St. Gregory's Catholic Primary School

Computing Policy

We give thanks to God, work together and always try our best

St. Gregory's Vision, Values and Ethos

At St Gregory's we aim to provide a caring and nurturing environment which allows us to inspire each other to excellence in the light of Christ. We are very proud of our school, our pupils and their success.

We believe that children thrive on challenge and we have high ambitions for all our children.

Our School provides a learning environment to promote the skills of risk-taking, resilience and reflection. We develop self-esteem through achievement and the development of our God-given talents.

Within our learning environment, we encourage independence and the development of the skills for life-long learning. We encourage children to take responsibility for their own learning and to support the learning of others.

Our children will emerge as thoughtful citizens, respectful of the needs and rights of others and well prepared for a future in a rapidly changing world.

We seek to promote to the utmost the development of every child's personal wholeness, integrity, gifts and creativity in a welcoming and loving school community. We do so in partnership with parents, guardians and all others who have the welfare of the child at heart.

Our school is an integral part of the Parish of St. Gregory's. We promote links with the Parish, the local and wider community and as well as international partnerships.

Introduction

In this policy the Governors and teachers, in partnership with pupils and their parents, set out their intentions about computing. We set out our rationale for, and approach to computing education in the school.

Consultation

This policy has been produced in consultation with staff through:

- Staff Meetings
- CPD
- Consultation with Specialists in BCCET
- Consultation with the wider school community

Defining Computing

The DfE states that:

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Statutory Curriculum Requirements

Key stage 1

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.

Key stage 2

Pupils should be taught to:

- 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.

Rationale

Computers and digital content are an integral part of life in the 21st Century. The ability to understand how to use computers for a variety of purposes is a vital skill in today's world, particularly when looking forward to future career prospects. Teaching children these skills at a young age ensures that they are getting the best possible start to succeed in life. The computing curriculum should provide the foundation for learning further skills, and help pupils to stay safe in an ever-evolving and increasingly digital world.

Aims of Computing

Our children will:

- become interested in using computers and see their value. Our engaging and enjoyable lessons create an enthusiasm for learning and inspire students to become lifelong computing learners.
- Be exposed to regular opportunities to establish a meaningful context for learning computing skills.
- Develop a solid skill set around five main areas of computing – Computer Science, Information Technology, Computer Networks, Media Creation and Data and Information which pupils can build on at KS3, KS4, KS5 and beyond feeling confident in what they have studied so that they can make good progress.
- Benefit from specific KS1 and KS2 end points that have been developed to endure clarity for teaching and to ensure a smooth transition to Secondary Education for all learners.

Inclusion and Adaptive Learning

We will ensure computing is sensitive to the different needs of individual pupils in respect to pupils' different abilities, levels of maturity and personal circumstances.

Equalities Obligations

The governing body have wider responsibilities under the Equalities Act 2010 and will ensure that our school strives to do the best for all of the pupils, irrespective of disability, educational needs, race, nationality, ethnic or national origin, pregnancy, maternity, sex, gender identity, religion or sexual orientation or whether they are looked-after children.

Broad Content of Computing

The 5 key areas of learning covered within each year group in computing are:

- Computer Science,
- Information Technology,
- Computer Networks,
- Media Creation
- Data and Information

These 5 areas also fall under the broader umbrella of our three threshold concepts.

Threshold Concepts

Computer Science

The key areas being taught within Computer Science across the Computing Curriculum include:

- Computational Thinking
- Coding and Programming
- Computer Networks

The core of computing is Computer Science as pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.

In **EYFS** the children will be introduced to the concept of algorithms as a set of instructions to get a device to carry out a delegated command. This will be put into effect through the use of digital toys such as BeeBots and Code-a-Pillars.

Within **Key Stage One,** the children will be introduced to algorithms on programs and will begin to develop the skills of debugging if a sequence of algorithms does not fulfil the desired outcome. The children will explore programming on iPads using Daisy the Dinosaur and they will also complete unplugged activities from Barefoot Computing.

Within **LKS2** the children will progress onto Scratch Jr where they will become familiar with the processes of sequencing and looping. They will tinker on the programs and they will begin to evaluate their work to explain how and why their commands fulfilled the desired outcome.

As the children progress through into **KS2**, they will become confident with the use of Scratch and they will focus on selection. The children will become equipped with the skills to critically evaluate programming making comment on strengths and areas of improvement.

Information Technology

The key areas being taught within Information Technology across the Computing Curriculum include:

- Word Processing/Typing
- Presentations and Web Design
- Data collection and presentation
- Animation
- Video Creation
- Photography and Digital Art

Information Technology is critically important to be delivered effectively to all children in preparation for a digital world. The children will be equipped with the skills of using different programs to create professional documents for a purpose. Within this unit, the children will develop an importance of organising their documents so that they can access the necessary files when needed.

In **EYFS**, the children will begin by exploring and experimenting with keyboards and digital mice to recognise that they form a computer used in our everyday lives.

Within **KS1**, the children will complete a word processing unit with a focus on developing fluency with keyboard skills, an animation unit to promote creativity and a data unit with the benefit of a great cross curricular link to Maths.
Within **LKS2** the children will become confident with developing more in-depth skills such as copying and pasting and formatting pictures. They will recognise how to create PowerPoint Presentations for a targeted audience whilst also being introduced to a new concept of handling data within databases.

As the children progress into **KS2**, they will develop their independence of completing a computer-based project aimed at incorporating skills taught from previous years to document their project ideas. The children will be encouraged to show innovation through a choice of software and they will be provided with the opportunity to work collaboratively with their peers. Information Technology will be integrated through other curriculum areas so that children can understand that publishing of documents has got a purpose.

Digital Literacy

- Managing Online Information
- Health, Well-Being and Lifestyle
- Privacy and Security
- Copyright and Ownership

Due to an increasingly digital culture, pupils need to be equipped with the skills and knowledge to take a full and active part in computing in a safe and appropriate manner. They need to recognise necessary approaches and strategies to use to ensure that they can fulfil their potential in our ever-changing digital world. Digital Literacy is a threshold concept that cannot be taught in isolation and must be integrated into all areas of learning within computing so that out pupils can be fully prepared for any situation that may arise and can be equipped with necessary support mechanisms.
From EYFS to KS2, the children will be taught Digital Literacy as a short activity within every lesson. There will be careful delivery of Digital Literacy through the teaching and delivery of Project Evolve. The resources will be filtered throughout all units of learning and they will be used when topical issues arise within school.

Programme / Resources

At St. Gregory's Catholic Primary School, we follow the Curriculum Continuity units provided by the Bishop Chadwick Catholic Education Trust as a primary resource. We also use Project Evolve to help deliver Digital Literacy and Online Safety teaching.

Assessment of Computing

There will be no summative assessment in computing, but ongoing formative assessment should be linked to the Computing curriculum. This assessment will be carried out by the Class Teachers.

Our Curriculum

High quality Computing teaching in primary school is our ultimate goal. This forms part of a larger progressive curriculum into KS3 and KS4. In their study of computing pupils will develop their knowledge and understanding across the three threshold concepts by:

- learning computer science and algorithms on a 'loop'. Our series of lessons and units enable pupils to constantly revisit and build on prior knowledge, with each year group's knowledge building upon the previous learning. Recall is continuous so that knowledge is steadily built.
- building knowledge effectively with a consistent approach to our lessons. We aim to develop listening, reading, speaking, and writing/typing skills simultaneously; each lesson will cover these four skills equally.
- ensuring substantive and disciplinary knowledge are explicitly taught and blended in teaching and planning as both are necessary for progress in learning. By substantive knowledge we mean the key content of each unit, for example key vocabulary to describe the operation of a particular algorithm. By disciplinary knowledge we mean the breadth of understanding of information

technology necessary to use their substantive knowledge effectively, for example creating a particular algorithm to achieve a specific outcome.

- Agreeing units of work that have been specifically chosen to reflect the KS3 curriculum so that a solid foundation is created, and knowledge continues to be revisited

Responsibility For Teaching the Programme

The Class Teachers will have the responsibility for teaching the threshold concepts of computing.

Headteacher

The Headteacher takes overall delegated responsibility for the implementation of this policy and for liaison with the Governing Body, parents, the Diocesan Schools' Service and the Local Education Authority, also appropriate agencies.

Computing Subject Lead

The co-ordinator with the Headteacher has a general responsibility for supporting other members of staff in the implementation of this policy and will provide a lead in the dissemination of the information relating to computing and the provision of in-service training. (They may be supported by the curriculum deputy and the member of staff with responsibility for child protection).

Monitoring and Evaluation

The Computing Co-ordinator will monitor the provision of the various dimensions of the programme by examining plans, schemes of work and samples of pupils work at regular intervals. The programme will be quality assured using questionnaires / response or by discussion with pupils, staff and parents. The results of the evaluation will be reported to these groups of interested parties and their suggestions sought for improvements. Governors will consider all such evaluations and suggestions before amending the policy. Governors remain ultimately responsible for the policy.

This policy will be reviewed every year by the Headteacher, Computing Co-ordinator, the Governing Body and Staff.

The next review date is January 2026