengthening our relationship with God and one another. Together in His love, we can achieve our full potential.

Play, learn and grow together with Christ

Staff at St. Clare's recognise the huge importance of computing for the pupils in our school and also the benefits of using computing as a tool to support teaching, learning and engaging our children across the curriculum. We believe computing is a crucial part of children's learning, as technology is now essential to navigating our present world and innovating for the future. We use the PurpleMash scheme of work, as well as Teach Computing, Scratch and STEM units, to provide a robust and rigorously sequenced curriculum that breaks learning into small, sequential steps that become progressively more complex and challenging over time. Our computing curriculum ensures that pupils meet the end of Key Stage attainment targets outlined in the National Curriculum. Across a rich range of units, children master content related to computer science, information technology and digital literacy. Together these strands come together to teach children how computers and computer systems work, how to design, build and analyse programs, and how to find and manage digital information securely in order to equip our children with the skills for life in the modern world.

Our Aims:

- To enable children to become autonomous, independent users of computing technologies, gaining confidence and enjoyment by providing tasks which are interesting and give scope for individual responsibility
- To develop a whole school approach to computing ensuring continuity and progression in all strands of the Computing National Curriculum
- To use computing technologies as a tool to support teaching, learning and management across the curriculum
- To enable all children to develop their computing capabilities by ensuring enough access by pupils to become more proficient in the basic computing skills
- To enable all children to evaluate the benefits of computing and its impact on society through discussion about the benefits and limitations of computing and by creating opportunities to compare classroom use of computing with that in the wider world
- To meet the requirement of the National Curriculum enabling all children to reach the highest possible standards of achievements by planning activities which allow different levels of achievement or incorporate possibilities for extension work
- To create the atmosphere and levels of resources to encourage all members of the school community to learn with computing technologies and to ensure the technology is used, when appropriate, to improve access to learning for pupils with a range of individual needs, including those with SEN and disabilities.

Curriculum Implementation

As a school, we embrace the national vision for Computing and appreciate that, to achieve this, pupils must have access to a curriculum which is 'balanced and broadly based'. Our aim is to produce learners who are confident, discerning and effective users of technology and who also have a good understanding of computers and how computer systems work and how they are designed and programmed.

Curriculum time allocation

Computing is taught weekly in every half-term of the year. Our lessons take place in our classrooms using the laptops, with children accessing a range of devices such as Bee-Bots, and iPads. Computing lessons at St Clare's incorporate the following elements: retrieval practice; explicit teaching of new vocabulary; teacher modelling and questioning and a range of generative learning tasks – some independent and some undertaken in partnerships.

Computing in Early Years Foundation Stage: Nursery and Reception

In the EYFS, opportunities for the use of technology are an integral part of each area of learning and the school ensures that children have access to both continuous and enhanced provision. Links are made between the EYFS Early Learning Goals and the Y1 curriculum to ensure a smooth transition takes place.

Computing in Foundation and Key Stage One (KS1)

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.

Computing in Key Stage Two (KS2)

- 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. Swimming and water safety.

Planning

Our computing curriculum is designed around the three strands referenced in the National Curriculum: computer science, information technology and digital literacy.

Throughout KS1 and KS2, children revisit knowledge and skills in five key areas linked to these three strands: computer systems and networks; programming; creating media; data handling and online safety. The cyclical route through the curriculum ensures that prior knowledge and skills are revisited to ensure retention in long-term memory and built upon to develop a secure understanding.

Each unit of learning includes teacher notes and presentations to develop excellent subject knowledge and support teachers' ongoing professional development. All teachers at St Clare's are robustly supported to have strong subject knowledge across the computing curriculum and to know how new learning builds on prior understanding and towards future knowledge and skills.

Approaches and Methods

When delivering the National Curriculum for Computing, teachers are expected to employ a range of strategies and to use their professional judgement to decide on the most appropriate teaching and learning style for the class, groups of pupils or individual pupils. Approaches and strategies used may include:

- an 'unplugged' approach in order to develop their understanding of some of the underlying concepts of Computer Science (tasks which do not need a computer or technology)
- plugged' activities which allow pupils to practise and demonstrate their levels of understanding. (tasks which do require a computer or technology.)
- using presentation technology to demonstrate something to a group of pupils or the whole class
- leading a group or class discussion about the benefits and risks of technology
- individual or paired work or collaborative group work
- pupil led demonstrations / peer mentoring. NB - Where one pupil is used to demonstrate or teach a skill to others, the teacher must feel confident that this is of benefit to all those involved.
- differentiated activities planned to allow different levels of achievement by pupils or to incorporate possibilities for extension work.
- teacher intervention where appropriate to support a pupil, reinforce an idea, teach a new point or challenge pupils' thinking.

In addition to direct Computing sessions, opportunities to develop and extend Computing capability are provided in other curriculum areas and technology is used to support most other subject areas.

SEND

In line with our SEND policy, we recognise that all children have needs and we continuously strive to ensure that we challenge all children to reach their true potential. Children who are on the Special Educational Needs (SEN) register will be working in line with their Individual Education Plan (IEP) and/or any other professional recommendations.

Marking and Assessment

Computing is assessed formatively. Formative assessment occurs on a lesson by lesson basis and it is conducted informally by the class teacher and is used to inform future planning. Teachers also have access to assessment grids with the main key learning to demonstrate children who are entering, developing and secure in each area. Monitoring computing will enable the Computing Coordinator to gain an overview of computing 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 teaching and learning the Computing Subject Leader will:

- Teacher assessment. Analyse teacher's assessment grids of the key learning at the end of each year.
- Computing Portfolio. Analyse children's work by looking in the Computing portfolio saved on the network.
- Verbal feedback. Hold discussions with teachers and pupils
- Purple Mash files. All children and staff have a login account where they can save their work. Teachers can mark and produce reports on the work that has been created by the children. This work can be set as a redo for the children to edit.
- App based work. Book Creator is used as a primary app for the children. Work from here can be saved as a PDF or set as a book on a website.

Parental Involvement

Within the computing page on the school website, the school's curriculum for computing is explained. Here parents can access the policy and key learning objectives which will be covered during their child's journey through school. Within class pages Curriculum Overviews provide parents with a detailed summary of learning objectives for the year. In addition, weekly website blogs inform parents of weekly learning which has taken place.

We actively encourage parents to be involved with computing by promoting the use of Purple Mash for home learning and regular home-computing competitions. We also use a school app messaging service to keep parents up to date and also hold an annual online safety workshop.

Role of Subject Leader

There is a designated Computing Subject Leader to oversee the planning, assessment and delivery of computing within the school. The Computing Lead will be responsible for:

- Raising standards in computing as a national curriculum subject
- Facilitating the use of computing across the curriculum in collaboration with all Subject Leaders
- Advising colleagues about effective teaching strategies, managing equipment and purchasing resources
- Monitoring the delivery of the computing curriculum and reporting to the Head teacher on the current status of the subject.

Subject Leaders should identify where computing should be used in their subject schemes of work. This might involve the use of short dedicated programs that support specific learning objectives or involve children using a specific application which they have been taught how to use as part of their computing study and are applying those skills within the context of another curriculum subject.

The Governing Body

The Governing Body are reported to annually, where the subject lead would talk them through a review of the year, highlights and the goals for the forthcoming year. Members of the SLT attend governors meetings when required to discuss data and progress.

Impact

At St Clare's we see computing as an essential tool that can be used throughout the curriculum. We encourage our children to enjoy and value the curriculum we deliver. We will constantly ask the 'why' behind their learning and not just the 'how'. We want learners to discuss, reflect and appreciate the impact computing has on their learning, development and well being; finding the right balance and a positive relationship with technology in order to lead a healthy life-style.

We aim that when our children leave St Clare's, they are equipped with a range of knowledge and skills that enable them to succeed in their secondary education and be active participants in the digital world and confident in the three areas of computing (Digital Literacy, Computer Science and Information Technology).

This policy also needs to be in line with other school polices and therefore should be read in conjunction with the following school policies:

- Teaching and Learning Policy
- Special Educational Needs Policy
- Equal Opportunities Policy
- Health and Safety Policy
- E-Safety Policy