

Computing Policy



Love, Learn, Shine Together
with Jesus

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St Matthew's Policy for Computing

At St. Matthew's Catholic Primary School, we wholeheartedly embrace the understanding that the holistic development of our pupils, encompassing their spiritual, moral, social, and cultural growth, is pivotal to their capacity to excel in their academic pursuits and become well-rounded individuals. With this core belief in mind, we are steadfast in our commitment to delivering an education that not only imparts knowledge but also nurtures the moral and ethical compass of our students.

Our educational philosophy is rooted in the following principles:

1. **Fostering Values and Beliefs:** We provide a supportive environment that encourages students to explore and cultivate their own values and beliefs. Through reflection, discussion, and self-discovery, our pupils gain a deeper understanding of their own principles and convictions.
2. **Nurturing Spiritual Awareness:** Recognizing the importance of spirituality, we endeavor to nurture our students' spiritual consciousness. Our inclusive approach allows students to explore various faiths and spiritual practices, fostering a sense of inner peace and connection with something greater than themselves.
3. **Promoting High Standards of Personal Conduct:** We set high standards for personal conduct and character development. Our students are encouraged to demonstrate integrity, empathy, and respect in their interactions with peers, teachers, and the wider community.
4. **Encouraging a Positive and Caring Attitude:** At St. Matthew's, we believe in the power of kindness and compassion. We instill in our students a positive and caring attitude towards all individuals, fostering a sense of community and belonging.
5. **Cultivating Cultural Awareness:** Our curriculum is designed to help students gain a deeper understanding of their social and cultural traditions. We celebrate diversity and strive to create an environment where all cultures are respected and appreciated.
6. **Embracing Cultural Richness:** We aim to expose our students to the diversity and richness of cultures worldwide. Through engaging activities, multicultural events, and exposure to different perspectives, we prepare our students to thrive in an increasingly interconnected world.

At St. Matthew's Catholic Primary School, our commitment extends beyond academic excellence. We are dedicated to nurturing compassionate, morally grounded, and culturally aware individuals who are well-prepared to contribute positively to society. We believe that by focusing on the personal development of our students, we equip them not only for academic success but also for a lifetime of ethical leadership and responsible citizenship.

Intent

At St. Matthew's Catholic Primary School, our intent is to provide a Computing Curriculum that empowers our students with the knowledge, skills, and values required to thrive in the digital age. We aim to foster a deep understanding of technology, promote responsible digital citizenship, and inspire creativity and innovation through computing. Our curriculum is designed to be inclusive, multidisciplinary, and adaptable, ensuring that every student has the opportunity to excel in the ever-evolving world of technology.

At *St Matthew's Catholic Primary School* we intend to:

- Enable our children to reach their full potential and recognise their strengths and talent through a progressive, inclusive creative curriculum.
- To further develop the skills learnt in the computing lesson so that they can be used across all subjects. Cross-curricular computing throughout the curriculum should be encouraged.
- Access to learning platforms from home will help raise standards and enhance learning (Seesaw, TT Rock Stars, Read Write Spell).

Implementation

To realise our intent, we implement our Computing Curriculum through a carefully designed framework that integrates computing into all aspects of our students' learning experience. We provide a structured progression of skills and knowledge across key stages, covering areas such as coding, programming, digital design, and online safety.

Our approach includes:

1. **Balanced Curriculum:** We integrate computing into various subjects, enabling students to apply computational thinking to real-world challenges and projects.
2. **Hands-On Learning:** Our students engage in practical, hands-on activities and projects that encourage problem-solving, creativity, and critical thinking.
3. **Diverse Resources:** We provide access to a wide range of resources, including hardware, software, and online platforms, to support a rich and varied computing education.
4. **Continuous Professional Development:** Our teachers receive ongoing training and support to stay current with advancements in technology and teaching methodologies, ensuring high-quality instruction.
5. **Inclusivity:** We adapt our curriculum to meet the diverse needs of our students, providing accommodations and support where necessary to ensure that all learners can participate fully.
6. **Ethical and Responsible Use:** We emphasise the importance of responsible digital citizenship, online safety, and ethical behaviour in the digital world.
7. **Assessment and Feedback:** We employ a variety of assessment methods to measure student progress and provide timely feedback for improvement.

Aims and Objectives

Computing is a transformative force, reshaping the lives of individuals across the globe. At our institution, we are dedicated to delivering the new Computing Curriculum, which encompasses three essential domains: Computer Science, Information Technology, and Digital Literacy. Our primary objective is to provide our students with a well-rounded and comprehensive curriculum that empowers them to harness "computational thinking and creativity to understand and change the world."

Our mission is to empower children to:

1. **Grasp Fundamental Principles:** We strive to impart a deep understanding of the fundamental principles and concepts that underpin computer science. Our students learn to navigate the digital landscape with confidence.
2. **Problem Solvers:** Through hands-on experience in writing computer programs, our students develop the ability to dissect problems through a computational lens and craft practical solutions using coding and computational techniques.
3. **Embrace Emerging Technologies:** Our curriculum encourages students to explore and critically assess new or unfamiliar technologies. We nurture their capacity to adapt and thrive in a dynamic technological environment.
4. **Responsible and Competent Users:** We aim to cultivate responsible, competent, confident, and creative users of information and communication technology. Our students are equipped with the knowledge and skills necessary to navigate the digital realm safely and effectively.

By teaching computing and promoting computational thinking, we equip our students with the tools they need to actively participate in an ever-evolving world. As technology continues to reshape both professional and leisure activities, we ensure that our students are well-prepared to not only adapt but also contribute positively to this transformative landscape. Our commitment to excellence in computing education is a testament to our dedication to preparing the leaders, innovators, and problem solvers of tomorrow.

Teaching and Learning Style

Our commitment to Computing education is twofold: first, to equip children with the essential skills to become independent learners through active and practical lessons; second, to empower them to leverage computers and computational thinking to excel across the curriculum. For instance, in the realm of history, students may utilize various web browsers to conduct in-depth research on topics, while in mathematics, they can employ dedicated applications to model intricate problems and analyze data sets, enhancing their understanding of these subjects.

We acknowledge that each class comprises students with varying levels of Computing abilities, often influenced by their access to technology at home. To ensure inclusivity and cater to the diverse needs of our students, we employ a variety of strategies:

- **Open-Ended Tasks:** We design tasks that are open-ended, allowing for a range of responses and challenges, catering to the individual abilities and experiences of each child.
- **Progressive Difficulty:** Tasks are structured with increasing levels of complexity, enabling students to advance at their own pace and gradually build their skills.
- **Customised Resources:** We provide resources of varying complexity, matching them to the individual capabilities of each child, so they have access to materials suitable for their development.
- **Learning Support Assistants:** Our dedicated learning support assistants work closely with individual students or small groups, providing targeted guidance and assistance as needed.

- **Independent and Collaborative Opportunities:** We create opportunities for both independent and paired work, allowing students to choose the learning style that best suits their needs and preferences.

Through these strategies, we strive to create an inclusive learning environment where every child, regardless of their prior experience, can thrive and grow in their Computing skills. Our goal is to empower each student to reach their full potential, fostering a love for technology and computational thinking that will serve them well in their educational journey and beyond.

Computing Curriculum Planning

The school has adopted a meticulously crafted scheme of work from MGL, thoughtfully customized to align seamlessly with the unique needs and capabilities of our students.

Our approach to planning in Computing unfolds in three distinct phases: long term, medium term, and short term. In the long-term planning phase, we strategically map out the Computing topics that our students will explore during each term across key stages. This comprehensive overview not only ensures the effective distribution of teaching units throughout the year groups but also guarantees a coherent and progressive flow of learning.

Our medium-term plans delve into the specifics of each unit of work for every term, offering a detailed roadmap for teachers to follow. These plans provide valuable insights into the intricacies of each topic, guiding educators in delivering engaging and effective lessons. However, it's important to note that our teachers are empowered with the flexibility to adapt and tailor these plans as needed, fostering an environment where creativity and adaptability thrive.

Our short-term plans serve as the cornerstone of day-to-day instruction. They meticulously outline specific learning objectives and offer a range of suggested methods and activities to achieve them. These plans provide a structured framework for teachers while allowing room for innovative teaching techniques to cater to the unique needs and interests of our students.

We take great care to ensure that the topics studied in Computing not only meet students at their current level of knowledge but also serve as stepping stones for continuous growth. Our scheme of work is designed with planned progression in mind, challenging students progressively as they advance through different year groups. This deliberate approach guarantees that our students are constantly motivated and stretched, fostering a dynamic learning environment that nurtures their intellectual development.

Foundation Stage

In the Foundation Stage, our approach to computing aligns with the objectives established in the Early Learning Goals (ELGs), which form the foundational framework for curriculum planning for children aged three to five. Within this context, we have identified key areas that are particularly conducive to the development of essential computing skills:

- **Personal, Social, and Emotional Development:** Through computing activities, we foster the development of crucial social and emotional skills. Children engage with devices to enhance their fine motor skills, nurturing their dexterity and precision. Moreover, they are encouraged to explore artistic techniques, experiment with colors, and gain confidence as they embark on new activities. This not only stimulates their creativity but also builds resilience, instilling a sense of adaptability in the face of challenges.
- **Physical Development:** Computing activities in the Foundation Stage play a pivotal role in enhancing physical development. Children interact with devices, fine-tuning their hand-eye coordination and motor skills. This hands-on engagement contributes to their physical dexterity and overall motor skill proficiency.
- **Expressive Arts and Design:** Within the realm of expressive arts and design, computing provides a canvas for children to explore their creative potential. They experiment with various artistic techniques, embrace colors as a means of self-expression, and cultivate their unique artistic identities. This creative exploration not only fosters artistic skills but also nurtures their self-esteem and sense of individuality.

Incorporating computing into these areas also allows us to introduce valuable lessons on appropriate screen time usage. Children learn to balance technology with other activities and gain an understanding of responsible and mindful engagement with digital devices.

By integrating computing seamlessly into these Foundation Stage areas, we ensure that our young learners not only acquire essential computing skills but also experience a holistic development that encompasses emotional, physical, and creative facets. Our approach reflects a commitment to nurturing well-rounded, adaptable, and tech-savvy individuals from the very beginning of their educational journey.

Using Computing to Teach in Other Curriculum Areas

Computing serves as an invaluable catalyst for enhancing teaching and learning across all curriculum areas, and our teachers are wholeheartedly encouraged to integrate computing skills into their lessons whenever applicable. This dynamic approach is exemplified by our commitment to utilizing technology in various subjects, such as geography, history, art, design technology (DT), and humanities. Here's how we harness the power of computing in different domains:

- **Geography:** We employ databases and graphing software to delve into geographical concepts, facilitating a deeper understanding of data analysis and representation.
- **History:** Presentation applications are harnessed to craft engaging explanations of pivotal historical events, fostering creativity and storytelling skills.
- **Art and DT:** The synergy between computer graphics work and artistic expression is explored, offering students a unique medium for artistic creation and design innovation.

- **Humanities:** The internet becomes an invaluable research tool in humanities subjects, facilitating comprehensive and up-to-date exploration of historical and cultural contexts.

We firmly believe that children grasp Information Technology most effectively when they have a clear purpose or creative outlet. This principle is elevated when they know their work will be shared with an audience or on a platform. Encouraging active engagement through meaningful projects not only fosters a deeper understanding but also nurtures a sense of pride and accomplishment.

In addition, we emphasise the development of digital literacy. To this end, our students document their knowledge and learning for the benefit of others. They share their insights through various mediums, such as blog posts, audio recordings, or screencasts. This practice not only reinforces their own understanding but also cultivates skills in communication, digital citizenship, and the responsible sharing of information.

At our school, computing is not just a standalone subject but an integral tool for enriching learning experiences across the curriculum. By harnessing the creative and purpose-driven aspects of technology, we empower our students to become adept, responsible, and digitally fluent learners who are well-prepared for the demands of the modern world.

English

Computing plays a pivotal role in enriching the teaching and learning of English, offering multifaceted benefits that span various aspects of language development and communication. Here's how computing contributes significantly to English education:

Keyboard Proficiency and Text Editing: The development of keyboard skills is a fundamental aspect of computing in English education. Children become proficient in typing and gain essential skills for editing and revising text. This not only enhances their writing speed but also fosters a keen eye for grammar, punctuation, and structure.

Writing for Purpose: Computing empowers students to write with purpose and intention. They engage in real-world writing tasks, such as communicating with peers or experts over the Internet. This practical experience enables them to apply their writing skills in meaningful contexts and adapt their communication style based on their audience.

Online Discussions: Friendly social networking sites, like SeeSaw, offer a safe and controlled environment for students to participate in online discussions. This platform encourages them to express their thoughts, engage in constructive dialogue, and refine their communication skills. It also promotes responsible online behavior.

Multimedia Presentations: As students progress through their education, they leverage various software and applications to create multimedia presentations. These tools enable them to combine text, images, and audio, thereby enhancing their writing, speaking, and listening skills. They learn to convey information effectively through different modalities.

Integration of Computing Skills: The integration of computing skills into English education reinforces the interconnected nature of learning. Students see how technology can amplify their ability to research, gather information, and present ideas cohesively. This holistic approach nurtures well-rounded communicators.

By seamlessly integrating computing into English education, we equip students with a robust set of skills that extend beyond traditional language acquisition. They become adept at navigating the digital landscape, effectively communicating with diverse audiences, and harnessing technology to enhance their writing and speaking abilities. This dynamic synergy between computing and English education prepares students to thrive in a digitally-driven world where effective communication is paramount.

Mathematics

Computing activities are intricately intertwined with the development and application of mathematical skills in our curriculum. Here's how Computing and mathematics harmoniously interact to enhance the educational experience of our students:

Data Collection and Analysis: Computing plays a crucial role in mathematics by enabling students to collect, organize, and analyze data. They learn to construct data sets, calculate statistics, and draw meaningful conclusions, thus honing their statistical and analytical skills.

Problem Solving: Through computational problem-solving exercises, students apply mathematical principles to real-world challenges. This fosters a deeper understanding of mathematical concepts and reinforces their problem-solving abilities.

Predictive Modeling: Computational tools allow students to create predictive models, using mathematical equations to forecast outcomes. This connects mathematical theory to practical applications, enhancing their understanding of mathematics in action.

Graphical Representation: Computing facilitates the graphical representation of mathematical data, allowing students to visualize and interpret mathematical concepts. This reinforces their understanding of graphs, charts, and data visualization techniques.

Measuring Techniques: Computing extends the teaching of measuring techniques to include complex mathematical concepts, such as positive and negative numbers and place value. Students gain a comprehensive understanding of mathematical principles related to measurement.

Programming and Coding: Learning to program and code within platforms like Scratch and Code Studio integrates mathematical understanding with computational logic. Students apply mathematical concepts related to shape, space, distance, time, and number to create functional programs and solve algorithmic problems.

By seamlessly integrating Computing and mathematics, we empower our students to develop a profound appreciation for the practical applications of mathematical concepts. They not only acquire essential mathematical skills but also understand how these skills are used in real-world scenarios. This interdisciplinary approach not only enhances mathematical proficiency but also cultivates computational thinking, a valuable skill in the modern digital landscape.

Personal, Social and Health Education (PSHE) and Citizenship

Computing plays a vital role in fostering personal, social, health, and economic (PSHE) education and citizenship, facilitating a holistic and collaborative learning experience for students. Here's how Computing contributes significantly to these important aspects of education:

- **Collaborative Learning:** Computing activities often require teamwork and group collaboration, teaching children how to work effectively together. These experiences nurture essential interpersonal skills, such as communication, cooperation, and problem-solving, which are fundamental to PSHE and citizenship education.
- **Global Citizenship:** The use of the Internet and email exposes children to a global community. Through online interactions, they develop a sense of global citizenship by engaging with individuals from diverse cultural backgrounds. This firsthand experience broadens their perspective and fosters an understanding of the interconnectedness of our world.
- **Moral and Ethical Discussions:** Discussions surrounding moral issues related to electronic communication and Internet safety are integral to Computing education. Children learn about responsible digital citizenship, ethical behavior online, and the consequences of their actions. These discussions encourage them to develop a balanced view of the use and potential misuse of technology.
- **Interdependence and Connectivity:** Through Computing, students gain a profound knowledge and understanding of the interdependence of people worldwide. They recognize that digital technologies enable global connections and that their actions can have a broader impact. This awareness aligns with the principles of citizenship education, emphasizing our responsibilities to society and the world at large.
- **Multimedia Resources:** Video clips and software enhance the learning experience by providing real-world examples and simulations of social situations. These resources allow students to explore and reflect on various social and ethical dilemmas, fostering critical thinking and empathy.

By leveraging Computing as a tool for PSHE and citizenship education, we not only equip students with technical skills but also nurture their social and ethical development. They learn the value of responsible digital citizenship, ethical decision-making, and global awareness, all of which are essential for becoming well-rounded and socially responsible individuals in today's interconnected world.

Teaching Computing to children with special needs

At St. Matthew's Catholic Primary School, we are committed to providing inclusive Computing education for all children, regardless of their abilities. Our approach reflects our dedication to catering to the diverse needs of our students, and we utilize a range of specialized software applications to support those with various special needs, including LEXIA, Take Ten, and SeeSaw.

In our Computing lessons, careful consideration is given to the individualized targets outlined in the children's Pupil Profiles. This personalized approach ensures that additional support is readily available when needed, enabling each child to thrive in their Computing education.

The use of technology has consistently demonstrated a profound positive impact on the quality of work produced by our students. It not only enhances their confidence and motivation but also provides an alternative means for them to showcase their knowledge and understanding. This inclusive approach fosters a supportive and empowering learning environment where every child can excel.

We firmly believe that by embracing technology and tailoring our approach to the specific needs of our students, we empower them to reach their full potential, regardless of their individual challenges or abilities. At St. Matthew's Catholic Primary School, we are dedicated to fostering an inclusive and nurturing learning environment where every child can succeed and thrive in their Computing education.

Assessment and recording

Assessment is an integral part of our educational approach at St. Matthew's Catholic Primary School, and we employ various methods to track and evaluate students' progress. Here's how we utilize technology and platforms to gather valuable assessment data:

Code Studio Progress: We maintain a comprehensive record of students' work and progress on Code Studio, a digital platform. This allows teachers to assess each child's performance in coding lessons. By identifying which lessons children excelled in and where they faced challenges, teachers gain insights into their strengths and areas that require additional support. The data analysis from this platform informs our instructional planning, ensuring that future lessons are tailored to meet the specific needs of our students.

Data Analysis: Through the Code Studio platform, we can analyze the data collected over time. This data analysis provides valuable information about overall class performance trends, enabling us to make informed decisions regarding curriculum adjustments and instructional strategies. It also guides us in identifying areas that may require additional focus or resources.

SeeSaw for Work and Progress: In addition to Code Studio, students may also produce and upload tasks through SeeSaw. This platform serves as a repository for students' work and progress over the course of the year. Teachers and educational leaders can access this data to view students' work, track their development, and gain a comprehensive understanding of their individual and collective achievements.

By leveraging technology and these platforms, we ensure that our assessment practices are data-driven, informed, and comprehensive. This allows us to tailor our instruction to meet the unique needs of each student and continuously improve our curriculum to facilitate their growth and development in the field of computing and beyond.

At St. Matthew's Catholic Primary School, we place great emphasis on thorough and comprehensive assessment practices to gauge students' progress and achievement in each topic of our Computing curriculum. Here's an overview of our assessment approach:

- **End-of-Topic Assessments:** At the conclusion of each topic, our teachers conduct assessments aligned with the specific objectives of that unit of work. These assessments draw upon all the evidence and work generated throughout the topic. Through this process, teachers evaluate whether a child has met the targets, achieved the expected standard, or demonstrated greater depth of understanding. This comprehensive evaluation allows us to gain a nuanced understanding of each student's progress.
- **Self-Assessment and Peer Assessment:** Regular self-assessment and peer assessment are integral components of our teaching and learning process. As students collaborate and engage in coding activities, they are encouraged to review and debug their own computer code. This not only promotes problem-solving skills but also empowers students to identify opportunities for efficiency and improvement in their work. Peer assessment fosters a culture of constructive feedback and mutual learning.
- **Access to Student Work:** All work produced by students on Code Studio or SeeSaw is accessible to other teachers. This accessibility enables internal standardization and the sharing of expected outcomes across the school. Teachers can collaboratively review student work to ensure consistency in assessment practices and align expectations.

By integrating these assessment strategies into our Computing curriculum, we create a dynamic learning environment that promotes self-reflection, peer learning, and teacher collaboration. This multifaceted approach ensures that our assessments are fair, comprehensive, and in alignment with the individualized needs and progress of each student.

Resources

At St. Matthew's, we are committed to providing a technologically enriched learning environment to support our daily lessons and routines. We work closely with Liverpool IT services to maintain our extensive range of technology resources which include:

- **SMART Boards:** In all classrooms, interactive electronic SMART boards enhance the teaching and learning experience. These boards facilitate dynamic and engaging lessons, enabling teachers to integrate multimedia content and interactive activities into their instruction.
- **Additional SMART Boards:** In select intervention rooms and within the hall, we have extra SMART boards. These resources expand the reach of interactive technology, allowing for a variety of teaching and learning scenarios.
- **Teacher Laptops:** Each teacher has a dedicated laptop, which serves as a valuable tool for lesson planning, research, and administrative tasks. These laptops empower educators to stay organized and deliver effective lessons.

- **Student Devices:** Our school is equipped with a diverse range of student devices, including 15 MacBook Pros, 60 Chromebooks, and 60 iPads. These devices provide wireless internet access and support learning across different key stages, offering versatility in how students engage with technology.
- **BeeBots:** In Key Stage 1, we utilise BeeBots, programmable robots, to creatively teach children basic programming instructions. This hands-on approach sparks interest in coding and computational thinking from a young age.
- **Partnership with MGL:** Our partnership with MGL enables teachers to request additional equipment as needed to meet specific teaching objectives. This flexibility allows us to access resources such as Virtual Reality sets, Sphero bots, and Green Screens, enhancing our ability to offer diverse and immersive learning experiences.

These technology resources not only enrich our curriculum but also prepare our students for the digital demands of the modern world. By integrating technology into our teaching and learning processes, we empower our students to develop critical digital literacy skills and explore new avenues of creativity and problem-solving.

Monitoring and review

The role of the Computing subject leader at St. Matthew's Catholic Primary School is pivotal in ensuring the high standards of both student work and teaching quality within the subject. Here are some key responsibilities and activities associated with this role:

- **Monitoring Standards:** The Computing subject leader is tasked with overseeing the quality of students' work in Computing. This involves regularly reviewing and assessing student assignments, projects, and assessments to ensure they meet established standards and learning objectives.
- **Quality of Teaching:** The subject leader also evaluates the quality of teaching in Computing across the school. This includes observing classroom instruction, providing constructive feedback to colleagues, and identifying areas for improvement.
- **Supporting Colleagues:** The Computing subject leader serves as a valuable resource and mentor for fellow teachers. They offer guidance, share best practices, and provide support to help colleagues enhance their teaching of Computing.
- **Staying Informed:** Keeping abreast of current developments in the field of Computing is crucial. The subject leader is responsible for staying informed about emerging trends, new technologies, and educational innovations in Computing.
- **Strategic Leadership:** The subject leader plays a strategic role in shaping the direction of the Computing curriculum within the school. They contribute to curriculum development, set goals, and establish a clear vision for the subject's growth and development.
- **Annual Summary Report:** The Computing subject leader submits an annual summary report to the headteacher. This report provides a comprehensive evaluation of the strengths and weaknesses in the subject, highlighting areas for improvement and growth.

- **Classroom Observations:** The subject leader allocates time for visiting classrooms to observe the teaching of Computing. These observations help ensure that instructional strategies are effective, engaging, and aligned with learning objectives.

In summary, the Computing subject leader is a key figure in maintaining high standards of teaching and student achievement in Computing. Their multifaceted role involves assessment, support, leadership, and ongoing professional development to continually improve the quality of Computing education at the school.