

Computing ICT Policy



Through respect, we will work together in Christ to develop the whole person

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Leader: Mr M Greaves

St Matthew's Policy for Computing

At St. Matthew's Catholic Primary School, we recognise that the personal development of pupils (spiritually, morally, socially and culturally) plays a significant part in their ability to learn and achieve. We therefore aim to provide an education that provides pupils with opportunities to explore and develop their own values and beliefs, spiritual awareness, high standards of personal behaviour, a positive, caring attitude towards other people, an understanding of their social and cultural traditions and an appreciation of the diversity and richness of the cultures.

Aims and Objectives

Computing is changing the lives of everyone. In delivering the new Computing Curriculum with a focus on three distinct areas - Computer Science, Information Technology and Digital Literacy - we aim to offer our children a broad and balanced curriculum that prepares them to use 'computational thinking and creativity to understand and change the world'.

We aim to enable children:

- to understand and apply the fundamental principles and concepts of computer science
- to analyse problems in computational terms and have practical experience of writing computer programs in order to solve such problems
- to explore and then evaluate new or unfamiliar technologies
- to be responsible, competent, confident and creative users of information and communication technology

Through teaching computing and computational thinking, we equip children with the knowledge and skills necessary to fully participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology.

Teaching and Learning Style

As the aims of Computing are to equip children with the skills necessary to use technology to become independent learners through active and practical lessons. We also aim for children to use computers and computational thinking to help them in other curriculum areas - for example, children might use various browsers to research and investigate a topic they are studying for history or they might use a given application to model a problem in maths or analyse data. We encourage

children to explore ways in which Information Technology and computational thinking can improve their learning in different ways.

We recognise that all classes have children with widely differing Computing abilities. This is especially true when some children have access to Computing and IT equipment at home, while others do not. We provide suitable learning opportunities for all children by matching the challenge of the task to the ability and experience of the child. We achieve this in a variety of ways by:

- setting common tasks which are open-ended and can have a variety of responses or challenge;
- setting tasks of increasing difficulty;
- grouping children by ability in the room and setting different tasks for each ability group;
- providing resources of different complexity that are matched to the ability of the child;
- using learning support assistants to support the work of the individual children or groups of children
- providing opportunities for paired or independent work

Computing Curriculum Planning

The school has adopted a scheme of work from MGL and tailored it to suit the children within our school.

Planning in Computing is in three phases: long term, medium term, and short term. The long-term plan maps the Computing topics that the children study in each term during each key stage; it shows how teaching units are distributed across the year groups and how these fit together to ensure progression. Our medium-term plans give details of each unit of work for each term. The short-term plans detail the specific learning objectives and suggested methods to achieve them although the teachers are empowered to change and adapt these plans as required.

The topics studied in Computing are planned to build upon their prior learning. While we offer opportunities for children of all abilities to develop their skills and knowledge in each unit, we also build planned progression into the scheme of work, so that the children are increasingly challenged between year groups.

Foundation Stage

In the foundation stage, we relate the computing aspects of the children's work to the objectives set out in the early Learning Goals (ELG's) which underpin the curriculum planning for age's three to five. The areas which are best suited to developing key computing skills in foundation stage are: Personal, Social and Emotional Development, Physical Development and Expressive Arts and Design. In these areas, they will use devices to develop their fine motor skills, explore a range of artistic techniques, experiment with colours, develop confidence and build resilience with new activities and learn about appropriate use of screen time as well as various other skills.

Using Computing to Teach in Other Curriculum Areas

Computing contributes to teaching and learning in all curriculum areas and teachers are encouraged to apply computing skills wherever possible. For example, we might use databases and graphing software to teach and learn in geography or make use of presentation applications to produce explanations of key events in history. Similarly, computer graphics work links in closely with Art and DT, whilst the Internet proves to be a phenomenally useful research tool in all humanities subjects. We believe children will learn to use Information technology more effectively if they are learning with a purpose or doing something creative; this is especially true if they have an audience or a platform on which to share their work. The children will also develop a richer awareness of digital literacy if they document what they know and learn for others through: blog posts, audio, recordings or screencasts.

English

Computing can be a major contributor to the teaching and learning of English. Through the development of keyboard skills and the use of computers, children learn how to edit and revise text. They have the opportunity to develop their writing for purpose skills by communicating with people over the Internet, and they are able to join in discussions with other children through friendly social networking sites such as SeeSaw or Purple Mash. Higher up the school, children make use of various software and applications to create presentations; developing their writing, speaking and listening skills in conjunction with their computing skills.

Mathematics

Many Computing activities build upon the mathematical skills of the children. Children use Computing in mathematics to collect data, problem solve, make predictions, analyse results and present information graphically. They also acquire measuring techniques involving positive and negative numbers, and including place value. As well as this, through learning to program and code within Scratch and Code Studio, children will use their mathematical understanding of shape, space, distance, time and number.

Personal, Social and Health Education (PSHE) and Citizenship

Computing contributes to the teaching of PSHE and Citizenship as children learn to work together in a collaborative manner. A significant amount of programming work can be done through group work and teams. Children can develop a sense of global citizenship by using the Internet and e-mail. Through the discussions of moral issues related to electronic communication and Internet Safety, children develop a view about the use and misuse of Computing and they also gain a knowledge and understanding of the interdependence of people around the world. Video clips and software is also provided which will help the children view different social situations.

Teaching Computing to children with special needs

At St Matthew's School, we teach computing to all children, whatever their ability. We make extensive use of a number of software applications specifically designed to support children with a variety of special needs including LEXIA, Take Ten and SeeSaw. When planning work in Computing lessons, we consider the targets in the children's Pupil Profiles so that extra support can be put in place if required. In many instances, the use of technology has a considerable positive impact on the quality of work that the children produce; it increases their confidence and motivation and can allow children with another means of showcasing their knowledge and understanding.

Assessment and recording

Children are assessed in many ways throughout the year. All of their work and progress on Code Studio is saved on the platform. From this, teachers are able to identify in which lessons children performed well and successfully wrote their lines of code and in which lessons they found things trickier. Data can be analysed

through this platform. This information informs their planning for the next lesson and can also indicate to the coordinator areas of development for the next topic. Sometimes, children may produce work on PurpleMash or upload tasks through SeeSaw. These platforms also record their work over the year so that teachers and leaders can view children's work and progress.

At the end of each topic, teachers will assess the children within the objectives of that unit of work; using all of the evidence and work produced to determine if the child has been working towards the targets, at the expected standard or at a greater depth. Self-assessment & peer assessment will occur regularly as children work collaboratively and learn to debug their own computer code; finding opportunities to make their work more efficient or to improve it in other ways.

All work produced by children on Code Studio, PurpleMash or SeeSaw can be accessed by other teachers which allows for internal standardisation and the sharing of expected outcomes.

Resources

St Matthew's has interactive electronic SMART boards in all class rooms to support with daily lessons and routines. In addition to this, we have extra SMART boards in some of our intervention rooms and within the hall. Each teacher has a laptop assigned to them personally and the remaining ones may be used within classrooms for intervention work or to support children as and when required. We have fifteen MacBook Pros, 60 Chromebooks and 60 iPads that provide wireless internet access the different key stages. In Key Stage 1, there are a set of BeeBots which are used creatively to teach children basic programming instructions. Finally, our partnership with MGL enables all teachers to request a wide range of additional equipment when required to teach more specific objectives such as Virtual Reality sets, Sphero bots or Green Screens.

Monitoring and review

The monitoring of the standards of the children's work and of the quality of teaching in Computing is the responsibility of the Computing subject leader. The Computing subject leader is also responsible for supporting colleagues in the teaching of Computing, for keeping them informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The Computing subject leader gives the headteacher an annual summary report in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement. The Computing subject leader has

specially allocated time for carrying out the vital tasks of reviewing samples of the children's work and for visiting classes to observe the teaching of Computing.

Impact of Corona virus 2020 and beyond

Due to the school closures in March 2020, the curriculum moved to a dual curriculum until the end of the 2019/20 academic year. This focused on consolidating their knowledge of the ITC objectives and making use of various apps within other curriculum subjects to produce pieces of work. Children also had to engage with the school through an online platform which provided opportunities to develop their awareness of online communication, uploading and downloading files and digital literacy through safer internet use. In the 2020/21 academic year, a recovery curriculum was in place to make sure that there were opportunities to deliver missing learning and ensure that there were no major gaps in the children's knowledge. For the academic year 2021/22, teachers will continue to monitor and advise the computing leader on any issues with gaps in attainment. The curriculum will be amended as necessary as the year progresses.

Children will continue to have access to and make use of technological equipment within the school such as iPads, Macbook Pros and laptops however their use will be dependent on them using hand sanitiser before handling the equipment and on the equipment being cleaned thoroughly following use.