COMPUTING CURRICULUM AIMS

By the time children leave St. Mary's Catholic Primary School, they will be:

Successful Learners

Through the enjoyment of learning, develop enquiring minds in order to process information, reason, question and evaluate, enabling all children to achieve the best they can now and in the future.

Confident Individuals

Become increasingly independent, are able to take the initiative and organise themselves, showing a willingness to try new things and making the most of opportunities.

Responsible Citizens

Are enterprising, well prepared for life and able to work co-operatively in a diverse, multi-faith/ cultural society.

They take account of and respect the needs of present and future generations in the choices they make and know that they can change things for the better.

To achieve this the school helps pupils: -

- Attain a high standard of achievement, satisfaction and enjoyment in all areas of the curriculum.
- Grow in self-confidence, have a sense of personal worth and be able to adapt to the changing world in which they live.
- Mix with their peers and adults, to communicate feelings and share experiences, building a better understanding and mutual respect for each other.
- Apply themselves to tasks individually and as contributing members of a team.
- Develop a set of moral values, understand the world in which they live and respect the views of others, tolerating different opinions and beliefs whether racial, religious or political.
- Develop lively, enquiring minds with the ability to communicate their findings.
- Be aware of and take an interest in the beauty and wonder of the world around them and recognise the need for conservation.

Our aim is that all pupils have access to a broad, balanced, engaging and enjoyable curriculum. Teachers set high expectations for every pupil, whatever their prior attainment. Assessment is used to set targets which are deliberately ambitious; but which enable pupils to experience success as learners. Potential areas of difficulty are identified and these areas are addressed at the outset through intervention, differentiated resources and targeted teaching to remove barriers to pupil achievement. This results in our Curriculum being accessible to all.

At St. Mary's Catholic Primary School, we offer a curriculum which is broad and balanced, engages and inspires children, yet builds on the knowledge, understanding and skills of all: regardless of their r starting points, as they progress through each Key Stage. The curriculum incorporates the statutory requirements of the National Curriculum and other experiences and opportunities which best meet the learning and developmental needs of the pupils in our school. It ensures that academic success, creativity and problem solving, respect, responsibility and resilience, as well as physical development, well-being and mental health are key elements that support the development of the whole child and promote a positive attitude to learning. The curriculum celebrates diversity and utilises the skills and knowledge of the whole school and wider community while supporting the pupils' spiritual, moral, social and cultural development.

The aim of our curriculum is for pupils to have the requisite skills to be successful, independent and motivated lifelong learners in readiness for their next stage of education. To best meet the needs of all of our pupils, a knowledge-rich yet skills based curriculum is delivered.

Across the EYFS the curriculum is delivered through broad topic work and also through the interests of the children and current themes. In Nursery, planning in the moment can also have an impact on learning and the environment. Staff support children in their choices and provide them with a rich and well-resourced environment. Children across the Foundation Stage are encouraged to become independent learners. Staff challenge children through questioning, specific tasks and independent learning. In Nursery, we build on the foundations to give our children the skills they need when transitioning into Reception. In our Reception class, activities are planned with a variety of adult directed, adult support and independent work. We tailor our curriculum to meet the needs of our children. Where children are ready for a more formal approach, staff will plan for this through directed teaching. Those who still need a play based approach will be supported by all staff through scaffolding and modelling.

If needed, pupils may still work on the Early Learning Goals of the Early Years Foundation Stage Curriculum as they enter Year 1. However, the Year 1 National Curriculum is taught from the outset. Throughout this period and beyond, all children are developing their phonic knowledge using SoundWrite phonics programme.

The RE curriculum is provided as part of each child's entitlement to a broad and balanced education contributing to their spiritual, moral and cultural development.

RE within our curriculum promotes:

- religious literacy
- the chance to think and ask questions
- the development of empathy skills
- a broader understanding of different values
- an awareness of diversity through looking at major religions and beliefs in the UK and beyond

The curriculum is delivered through discretely taught subjects, where possible, the subjects may overlap. The more able are challenged further in their learning and children who find aspects of their learning more difficult are appropriately supported so that they too are enabled to experience success. National requirements and school requirements are mapped out as a whole school and then individual year groups plan the curriculum for their pupils accordingly.

At St. Mary's, we have a highly effective, carefully planned and tightly structured program for phonics teaching. This enables our children to learn phonic knowledge and skills with the expectation that they will become fluent readers, having secured word building and recognition skills. Our children are also taught high frequency words that do not conform to regular phonic patterns.

Reading is a vital life skill that will support children's learning across the whole curriculum. We strive to ensure that our children are taught to read with fluency, accuracy and understanding through a variety of high quality English lessons and learning opportunities across all subject areas. We want children at ST. Mary's to become enthusiastic, independent and reflective readers.

Mathematics curriculum is delivered using a range of resources which are developed around the CPA approach (concrete, pictorial and abstract). In all year groups there are small group interventions to support pupils in gaining the key skills to become successful readers, writers and mathematicians.

Specialist teachers and instructors support some music, physical education and the teaching of MFL. All subject leaders are given training and opportunity to develop their subject knowledge, skills and understanding to ensure curriculum development provides progression and sequencing of concepts across the school. This also enables them to provide high quality support to colleagues to improve pupil outcomes. Enrichment events, whole school activities and opportunities within and outside school all enrich and develop the children's learning.

Our aim is that all pupils have access to a broad, balanced, engaging and enjoyable curriculum. Teachers set high expectations for every pupil, whatever their prior attainment. Children are encouraged to apply skills learned, particularly in English and Mathematics, across the curriculum. Assessment is used to set targets which are deliberately ambitious; but which enable pupils to experience success as learners. Potential areas of difficulty are identified and these areas are addressed at the outset through intervention, differentiated resources and targeted teaching to remove barriers to pupil achievement. This results in our curriculum being accessible to all. Provision for the Most Able pupils is a mixture of depth and mastery with opportunities for independent working and reflection. Where appropriate, children working within the greater depth area of the curriculum are provided with an individual activity or challenge which reflects a greater depth of understanding and higher level of attainment.

After school clubs and events extend these opportunities further. Additional whole school programmes and approaches support quality teaching and learning and the school is well resourced in terms of learning materials, books and technology.

The outdoor environment and the local community are considered an opportunity for active learning for all our pupils. The school grounds have been developed so they can enrich different curriculum areas, particularly science.

Pupils have opportunities to share their learning with each other, their parents, carers and other learners through school-based and external exhibitions, performances, competitions and events involving other schools. Developing their independence and motivation as learners and their sense of responsibility as future citizens is at the heart of all our teaching and learning.

Computing

Purpose of study

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

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

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Subject content

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

Computing - End of Year Expectations - EYFS

Three and Four-Year-Olds	Personal, Social and Emotional Development		• Remember rules without needing an adult to remind them.
	Physical Development		• Match their developing physical skills to tasks and activities in the setting.
	Understanding the World		• Explore how things work.
Reception	Personal, Social and Emotional Development		• Show resilience and perseverance in the face of a challenge. • Know and talk about the different factors that support their overall health and wellbeing: - sensible amounts of 'screen time'.
	Physical Development		• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
	Expressive Arts and Design		• Explore, use and refine a variety of artistic effects to express their ideas and feelings.
ELG	Personal, Social and Emotional Development	Managing Self	• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. • Explain the reasons for rules, know right from wrong and try to behave accordingly.
	Expressive Arts and Design	Creating with Materials	• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Computing - End of Year Expectations - Year 1

Computer Science	• Understand algorithms as a set of instruction and how they are used to make programs and use logical reasoning to create and make predictions about simple programs.
Information Technology	• Use technology for a range of purposes including creating, organizing and storing digital content. • Describe common uses of information technology beyond school. • To have an understanding of how to create digital media.
Digital Literacy	• Use technology safely and respectfully keeping personal information private and know who to ask for help about content or contact on the internet or other online technologies.

Computing - End of Year Expectations - Year 2

Computer Science	• Understand algorithms as a precise set of instruction and how they are used to make programs and use logical reasoning to create, debug and make predictions about programs.
Information Technology	• Use technology for a range of purposes including creating, organizing and storing digital content which they can retrieve and manipulate. • Describe common uses of information technology beyond school.
Digital Literacy	• Use technology safely and respectfully keeping personal information private and know who to ask for help when they have concerns about content or contact on the internet or other online technologies.

Computing - End of Year Expectations - Year 3

Computer Science	• Design and debug programs that accomplish a specific goal that use a sequence to control a physical system.
Information Technology	• Choose from a variety of software and internet services to accomplish a given goal for example collecting data. • Use data software to design and create digital content.
Digital Literacy	• Use technology safely, respectfully and responsibly and recognise acceptable or unacceptable behaviour. To identify a range of ways to report concerns about content and contact. • Understand the opportunities computer networks have for communication e.g. e-mailing.

Computing - End of Year Expectations - Year 4

Computer Science	• Use logical reasoning to explain how some simple algorithms work. • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems working with variables.
Information Technology	• Choose from a variety of software and internet services to accomplish a given goal through collecting and combining information on data. • Use data software to design and create digital content to accomplish a given goal.
Digital Literacy	• Use technology safely, respectfully and responsibly and recognise acceptable or unacceptable behaviour identifying ways to report concerns about content and contact. • To be selective when using digital content and appreciate how search results are selected.

Computing - End of Year Expectations - Year 5

Computer Science	• Use logical reasoning to explain how some simple algorithms work. • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems working with variables.
Information Technology	• 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 and analyse and evaluate data.
Digital Literacy	• Understanding the importance of using technology safely, respectfully and responsibly identifying ways to report concerns about content and contact. • Use search technologies effectively and appreciate how results are selected and ranked, and be discerning in evaluating digital content

Computing - End of Year Expectations - Year 6

Computer Science	• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems to 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.
Information Technology	• Understand computer networks including the internet and how they can provide multiple services, such as the world wide web and the opportunities they offer for communication and collaboration. • 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.
Digital Literacy	• Understanding the importance of using technology safely, respectfully and responsibly identifying ways to report concerns about content and contact. • Use search technologies effectively and appreciate how results are selected and ranked, and be discerning in evaluating digital content. • Understand the basic working of computer networks and the opportunities they offer for collaboration.