Computing Policy

To follow in Jesus' footsteps, caring for each other when we work, play and pray.

Intent

The aims and objectives of the policy are to stimulate and promote children's curiosity and understanding of the world. The school's Catholic ethos strives to create a learning environment where every child is encouraged and enabled to develop to their full and unique potential as human beings, made in the image and likeness of God. Children are taught tolerance and a commitment to supporting each other within lessons. We are committed to promoting resilience amongst our pupils and developing their independent learning skills. Our aim is to ensure children from all backgrounds have access to a stimulating learning environment.

At St. Joseph's Catholic Primary School, we recognise that all children have rights as outlined in the UN Convention. As duty bearers, we have the responsibility to respect these rights and are committed to supporting our children through their education and to ensure that they are rights-holders.

We aim to provide our pupils with: their 'right to find out things and share what you think with others by talking, drawing, writing or in any other way unless it harms or offends other people' as stated in Article 13. The right to 'get information that is important to your well-being from radio, newspapers, books, computers and other sources. Adults should make sure that the information you are getting is not harmful and help you find and understand the information you need' as stated in Article 17. The right to 'be protected from being hurt and mistreated, in body or mind' as stated in Article 19. The right to 'a good quality education. You should be encouraged to go to school to the highest level you can' as stated in Article 28. The right to 'be an education that helps you use and develop your talents and abilities. It should also help you learn to live peacefully, protect the environment and respect other people' as stated in Article 29.

What is Computing?

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.

Aims and Objectives

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

Computing is an everyday part of 21st Century life, therefore it is vital that pupils are provided with opportunities to learn to use skills with competence and confidence.

Curriculum - Computing Skills Set

Key Stage One	Year Three and Year Four	Year Five and Year Six
Learning Objectives - To code - To connect - To communicate - To collect	Learning Objectives - To code - To connect - To communicate - To collect	Learning Objectives - To code - To connect - To communicate - To collect
KS1 Milestones and Opportunities - Understand what algorithms are, how they are	**KS2 Milestones and Opportunities** - Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	

implemented as programs on digital devices, and that programs execute by following a sequence of instructions. • Write and test simple programs. • Use logical reasoning to predict the behaviour of simple programs. • Organise, store, manipulate and retrieve data in a range of digital formats.	• Use sequence, selections and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs. • Use logical reasoning to explain how a simple algorithm works, 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. • Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely. • Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	
Key Stage One	Year Three and Year Four	Year Five and Year Six
To code (using Scratch) Motion- Control motion by specifying the number of steps to travel, direction and turn. Looks - Add text strings, show and hide objects and change the features of an object. Sound - Select sounds and control when they are heard, their duration and volume. Draw- Control when drawings appear and set the pen colour, size and shape. Events - Specify user inputs (such as clicks) to control events. Control - Specify the nature of events (such as a single event or a loop). Sensing - Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?)	To code (using Scratch) Motion - Use specified screen coordinates to control movement. Looks - Set the appearance of objects and create sequences of change. Sound - Create and edit sounds. Control when they are heard, their volume, duration and rests. Dra - Control the shade of pens. Events - Specify conditions to trigger events. Control - Use IF THEN conditions to control events or objects. Sensing - Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions). Variables and lists - Use variables to store a value. Use the functions define, set, change, show and hide to control the variables. Operators - Use the reporter operators: () + () () – () () * () () / () to perform calculations.	To code (using Scratch) Motion - Set IF conditions for movements. Specify types of rotation giving the number of degrees. Looks - Change the position of objects between screen layers (send to back, bring to front). Sound - Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation. Draw - Combine the use of pens with movement to create interesting effects. Events - Set events to control other events by 'broadcasting' information as a trigger. Control - Use IF THEN ELSE conditions to control events or objects. Sensing - Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions. Variables and lists - Use lists to create a set of variables. Operators - Use the Boolean operators: () < () () = () () > () ()and() ()or() Not() to define conditions. Use the Reporter operators () + () () - () () * () () / () to perform calculations. Pick Random () to () Join () () Letter () of () Length of () () Mod () This reports the remainder after a division calculation Round () () of ().
To connect Participate in class social media accounts. Understand online risks and the age rules for sites. Communicate safely and respectfully online, keeping personal information private and recognise common uses of information technology beyond school.	To connect Contribute to blogs that are moderated by teachers. Give examples of the risks posed by online communications. Understand the term 'copyright.' Understand that comments made online that are hurtful or offensive are the same as bullying. Understand how online services work.	To connect Collaborate with others online on sites approved and moderated by teachers. Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems. Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. Understand the effect of online comments and show responsibility and sensitivity when online. Understand how simple networks are set up and used.
To communicate Use a range of applications and devices in order to communicate ideas, work and messages.	To communicate Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.	T o communicate Choose the most suitable applications and devices for the purposes of communication. Use many of the advanced features in order to create high quality, professional or efficient communications

To collect	To collect	To collect
Use simple databases to record information in areas across the curriculum.	Devise and construct databases using applications designed for this purpose in areas across the curriculum.	Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.

Implementation

The class computer should be used in a vast majority of lessons as a teaching tool. There is a range of software available which can be used to support the teaching of the curriculum subjects and completed as interactive activities.
The ICT suite will be used for discrete computing skills teaching and for using ICT to enhance learning across the curriculum. Each class has allocated times for this usage across the week at different time slots allowing for support across all subject areas.

Planning

Planning is undertaken at two levels. Long term plans are used as stated in the National Curriculum and we also use 'milestones' and skills sets (see table above) which are taken from the Chris Quigley 'Essentials' planning scheme. Short-term plans are completed by the class teacher. The lesson focus is recorded in the Foundation Subjects planning sheet. ICT assessment is based upon the assessment of work against the milestones covered.

Staff Development

St. Joseph's is aware of the need to maintain and develop staff Computing competence. When necessary, training will be offered to meet staff needs, provided by outside agencies or the Computing leaders. This will take the form of course attendance, school based sessions, together with informal one to one support and advice.

Maintenance, Repair and Replacement of Equipment

The school employs an ICT technician to help with maintenance or repair issues. The school's staff report any problems by logging concerns via our Multi-Academy 'Parago help desk'.

e-Safety

The School operates an 'e-safety' policy to monitor inappropriate ICT usage for both staff and pupils. This policy has been shared with the Academy Committee, staff, parents and pupils. E-safety training is also supported via external speakers to pupils, staff and parent workshops.

Monitoring and Review

The monitoring and reviewing of Computing will be the responsibility of the Senior Leadership Team and the Computing Leaders. This could be in the form of observing teaching, learning walks, reviewing planning, pupil interviews and monitoring of pupils' work. The work of the Computing leader will involve ensuring that school is kept abreast of developments within this subject and that these are reflected within school development plans. This policy is monitored by the Local Governing Body and will be reviewed every two years, or before if necessary.