ST GEORGE'S

COMPUTING POLICY

INSPIRED BY GOSPEL VALUES, TO GROW AND LEARN THROUGH FAITH, LOVE AND LAUGHTER

Rationale

At St George's Catholic Primary School we deliver a high-quality computing curriculum that has computational thinking and creativity at it's heart. We recognise that pupils are living in a rapidly changing world, in which computing is playing an ever-increasing role. We aim, therefore, to equip children with the skills to adapt to new technology and to give them confidence to use computing to further their learning and assist them in everyday life. In doing so, we provide our children a range of opportunities to create, explore and develop content for themselves and others through 'unplugged' opportunities and using a variety of devices, ensuring each child can experience a range of technology preparing them for the next stage of education

At St George's Catholic Primary School we believe that increased computing skills promote independent learning and gives greater access to a wide range of ideas and experiences. It enhances the quality of children's work across the curriculum and should enhance and enrich the learning process.

Aims of Computing Curriculum

- *To develop children's individual computing capability and understanding of key concepts, including Computer Science, through a knowledge rich curriculum.*

- *To ensure all children know how to stay safe online, to enable them to become effective digital citizens.*

- *To enhance teaching and learning in other areas of the curriculum by cross curricular use of computing*

- *To develop computing as a tool for learning and investigation, that equips pupils with the knowledge and skills to make informed choices and become responsible users of internet systems.*

- *To equip pupils with the confidence and capability to use IT throughout their education, home and further work life.*

- *To recognise the potential technology holds and explore it's value for themselves, others and society, and their awareness of its advantages and limitations. • To stimulate interest in new technologies*

Implementation of Policy

- We have used key research the National Centre for Computing Education's computing taxonomy to ensure comprehensive coverage of the subject. Based on the Teach Computing Curriculum, we have developed and created a well sequenced and progressive curriculum map containing the key concepts children need to be procedurally fluent and to work and think like computing professionals. The Spiral Curriculum approach to learning supports and develops children's working memory and aids knowledge consolidation from Early Years Foundation Stage to Key Stage 2.

The key concepts in computing we plan a progression for are as follows:

- *Problem solving and logical thinking*
- *Creative Content*
- *Digital literacy*

At St George's Catholic Primary School to enhance the teaching and learning of all curriculum areas within the school, teachers employ a range of strategies including:

- *Demonstrating to the whole class/group.*
- *Discussion with the whole class/group.*
- *Individual or paired working.*
- *Collaborative group work.*
- *Encouraging pupils to demonstrate new skills to others*

At St George's Catholic Primary School the computing curriculum incorporates cross curricular links and discrete computing skills in a spiral curriculum that helps children to build upon and revisit previously acquired skills. Computing should be taught using discrete teaching of the skills required for each year group and where possible, lessons may also link to wider curriculum subjects to enhance learning. Lessons offer the opportunity to develop knowledge through a range of teaching strategies, which include, 'unplugged' and physical computing opportunities, which promote deeper understanding of key concepts that can be applied in a range of settings.

At St George's Catholic Primary School we recognise the need for children to understand the purpose of their work and therefore we take every opportunity to share their computing work in school and on the school website and on our social media, you can find snapshots of Computing at St George's.

At St George's Catholic Primary School the computing curriculum provision covers the following topic areas (across all year groups);

- **Algorithms** — Be able to comprehend, design, create, and evaluate algorithms
- **Computer networks** — Understand how networks can be used to retrieve and share information, and how they come with associated risks
- **Computer systems** — Understand what a computer is, and how its constituent parts function together as a whole
- **Creating media** — Select and create a range of media including text, images, sounds, and video
- **Data and information** — Understand how data is stored, organised, and used to represent real-world artefacts and scenarios

- **Design and development** — Understand the activities involved in planning, creating, and evaluating computing artefacts
- **Effective use of tools** — Use software tools to support computing work
- **Impact of technology** — Understand how individuals, systems, and society as a whole interact with computer system
- **Programming** — Create software to allow computers to solve problems
- **Safety and security** — Understand risks when using technology, and how to protect individuals and systems

At St George's Catholic Primary School children will be encouraged to evaluate both their work and the computer effectiveness. The nature of computing as a tool means that there will be many opportunities for links with other subjects.

Teachers will plan some activities which emphasise the development of computing capability and others which support the subject being taught.

In order to ensure progression and continuity throughout the school, the school has developed a curriculum map which outlines curriculum coverage, progression and context of computing as a discreet subject and across the curriculum.

Expectation in COMPUTING

Early Years Foundation Stage

At St George's we recognise the differing background children have in computing capability and this offers a significant challenge. Computing begins in the Early Years Foundation Stage, where children begin to develop the key computational thinking and problem solving skills through play-based learning experiences that are integrated into wider subject areas. Early years learning environments feature Computing scenarios based on experience in the real world, such as role play. Children gain confidence, control and language skills through opportunities to explore using non-computer based resources.

At the end of **KS1** children should:

- *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.*

At the end of **KS2** children should:

- *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.*

Health and Safety

At St George's Catholic Primary School Equipment is maintained to meet the agreed safety standards. St George's acknowledges the need continually to maintain, update and develop its resources. In school we have a range of devices available to support staff and children. Each class from Reception to Year 6 has regular timetabled access to Computers and other computing devices.

Age appropriate safety rules are displayed in the learning environment. Food and drink should not be consumed near ICT equipment.

Staff should ensure that the children are aware of the dangers of continuous use (e.g. Eye/wrist strain etc).

It is the responsibility of staff to ensure that classroom ICT equipment is stored securely, cleaned regularly and that their class or themselves leave the ICT Suite clean and tidy after use.

Teachers are required to inform the ICT technician of any faults as soon as they are noticed, using the 'IT Support Requests' Icon on the desktop. Please ensure you make the location of the device clear, e.g LKS2 Ipad.

An adult should always supervise children when they are accessing information via the Internet. Internet filtering is provided by the Local Authority.

E-Safety

At St George's Catholic Primary School staff and pupils are made aware of the importance of e-safety and sign an acceptable use agreement on entry to school. Staff, pupils or parents with concerns about e-safety are to contact the Headteacher if they have any concerns.

Inclusion and Equal Opportunities

At St George's Catholic Primary School the computing curriculum is concerned with the learning and participation of all students. Teaching is planned with this in mind and Teaching Assistants are available to support all students, ensuring good progress is made.

At St George's Catholic Primary School we aim to provide suitable learning opportunities regardless of gender, ethnicity or home background.

Regular assessment of pupil needs and understanding plays a vital role here as does the provision of appropriate resources, the internet, and specialist applications offer a wealth of materials that can be matched to suit individual or group needs, enabling all pupils to develop their computing skills.

At St George's Catholic Primary School the computing subject leader is responsible for

- Overseeing the implementation of the computing curriculum
- Monitoring the learning and teaching
- Ensuring the assessment is relevant and informative
- Making purchasing decisions
- Ensuring all staff are appropriately trained in both COMPUTING hardware and software
- Keeping up to date with developments in computing
- Liaising with the technician
- Observing computing lessons
- Monitoring / supporting computing planning
- Preparing policy documents
- Advising colleagues and helping to develop expertise

- Liaising with the staff team
- Contributing to staff computing INSET training

Assessment

At St George's Catholic Primary School children should be assessed against their progress in understanding and applying computing against the curriculum objectives. Progress is assessed, using both formative and summative assessments. Any unplugged work should be kept in a Computing folder for each child . Any further information may be saved into the appropriate Year group folder. Across Years 1-6 each unit of work provides a range of assessment opportunities both oral, observation and written assessments. These could be in the form of assessment tasks at the end of a session or end of unit summaries. This can then be used, alongside teacher evaluation, to assess each child's ability.

Children are also encouraged to evaluate their own and others' work in a positive and supportive environment, across the different strands of computing. This helps build computational thinking and encourages a wide range of vocabulary development.

Disability Equality Impact Assessment

This policy has been written with reference to and in consideration of the school's Disability Equality Scheme. Assessment will include consideration of issues identified by the involvement of disabled children, staff and parents and any information the school holds on disabled children, staff and parents.

Any questions or concerns regarding this policy should be made to