St Francis of Assisi Catholic School

Computing Policy

Date policy last reviewed: September 2024

Purpose

The knowledge and use of computers and computer systems is an integral part of the National Curriculum and knowing how they work is a key life skill. In an increasingly digital world there now exists a wealth of software, tools and technologies that can be used to communicate, collaborate, express ideas and create digital content. At St Francis of Assisi Catholic School we recognise that pupils are entitled to a broad and balanced computing education with a structured, progressive, approach to the learning how computer systems work, the use of IT and the skills necessary to become digitally literate and participate fully in the modern world. The purpose of this policy is to state how the school intends to make this provision.

Vision / Intent

At St Francis of Assisi Catholic Primary School, we recognise that pupils are entitled to and will provide a rich and diverse computing education which addresses the National Curriculum objectives with a coherently planned and structured, progressive approach to understanding concepts and developing talents within computer science and the acquisition of real-world I.T. skills. These will enable children to aspire and flourish not only in computing but in many arenas with accomplished transferrable skills.

We will ensure equal access to learning for all pupils, with high expectations for every pupil and appropriate levels of challenge and support so that all children experience, enjoy and make progress. Through confident and well-designed teaching of computing, utilising the opportunities that computing provides, we will encourage children to become ambitious, eager and independent in pursuit of skill development and in the application of computational thinking to approach problems. Faced with problems, children require, hope, resilience, discipline and endurance, which are also real-life universal skills, in order to persevere.

All these abilities, in conjunction with instruction in living well together through E-Safety tuition, empower children to achieve what is necessary to become confident, compassionate, and digitally literate members of their modern community.

Our vision is to equip children with a solid foundation of tools and experiences in the use of computational thinking to independently carry these forwards to support them through secondary education and beyond - to make sense of and take their place as active participants in an ever- increasing digital world and give them choices in future such as an industry full of opportunities.

This policy is a statement of the aims, principles and strategies for the teaching, learning and assessment of Computing at St Francis of Assisi Catholic Primary School and how the school intends to make this provision.

Aims

The school's aims are to:

- Meet the requirements of the national curriculum programmes of study for Computing at Key Stage 1 and 2.
- Provide a broad, balanced, challenging and enjoyable curriculum for all pupils.
- Provide access to a rich and varied source of information and content
- To enrich each child's life in all its fullness, to develop pupil's transferrable computational thinking and I.T. skills that will benefit them throughout their lives.
- To enable children to become creators of digital content rather than simply consumers of it.
- To communicate and present information in new ways, which helps pupils understand, access and use it more readily.
- To offer opportunities for positive relationships by means of communication and participation in collaboration through group working.
- To respond to new developments in technology.
- To enhance and enrich learning in other areas of the curriculum using IT and computing.
- To develop the understanding of how to use computers and digital tools safely, respectfully, and responsibly.
- Equip teachers and staff with the subject knowledge and confidence to plan, teach and assess computing to the expectations required of the subject.

The National Curriculum for Computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication.

- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.

- Are responsible, competent, confident, and creative users of information and communication technology.

What is Computing?

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 made confident in the use of information technology to design and write programs that achieve

specific goals and, through developed endurance to cope wisely when things go wrong, debug and solve problems. Computing also ensures that pupils become digitally literate in two further senses. That they are able to use, express and develop their ideas through current information technology at a level suitable for the future workplace. Also, that they acquire skills to remain vigilant and safe online, respect and compassion for others, as well as build positive relationships as active participants in a digital community.

Early Years Foundation Stage:

Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

It is important in the foundation stage to give children a broad, play-based experience of IT and computing in a range of contexts, including off-computer activities and outdoor play. Computing is not just about computers. Early years learning environments can raise delight by featuring IT scenarios based on experience in the real world, such as in role play. Children establish the foundation of computational thinking skills either through role-play or cross curricular activities which involve sequence, patterns, logical steps and repetition. Children gain knowledge, control and language skills through opportunities such as 'programming' each other using instructions or directional language to find toys/objects, creating artwork using digital drawing tools and controlling programmable toys.

Relationships established in early play and developing social skills involved in friendships, compassion, and living well together is the underpinning for E-Safety teaching in creating positive social norms online for a respectful online community.
Outdoor exploration is an important aspect and using digital recording devices such as video recorders, cameras and microphones can support children in developing communication skills. This is particularly beneficial for the participation of children who have English as an additional language

By the end of key stage 1 pupils are 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, retrieve and manipulate digital content.
- Recognise common uses of information technology beyond school.
- Use technology safely and respectfully, keeping personal information private and be able to identify where to go for help when they have concerns about content or contact on the internet or other online technologies.

By the end of key stage 2 pupils are 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.
- Make predictions; 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
- Explain how search results are selected and ranked. Use search technologies effectively, appreciate 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.

Approaches to teaching & learning

The delivery of the computing curriculum (as outlined in the national curriculum framework) is overseen by the subject leader for computing.

The curriculum is divided into three sections:

1. Computer Science (programming)
2. Digital Literacy (including e-safety)
3. Information Technology

Children will be taught from each of these strands within each key stage. Children in key stage one will also be taught basic computer skills (e,g, controls, word processing, filing etc.). Each class receives direct teaching of computing skills one hour per week, with additional opportunities for computing skills to be developed through cross curricular links. Pupils also have opportunities to use a range of programmes to enable them to develop transferable skills.

Staff CPD

The computing subject leader is responsible for ensuring that staff are adequately trained so that they can deliver the curriculum effectively. This will include organising CPD; leading

staff meetings; preparing and sharing resources for planning and teaching; sharing good practice.

Online Safety

Online safety is an essential component of the computing curriculum. Pupils should be able to:

- 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 (KS1)
- Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour: identify a range of ways to report concerns about content and contact (KS2)

Online safety is central to all learning with technology. We want our pupils to develop essential computational skills whilst being safeguarded from potential harm and being able to keep themselves safe online. All pupils and adults working in school must sign the school's acceptable use policy. The schools practice and procedures are outlined in the St Francis of Assisi Online Safety Policy.

Inclusion and Equal Opportunities

Some children will have particular teaching and learning requirements which go beyond the provision for that age range and if not addressed, could create barriers to learning.

SEN

Every effort must be made by teachers to ensure that pupils with SEN or disability are enabled to participate as fully and as effectively as possible in all computing activities. Teachers should take specific action to enable the effective participation of pupils with SEN or disability through effective planning. Differentiated activities and lessons not included in the computing scheme of work are available on request from the computing lead.

Equal Opportunities

All children, regardless of their race, gender or ability will be given respect and equal opportunities to develop their knowledge and achieve skills and understanding of computing.

EAL

Children with English as an additional language are supported in a variety of ways, including but not limited to; reading of questions, repeating of instructions, translated

instructions and practical demonstration of skills. E.g. within code.org, facility exists to make use of Immersive Reader to read instructions and hints in desired language.