COMPUTING POLICY

UPDATED: JANUARY 2024

NEXT REVIEW: JANUARY 2025

St. Joseph's Catholic Primary School

Computing Policy

Introduction:

Computing is a subject which develops a broad range of skills which are integral to everyday life. The skills which the children develop as part of our school's computing curriculum will support them as citizens in an ever-evolving technological world. At St Joseph's we strive to deliver a high-quality Computing curriculum which challenges our learners to advance their skills whilst also acknowledging the significance of this subject in the world around them. With the wealth of technology available, we view Computing as a subject which should be used widely across the curriculum to further support children in becoming digitally literate. As a school we recognise that pupils are entitled to quality hardware and software and a progressive approach to the learning of the skills required for them to effectively use a range of technology.

Computing is concerned with the handling of electronic information (which can consist of text, numbers, images, videos and sounds) and involves the storage, processing, presentation and communication of information by electronic means.

"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" (National Curriculum Document 2014)

Aims:

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.

Intent

• At St. Joseph's, it is our intent that our Computing curriculum supports our children to develop into active participants in the digital world. We acknowledge the importance of ICT as our world becomes increasing reliant on technology. Through the teaching of Computing we aim for our pupils to become confident using a broad range of technology and solving a range of Computing problems.

• We encourage our children to be creative in our Computing lessons. Once they have developed the skill being taught, they are encouraged to use their imagination to push the boundaries of thinking and learning and create creative and innovative solutions to Computing problems and activities.

• We aim for our children to develop their logical thinking skills in Computing lessons. In our Computing lessons the children encounter a range of problems in which they must use reasoning skills to objectively study any problem to make a rational conclusion about how to proceed. Through developing their logical thinking skills we aim for our children to solve real and relevant problems within a variety of contexts using ICT.

• The children are provided with a broad range of activities to encourage them to become digitally literate so that they can confidently use and express themselves and develop their ideas through ICT.

• It is our aim to ensure our children are aware of how to stay safe online. We strive for our children to be aware of the dangers associated with using technology and how to respond if they feel unsafe online or notice any behaviour which is unacceptable.

Implementation

• At St Joseph's, children receive a Computing curriculum which supports them to become digital citizens who can thrive in an ever-developing technological world. They are exposed to a range of technology and apps to develop their ability to use a wide range of ICT successfully. The skills developed when using these devices and apps can then be translated to a broad range of situations and appliances.

• We use a hands-on approach to the children's learning enabling them to become more confident using and applying their skills across range of technologies and contexts.

• Across the Computing curriculum, skills are taught progressively to ensure that all children are able to learn and practice in order to develop as they move through the school. The children's skills progress in three key areas of Computing which are taught each year: Computer Science, digital literacy and ICT.

• Progressive computing vocabulary is used across the school to allow the children to use the correct terminology when referring to this subject.

• Computing is rooted in real life, relevant contexts to give meaning to learning. The children are provided with tasks which relate to the 'real world' encouraging them to see the integral part which Computing plays in their everyday lives.

•Computing is taught in a cross-curricular context and allows children to apply the knowledge and skills learned in other subjects, particularly Maths, Science and Design Technology. Where relevant ICT is used to support children's curriculum learning in subjects such as Geography and History.

• We currently follow the Purple Mash scheme of work from Year One to Year Six to ensure consistency and progression throughout the school as the children become familiar with this program. The Purple Mash scheme of work provides a clear coverage of the computing curriculum The lessons are broken down into weekly units, usually with two units taught per half term. Units are practical and engaging and allow computing lessons to be hands on. Units cover a broad range of computing components and cover the three key areas of Computing: Computer Science, digital literacy and ICT.

• In order to develop the children's understanding of how to stay safe online we are focused on developing our children's awareness of internet safety both inside and outside of schools. Each year the children study an online safety unit in their Computing lessons placing this at the core of our Computing curriculum. Every year we also take part in National Safer Internet Day in February where the children complete activities and respond to scenarios considering how to stay safe online. The Computing subject leader, alongside class teachers, will plan additional internet safety lessons and activities which can be used where appropriate and necessary.

Impact

We ensure the children:

• Develop an awareness of the importance of technology in the world around them.

• Develop the skills, digital understanding and practical expertise needed to participate successfully in an increasingly technological world and respond to a range of technology problems.

• Are aware of how to stay safe online. They will be aware of the dangers associated with technology and being digital citizens and will recognise acceptable and unacceptable behaviour online. They will develop a range of strategies which they can use to mitigate the online dangers and develop strategies to respond to any risks which they are exposed to online. The children will know who to report any online safety concerns to when in and outside of school.

• Can use and recognise a broad range of vocabulary associated with Computing to assist them as digital citizens.

•Receive a high-quality Computing education which appeals to their interests through the use of engaging activities which the children can apply to their own interests or their curriculum learning.

• Learn how to problem solve, becoming resourceful, innovative, creative and logical when approaching problems online.

• Are equipped with the skills and confidence to approach their Key Stage Three Computing curriculum,

By the time children leave our school they will also have developed:

- An excellent attitude to learning and independent working.
- The ability to use time efficiently and work constructively and productively with others.
- The ability to show initiative and ask questions to further their own understanding.
- The ability to apply the skills they have learned to a range of technologies and situations.
- Developed keyboard skills.
- An awareness of apps and devices which they can use to progress their learning.
- A thorough knowledge of how to use technology in their everyday tasks.
- A clear understanding of who to report online safety concerns to.
- The ability to apply mathematical knowledge and skills accurately.
- Critical thinking skills as well as reasoning and problem-solving skills.
- Creative and innovative thinking skills.

Foundation Stage

At St Josephs it is our aim to give our EYFS children a broad, play-based experience of ICT in a range of contexts so that the children become aware of how technology is used in the world around them. In our Early Years setting we aim to provide our children with ICT scenarios based on experiences in the real world through the use of the topic ‘understanding the world’. As the children engage in play they have opportunities to experiment with technology such as drawing on the interactive whiteboard and engaging with technological based toys in the role play area.

KS1

Objectives

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.

KS2 Objectives

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

Teaching and Learning:

At St Jospeh's, our Computing curriculum follows the National Curriculum to ensure that each child progresses in their technological learning. A crucial aspect of our curriculum is for our pupils to learn the importance of online safety and how to act responsibly and respectfully online. This is at the core of our computing teaching and is taught from the EYFS through to Key Stage Two so that the children are aware of how to react in a range of situations online or when using a rage of technologies and apps.

We deliver our curriculum through sequential learning in which each lesson builds upon the pupil's prior learning allowing them to develop in their confidence as digital learners. From EYFS we introduce our children to technology. We aim to develop their awareness of a range of technology and to introduce them to computational thinking so that an early awareness of our technological world is established. In Key Stage One we build upon this foundation as the children undertake activities relating to digital literacy, information technology and computer science. They are exposed to progressive vocabulary in this subject as they participate in activities such as programming coding, debugging, predicting the outcome of simple programs and purposefully using technology to create, organise, store, manipulate and retrieve digital content in creating spreadsheets. In Key Stage Two we use our progressive approach to teaching to consolidate, cement and advance the pupil's learning from Key Stage One as the children design, write and debug programs to

achieve goals whilst using skills such as repetition and sequencing and explain how algorithms work. By Year Six we aim for our children to feel confident using a range of technology so that they feel confident learners in our ever-advancing technological world.

The teaching of Computing skills and knowledge is taught using a variety of learning approaches. Modelling should be used by teachers to clearly demonstrate to pupils Computing skills and techniques as well as how to use new software. Both independent and collaborative activities will be used to encourage children to practise the modelled skills independently but also apply these skills to solve Computing problems. At the core of our Computing curriculum is the belief that our pupils should engage in frequent 'hands on' experience so that they have regular opportunities to practise and consolidate their computing learning. Thus a large proportion of our Computing lessons are based on practical approaches.

Children will be taught by staff whether EYFS, KS1 or KS2. Staff will be provided with relevant training to support them in delivering a high quality computing education to our children.

ICT across the curriculum

Computing is taught as its own subject with a weekly lesson for this subject being part of each classes timetable. However, ICT is incorporated into the planning of subjects across the curriculum. When planning work teachers are encouraged to use ICT to enhance their teaching and learning practice. St Josepha owns a range of software and uses a selection of educational websites and apps which cover all areas of the National Curriculum. The children have access to these apps both in and outside of school as they are provided with logins to access online resources at home. The Computing coordinator will be available to support all staff in their use of ICT throughout the curriculum.

Resources

For computing and programming elements of the curriculum, the whole school utilises parts of Purple Mash's schemes that were introduced in 2022/23 to support staff in their teaching of Computing.

Assessment and recording:

- The Computing Co-ordinator will keep a portfolio of pictures, examples of work and written tasks completed by the children to create a floor book of exemplars which can be used for assessment purposes and for monitoring progression.
- Class teachers are responsible for accurately assessing pupils' Computing attainment – these assessments are carried out termly and are based on emerging, developing, secure and mastery within the standards of each Year group. This follows the agreed system which is in place covering all curriculum subjects at St. Joseph's.
- Assessments are completed at the end of each term and inputted into the online assessment trackers set up for Computing on the school's iTrack system. The Computing Co-ordinator has access to this data to allow reports to be developed.
- The Computing Co-ordinator is responsible for collecting assessment data from the spread sheets and inputting percentages into the Subject Leaders' summary reports.
- Displays of Computing work are encouraged – these should include images of the children using technology, examples of the children's work and key vocabulary.
- One staff meeting a year will be held to carry out agreement trailing. Teachers will be asked to identify a child working at a specific level and bring examples of work. This work will contribute to the Computing portfolio.
- The Computing Co-ordinator will present at least one report to the Governing Body to inform governors of how well the subject is being taught.
- Once a year the Computing Co-ordinator will conduct a learning walk to assess the engagement of children with this subject and the quality of teaching being provided in these lessons.
- Children's views of the subject will be assessed through the use of questionnaires to determine their opinions of the teaching and learning of this subject.

Expectations:

By the end of Key Stage 1, the performance of the great majority of the pupils should be Y2 secure.

By the end of Key Stage 2, the performance of the great majority of the pupils should be Y6 secure.

Inclusion:

We recognise the fact that we have children of differing ability in all our classes, and so we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies that are essential to developing a more inclusive curriculum:

- Setting common tasks that are open-ended and can have a variety of outcomes.
- Providing appropriate support to pupils to support them in succeeding in the activity.

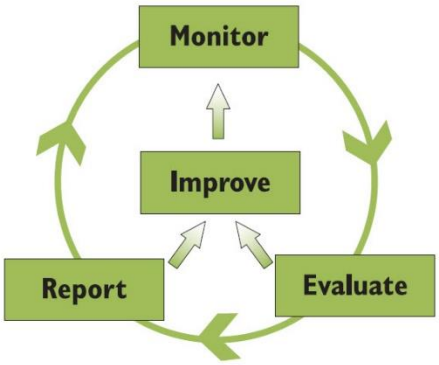
Responses;

- Setting tasks of increasing difficulty where not all children complete all tasks;
- Providing a range of challenges with different resources;
- Using additional adults to support the work of individual children or small groups.
- Ensuring that children with Special Educational Needs will be given an equal opportunity to study Computing. These children will be provided with all of the necessary materials to succeed and be inspired, supported by their 1-1 support where necessary.

- The Computing Co-ordinator will liaise with the SENCO to ensure that every child has differentiated access to Computing so that they can achieve their full potential in this subject, including provision of differentiated resources or tasks where necessary.

The Role of the Computing Co-ordinator is to:

- Lead the development of Computing in school
- Ensure the safety of all children online through monitoring e-safety practice
- To appropriately log and respond to any logged e-safety concerns (through CPOMs)
- Act as admin for Purple Mash to ensure all children have logins
- Provide guidance to individual members of staff
- Ensure the staff can use ICT resources effectively and confidently through individualised support or staff training
- Keep up to date with local and national developments in Computing and disseminate relevant information
- Review and monitor the success and progress of the planned units of work
- Be responsible for the organisation and maintenance of Computing resources
- Co-ordinate any displays of Computing
- Co-ordinate the collection of samples of work for the Computing portfolio.
- Ensure governors are kept up-to-date with progress across the school – re data – assessments, quality of teaching and learning, workshops, training etc.
- To monitor the children's ICT work, looking at samples of different abilities.
- To attend appropriate training.



Health, Safety and Security

All ICT equipment is used within the Health and Safety Guidelines set by the school.

- Teaching staff should ensure that children are seated comfortably when using the computers and be aware of continuous use e.g. eye/wrist strain etc.
- Pupils are encouraged not to use the computers for long periods of time.
- Food and drink should not be stored or consumed near ICT equipment.
- The school buildings are alarmed and laptops stored in the locked Lap Safe.

- The school secretary keeps the keys for the Lap Safe which is checked at the end of the day to ensure all resources are stored safely over night.
- The E-Safety Policy is shared with all staff.

The role of parents and carers:

Parents and carers are encouraged to be involved with their pupils' learning through using ICT at home when engaging with the children's home learning tasks.

Review:

Curriculum plans, samples of pupils' work, classroom displays and discussions with staff will be used by the Computing Co-ordinator to evaluate the quality of the Computing curriculum in the school.