

Our school is a Rights Respecting School whereby all respect the United Nations Convention on the rights of the child and the responsibilities that come with those rights.



St. Michael in the Hamlet Primary School – Computing Policy 2020/2021

The use of computers and computer systems is an integral part of the National Curriculum and knowing how they work is a key life skill. At St. Michael in the Hamlet Primary School, we consider the development of children as lifelong learners essential and a child's ability to use digital technology responsibly, safely and effectively important.

We exist 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 SMiTH we recognise that pupils are entitled to a broad and balanced computing education with a structured, progressive, approach to learning how computer systems work, the use of information technology (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 deliver this provision.

Aims

Provide a broad, balanced, challenging and enjoyable curriculum for all pupils.

- ② Develop pupil's computational thinking skills that will benefit them throughout their lives.
- ② To equip pupils with the confidence and skills to use digital tools and technologies throughout their lives.
- ② Meet the requirements of the national curriculum programmes of study for computing at Key Stage 1 and 2.
- ② To respond to new developments in technology.
- ② To enhance and enrich learning in other areas of the curriculum using IT and computing.
- ② To develop the understanding of how to use computers and digital tools safely and responsibly.

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

- ② can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication;
- ② can analyse problems in computational terms, and have repeated practical experience of writing computer programs;
- ② can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems;
- ② Are responsible, competent, confident and creative users of ICT.

Computing: Early Years Foundation Stage to End of KS2

EYFS:

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 should feature IT scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities such as 'programming' each other using directional language to find toys/objects, creating artwork using digital drawing tools and controlling programmable toys. This links to the

By the end of 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 a sequence of instructions
- write and test simple programs
- use logical reasoning to predict and computing the behaviour of simple programs
- organise, store, manipulate and retrieve data in a range of digital formats
- communicate safely and respectfully online, keeping personal information private, and recognize common uses of information technology beyond school.

By the end of key stage 2 pupils should be taught to:

- design and write programs that accomplish specific goals, including controlling or simulating physical systems;
- use sequence, selection, 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 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
- 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.

In order to meet these expectations, at SMiTH we ensure that the progression is systematic. We ensure that children have access to a range of resources including laptops, iPads, BeeBots, an interactive whiteboard, a classroom computer and a range of educational software across the

curriculum. Where appropriate, computing is used to develop cross-curricular links. Children's experiences and produced work is monitored and evaluated and that staff skills and knowledge is kept up to date. Where possible, we aim to ensure that resources and equipment are up-to-date.

Teaching and Learning at St Michael in the Hamlet Primary School (SMiTH)

Our **intent** when teaching Computing is to:

Offer a structured sequence of lessons in units, helping teachers to ensure that they have covered the skills required to meet the aims of the national curriculum. The content allows for a broad, deep understanding of computing and how it links to children's lives in school and beyond. This allows children to apply the fundamental principles and concepts of computer science. They develop analytical problem-solving skills and learn to evaluate and apply information technology safely. It also enables them to become responsible, competent, confident and creative users of information technology. We promote digital literacy.

We **implement** by:

Providing lessons that contain an opportunity to revisit concepts and complete analysis and problem-solving. Through our delivery of computing, we intend to inspire a love of the digital world, see its place in their future and give teachers the confidence to deliver. Cross-curricular links will be made, where possible, to support other areas of learning. Our plans and resources are used in combination to ensure children are exposed to a rich variety of activity. In KS1, the focus is on developing the use of algorithms, programming and how technology can be used safely and purposefully. In KS2, lessons still focus on algorithms, programming and coding but in a more complex way and for different purposes. Children also develop their knowledge of computer networks, internet services and the safe and purposeful use of the internet and technology. Data Handling is featured more heavily in UKS2. Skills learnt through KS1 and LKS2 are used to support data presentation. Adult guides/plans are offered from which to base planning, enabling staff to feel confident in the progression of skills and knowledge and that outcomes have been met. An example of keywords has been included in plans, showing the progression of specific language involved in children's learning so that teachers can also assess understanding and progress through vocabulary. We aim to provide a computing curriculum that encourages children to build and create links over time.

The **impact** will be:

Learning in computing will be enjoyed across the school. Teachers will have high expectations and quality evidence will be presented in a variety of forms. Children will use digital and technological vocabulary accurately, alongside a progression in their technical skills. They will be confident using a range of hardware and software and will produce high-quality purposeful products. Children will see the digital world as part of their world, extending beyond school, and understand that they have choices to make. They will be confident and respectful digital citizens going on to lead happy and healthy digital lives.

Assessment

The subject lead monitors computing across the school to ensure coverage and that children are working towards their objectives. It is assessed formatively within lessons based on objectives and outcomes identified in planning. This is an informal process and includes open questioning, class discussion, child explanations, examples of work and mini plenary opportunities. As well as this, the work is assessed summatively where appropriate. Assessment is used to inform future planning and target setting. Work is saved on the school network or may be printed and filed within the appropriate subject books/folders.

Resources

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards consistent, compatible computer systems by investing in resources that will effectively deliver the objectives of the National Curriculum and support the use of IT, computer science and digital literacy across the school. Computing network infrastructure and equipment has been sited so that:

- Every classroom from nursery to Y6 has a computer connected to the school network and an interactive whiteboard with sound, DVD and video facilities.
- There 30 laptops and 25 iPads
- There is an iPad Sync & Charge cabinet in school containing 10 USB ports
- Internet access is available in all classrooms.
- Each class from YN – Y6 has an allocated slot per week for teaching computing as a discrete subject.
- Laptops and iPads are available for use throughout the school day as part of computing lessons and for cross-curricular use. *Note: In line with current Covid-19 guidelines, all technology is timetabled to ensure that it is safe and sanitised for use across the school.*
- Pupils may use IT and computing independently, in pairs, alongside a TA or in a group with a teacher. *Note: In line with current Covid-19 guidelines, children are mostly accessing technology independently.*
- The school has a computing technician (Mr. Seldon) who ensures technology is functional. He provides support to staff in school on a timetabled basis.
- A governor will be invited to take a particular interest in computing in the school.

Monitoring

In monitoring the quality of computing teaching and learning the coordinator will:

- Scrutinise plans to ensure full coverage of the computing curriculum requirements
- Analyse children's work
- Hold discussions with teachers and children to gain an understanding on a range of perspectives.

COVID-19 UPDATE:

In line with Covid-19 guidelines and the school's Covid-19 policies, all resources shared as a school have been timetabled to ensure that there is appropriate time between use. This allows for all resources to be sanitised individually to reduce risk of contamination. This is under constant review.

Miss J Norman (September 2020)