

St Joseph's Catholic Primary School

Mater Christi Multi Academy Trust

Loving, Living, Learning Together



At St. Joseph's Catholic Primary School, we believe that every child is a unique creation of God.

We promote respect and care for one another following in the footsteps of the family Jesus wants us to be.

Caring for one another is at the centre of our school life.

We promise to provide educational opportunities and experiences to enrich the learning and well-being of the children by following the teaching of Jesus Christ.

Our school values its partnership with the Parish community and MAT, together enabling our children to become rounded, confident individuals, with an understanding of Gospel values as preparation for the world of work and life.

COMPUTING Policy

Written by: E Critchley	Date reviewed: September 2023	Approved by:	Date for next review: September 2024
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Introduction

This policy sets out St Joseph's School's aims and strategies for the successful delivery of Computing. This policy should be read in conjunction with other relevant school policies such as the Safeguarding, Equal Opportunities, Curriculum, Finance, Teaching & Learning, SEND and Assessment policies. The Computing Leader in consultation with the SENCO, Leadership Team, and teachers have developed the policy. This policy is based on government recommended/statutory programmes of study. Due to the fast pace of technology innovation and constantly emerging trends, it is recommended that this policy is reviewed, at minimum, at the start of every academic cycle.

Aims

St Joseph's School believes that every child should have the right to a curriculum that champions excellence, supporting pupils in achieving to the very best of their abilities. We understand the immense value technology plays not only in supporting the Computing and whole school curriculum but overall, in the day-to-day life of our school. We believe that technology can provide enhanced collaborative learning opportunities; better engagement of pupils; easier access to rich content; support conceptual understanding of new concepts and can support the needs of all our pupils.

Curriculum

As a school, we have chosen to introduce the NCCE Teach Computing scheme. Long term, medium term and short-term plans are readily available with supporting materials (such as teaching slides, resources and assessment tools). The scheme of work supports our teachers in delivering fun and engaging lessons, which help to raise standards and allow all pupils to achieve their full potential. We are confident that the scheme of work more than adequately meets the national vision for Computing. It uses the latest pedagogical research to create progressive lessons between all year groups. Furthermore, it gives excellent supporting material for less confident teachers. The staggered approach will be implemented in EYFS and KS1.

At St Joseph's, we are all aware that IT and computing capability should be achieved through core and foundation subjects. Where appropriate, IT and computing should be incorporated into different projects. IT and computing should be used to support learning in other subjects as well as develop IT and computing skills.

Computing will be taught discreetly once a week in every class Year 1 – Year 6.

Computing also features throughout the creative curriculum in all areas further enhancing the quality of provision for the children. Through the cross curricular lessons,

Computational thinking can be developed in these lessons with or without a computer.

Employing cross-curricular links motivates pupils and supports them to make connections and remember the steps they have been taught.

Project Evolve also provides us with the platform to provide all years with the most up to date and effective online safety lessons, to ensure we are meeting the framework "Education for Connected World". Additionally, the children will be partaking in online safety lessons during their PSHE sessions- following the scheme of "You, Me, PSHE".

Objectives

Early Years

We aim to provide our pupils with a broad, play-based experience of Computing in a range of contexts. We believe the following:

- Early Years learning environments should feature ICT scenarios based on experience in the real world, such as in role-play.
- Pupils gain confidence, control, and language skills through opportunities to 'paint' on the interactive board/devices or control remotely operated toys.
- Outdoor exploration is an important aspect, supported by ICT toys such as metal detectors, controllable traffic lights and walkie-talkie sets.
- Recording devices can support children to develop their communication skills. This is especially useful for children who have English as an additional language.

Key Stage One

- 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.
- 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.

Key Stage Two

- Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- 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.
- 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.
- 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.
- 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 worldwide web; and the opportunities they offer for communication and collaboration.

Safeguarding and Online Safety

Online safety has a high profile at St Joseph's School for all stakeholders. We ensure this profile is maintained and that pupil needs are met by the following:

- A relevant up-to-date online safety curriculum, which is progressive from Early Years to the end of Year 6.
- Through our home/school links and communication channels, parents are kept up to date with relevant online safety matters, policies, and agreements. They know whom to contact at school if they have concerns.
- Data policies, which stipulate how we keep confidential information, are secure.

- A curriculum that is threaded throughout other curriculums and embedded in the day-to-day lives of our pupils.
- Pupils, staff, and parents have "Acceptable Use Policies" which are signed and copies freely available.
- Training for staff and governors, which is relevant to their needs and ultimately positively affects the pupils.
- Our online safety policy clearly states how monitoring of online safety is undertaken and any incidents/infringements to it are dealt with by the appropriate person.
- Scheduled pupil voice sessions and learning walks steer changes and inform training needs.
- Filtering and monitoring systems for all our online access.

Resources

All resources are procured with the underlining considerations of value:

- The extent at which the resource impacts on learning and the material cost of this. Protocol details for procurement can be found in the school finance policy.
- The Computing Leader keeps up to date with the latest technology resources and will make informed decisions about possible procurement of them through their own research.
- A range of resources is available which successfully supports delivering the Computing curriculum and enables all learners to reach their full potential.
- Suggestions for getting the very best out of the resources are made available to teaching and support staff by the Computing Leader.
- Resources are suitably maintained and replenished when needed, which is overseen by the Computing Leader.
- An itemised list of all resources is shared with staff and kept up to date by the Computing Leader.
- The Computing Action Plan details foreseen future resource procurement which is shared with senior leaders before the budget setting period.
- Audits of school resources are conducted regularly by the Computing Leader, which informs bidding for budgets allocations.

Monitoring, Evaluation and Feedback

Monitoring standards of teaching and learning within Computing is the primary responsibility of the Computing Leader. The subject leader is responsible for monitoring the standard of the children's work and the quality of teaching in line with the schools monitoring cycle. This may be through lesson observations, book looks, pupil voice and staff voice. Details of monitoring and evaluation schedules can be found in the Computing Action Plan and School Monitoring Schedule.

Inclusion

At St Joseph's School, we aim to enable all children to achieve to their full potential. This includes children of all abilities, social and cultural backgrounds, those with disabilities, EAL speakers and SEN statement and non-statemented. We place particular emphasis on the flexibility technology brings to allowing pupils to access learning opportunities, particularly pupils with SEN and disabilities. With this in mind, we will ensure additional access to technology is provided throughout the school day and in some cases beyond the school day.

Roles and Responsibilities

Due to technology extending beyond the National Curriculum for Computing, there are key roles and responsibilities specific members of staff have.

Head Teacher

- Monitoring the implementation of the Computing Policy and its associated policies such as the Safeguarding and SEND Policies.
- Ratifying (in conjunction with the Governing Body) the Computing policy, Safeguarding policy and Computing Leader's Action Plan.
- Securing technical support service contracts and infrastructure maintenance contracts.
- Approving CPD and training which is in line with the whole school's strategic plan.
- Approving budget bids and setting them.
- Creating in conjunction with the Computing Leader, a long-term vision for Computing, which includes forecasted expenditure and resources.
- Monitoring the performance of the Computing Leader in respect to their specific job role description for Computing.
- Ensuring any government legislation is being met.

Computing Lead

- Raising the profile of Computing for all stakeholders.
- Monitoring the standards of Computing and feeding back to staff in a timely fashion so they can act on areas for development.
- Ensuring assessment systems are in place for Computing.
- Maintaining overall consistency in standards of Computing across the school.
- Reporting on Computing at specific times of the year to the Governing Body/Head/Staff.
- Auditing the needs of the staff in terms of training/CPD.
- Actively supporting staff with their day-to-day practice.
- Seeking out opportunities to inspire staff in developing their practice through modelling and sharing new ideas, approaches and initiatives.
- Attending training and keeping abreast with the latest educational technology initiatives.
- Using nationally recognised standards to benchmark Computing.
- Creating Action Plans for Computing and supporting a long-term vision, which feeds into the whole school development plan.
- Creating bids for the annual budgets and monitoring budget spend.
- Keeping an up-to-date log of all resources available to staff.
- Procuring physical and online resources that demonstrate best value.
- Reviewing the Computing curriculum and developing it as needed.
- Overseeing the effectiveness of the technician.
- Working as needed with the SENCO/Head Teacher to ensure online safety provision is above adequate and all legislation is in place.

Technician

- Conducts routine scheduled maintenance/updates on systems.
- Supports the administration and set-up of online services including the school website.
- Fixes errors/issues with hardware and software set-up, prioritising as needed.
- Routinely checks school filtering, monitoring and virus protection.
- Maintains network connectivity and stability.

- Sets up new hardware and installations.
- Supports the Computing Leader and Head Teacher with future infrastructure needs and associated projected costs.

Health and Safety

Both staff and pupils are trained to handle electrical equipment correctly including how to power off and on. Pupils are reminded about the dangers of electricity and the danger signs to look out for. Adequate displays and warning signs are strategically placed around the school to reinforce health and safety. All portable electrical equipment in school is tested by an external contractor every twelve months. All staff should visually check electrical equipment before they use it and take any damaged equipment out of use. Damaged equipment should then be reported to the IT Technician, bursar or head teacher who will arrange for repair or disposal. Children should not put plugs into sockets or switch the sockets on. Trailing leads should be made safe behind the equipment. Liquids must not be taken near the computers.

Computing Curriculum Statement

INTENT- what are we trying to achieve?

- Provide an exciting, rich, relevant, and challenging Computing curriculum for all pupils, in line with National Curriculum 2014.
- Teach pupils to become responsible, respectful, and competent users of data, information, and communication technology.
- Provide technology solutions for forging better home and school links.
- Enthuse and equip children with the capability to use technology throughout their lives.
- Teach pupils to understand the importance of governance and legislation regarding how information is used, stored, created, retrieved, shared, and manipulated.
- Utilise computational thinking beyond the Computing curriculum.
- Give children access to a variety of high-quality hardware, software, and unplugged resources.
- Equip pupils with skills, strategies and knowledge that will enable them to reap the benefits of the online world, whilst being able to minimise risk to themselves or others.
- Use technology imaginatively and creatively to inspire and engage all pupils, as well as using it to be more efficient in the tasks associated with running an effective school.
- Exceed the minimum government recommended/statutory guidance for programmes of study for Computing and other related legislative guidance (online safety).
- Instil critical thinking, reflective learning and a 'can do' attitude for all our pupils, particularly when engaging with technology and its associated resources.

IMPLEMENTATION – How do we translate our vision into practice?

As we have chosen to predominantly base our Computing scheme on NCCE Teach Computing curriculum, children are able to develop breadth and depth in their knowledge, through key concepts and skills development.

Our Teach Computing scheme encompasses 12 key pedagogical principles:

1. Lead with concepts – acquisition of knowledge, terms, vocabulary, shared understanding

2. Unplug, unpack, repack – unpack complex terms/ideas, explore unfamiliar contexts, then repack original concept with new learning to secure understanding
3. Work together – we encourage collaboration such as peer programming, instruction and tasks which stimulates classroom dialogue and articulation of concepts
4. Get hands on – the use of physical computing/activities offers tactile and sensory experiences to enhance learning. Combining electronics with arts/crafts provides a creative and engaging context.
5. Model everything – scaffolding is key for effective teaching and learning (and can be gradually taken away)
6. Create projects – rich opportunities to apply and consolidate learning; design, make, evaluate
7. Add variety – lessons are adaptive, structured and provide exploratory tasks. Children develop independence.
8. Foster program comprehension – regular comprehension activities secure understanding and build connections with new knowledge
9. Challenge misconceptions – Formative questioning is a tool used to uncover misconceptions, which are identified as early as possible.
10. Make concrete – abstract concepts are brought to life with real-world contextual examples; this is achieved by unplugged activities, proposing analogies, storytelling around concepts and links to concepts in pupils' lives
11. Read and explore code first – code is taught by reading it first, before writing. Research shows that reading, tracing and explaining code augments pupils' ability to write code.
12. Structure lessons – supportive frameworks, such as PRIMM (predict, run, investigate, modify and make) and Use-Modify-Create, ensure differentiation is built in to suit the needs of all pupils.

Objectives within each year group are linked to one or more of the ten strands of the Teach Computing Content Taxonomy:

- Networks
- Creating Media
- Data and Information
- Design and Development
- Computing Systems
- Impact of Technology
- Algorithms
- Programming
- Effective use of Tools
- Safety and Security

Concepts and skills are taught together within each topic and year group to ensure systematic progression. Children have access to the hardware that is needed to support the scheme of work including laptops, iPads, interactive white boards and remote-controlled devices.

IMPACT- what is the impact of our curriculum on the students?

Assessment

- Pupil attainment is assessed using the Assessment Tool for Years 1 to 6. The tool enables staff to accurately identify attainment of pupils through the detailed exemplification it has for each key learning intention.
- Work from a range of classes and abilities is shared using a range of formats. Additionally, exemplar pieces of work from individual pupils are shared publicly on various forums, including Class Dojo and the school website.
- Teachers keep accurate records of pupil attainment by completing review sheets.
- Children are encouraged to self, peer and group assess work in a positive way.
- Formative assessment is undertaken each session/interaction in Computing and pupils are very much encouraged to be involved in that process.
- The programmes of work identify clear opportunities for the monitoring and record keeping of pupils' progress.
- Programmes of work include related tasks that assist the teacher to assess the pupils' progress and attainment in Computing.
- Differentiated assessment for pupils with high levels of Computing capability, or special needs.
- Progress in Computing will be reported at least once a year and information about the use of ITs within the wider curriculum will inform the annual assessment.
- Formative and summative assessment tools (such as end of unit quizzes and rubrics) are used to gauge understanding, application of skills and vitally, next steps for learning.

After the implementation of this robust computing curriculum, children at St Joseph's Catholic Primary will be digitally literate and able to join the rest of the world on its digital platform. They will be equipped, not only with the skills and knowledge to use technology effectively and for their own benefit, but more importantly – safely. The biggest impact we want on our children is that they understand the consequences of using the internet and that they are also aware of how to keep themselves safe online.

As children become more confident in their abilities in Computing, they will become more independent and key life skills such as problem-solving, logical thinking and self-evaluation become second nature. Children will learn key vocabulary and should be able to recall this in everyday life. We aim for children to have a knowledge and understanding of computer programmes through writing and debugging code, children will be able to solve problems using technology and computational thinking is encouraged. Children will build resilience through their work and are encouraged to learn from their mistakes. We are actively teaching skills for children to become confident in an ever-growing digital world.