

Computing Curriculum Intent:

Computing is an ever changing, with innovative technology becoming available daily. It has become essential that people are able to use diverse types of technology to access the world around them. Although we do not always know the direction computing is moving in from year to year, we can be certain that it will continue to change and develop. For this reason, we need to ensure that our children have all the necessary skills to succeed in the developing world we live in.

At St. Michael's, we have designed our computing curriculum to allow children to develop essential skills and building up from the foundations to achieve a high-quality computing education. We provide our pupils with a wide range of opportunities to use technology in different ways. Our intent is to enable all children to become skilled with computer technology and to feel confident to use different programs effectively.

Our computing curriculum, in line with the national curriculum, aims to ensure that all pupils:

- Can understand and apply the fundamental principles and concepts of computing, including abstraction, logic, algorithms, and data representation. This will ensure that the children have a secure understanding of the key knowledge and concepts of computing and can explain and apply them.
- Can use technology responsibly and carefully, being mindful of how their behaviour, words and actions can affect others.
- Gain experience and skills of a wide range of technology in a way that will enhance their learning opportunities, enabling them to use technology across a range of subjects to be creative and solve problems, ensuring they make progress.

Aims *(taken from the new curriculum)*

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 Curriculum Implementation:

We have developed a computing curriculum that builds on previous year's knowledge and skills to ensure progression year on year. We use the Rising Stars 'Switched on Computing' scheme of work to ensure there is consistency throughout the school.

Computing is taught as a stand-alone subject; however, teachers often use many of the skills taught in other curricular areas to enhance learning.

The computing curriculum is organised into several strands taught in all year groups. These are:

- Programming – using the online resource 'Discovery Education Coding'
- Computational thinking
- Creativity
- Computer Networks
- Communication and Collaboration
- Productivity

Switched on Computing has been designed to cover all the requirements of the Computing programme of study in a way that is intended to develop pupils' understanding of the concepts, practices and perspectives that underpin programming and other aspects of computer science. It provides many opportunities for creative, collaborative project work in which pupils can acquire the information technology skills they will need, as well as helping pupils to understand the implications of technology for individuals and society as they become digitally literate.

Skills are revisited and developed each year. This enables the children to consolidate the skills they have learned which then become key transferable skills that can be used throughout the curriculum.

The teaching of online safety is interwoven into the scheme of work units. The skills taught are highlighted on the online safety roadmap for each year group. In addition, online safety is taught during discrete computing lessons, as well as part of our PSHE curriculum. For these lessons teachers use planning and resources from the 'Project Evolve Toolkit' and cover the following strands:

- Self-image and identity
- Online relationships
- Online reputation
- Privacy and security
- Managing online information
- Health, wellbeing and lifestyle
- Online bullying
- Copyright and ownership

Computing Curriculum Impact:

Our children enjoy and value Computing and know why they are doing things, not just how. We want learners to discuss, reflect and appreciate the impact computing has on their learning, development and well being, understanding that finding the right balance with technology is key to an effective education and a healthy life-style. We endeavour for our children to be confident and

creative users of technology, able to solve problems and communicate effectively whilst using technology in a safe and responsible way.

Progress in Computing is demonstrated through regularly reviewing and scrutinising children's work to ensure that progression of skills is taking place. This is achieved through:

- Looking at pupils' work, especially over time as they gain skills and knowledge
- Observing how they perform in lessons
- Talking to them about what they know.