

# Mugginton Church of England Primary School



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## Computing Policy

*This policy has been written in accordance with the Christian ethos of our school, our recognition of British values, an awareness of our position in the Global community and taking account of all current Safeguarding and Child Protection guidance and the new national curriculum September 2014.*

*'Empowering children to engage positively with the digital world with confidence, safety and creativity.'*

At Mugginton Church of England Primary School, we aim to equip pupils with the skills and knowledge to use computational thinking to become active, competent and responsible individuals in their rich digital worlds. Our Computing curriculum provides opportunities for all pupils to become digitally literate, and to have the skills to express themselves and develop their ideas within a variety of contexts through digital technology in a safe and mature manner.

We recognise the joy which computing/ICT can give. It is one medium through which our children will access the wider world and is an integral part of life and of all learning. Computing is taught discretely and through cross-curricular teaching, with relevant and purposeful content which aims to develop and foster love of the subject. Through practical and meaningful real-life contexts, pupils learn a variety of transferable skills and have the opportunity to continually practise, apply and build upon previous learning.

We offer fun and balanced coverage of the three strands of Computing: Computer Science, Information Technology and Digital Literacy alongside a secure base of fundamental technological skills such as word processing, online research, presenting data, retrieving and manipulating digital content and creating simple programs. Pupils have the opportunity to explore, discuss and evaluate online digital content, so that they value online safety and show respect for themselves and others when communicating digitally. Through investigative, problem-solving experiences children build resilience and perseverance where they are challenged as critical-thinkers. Cross-curricular links motivate and support pupils to make connections across subject areas and develop an awareness of the multitude of uses for technology within their daily lives. Pupils are taught valuable technological skills that will empower them to become successful, independent, life-long learners with a secure knowledge of how to stay safe online.

**At Mugginton, we promote pupils' SMSC development in Computing through the following ways:**

- Using a range of social skills within different contexts through independent, partner and group work
- Recognising the difference between right and wrong and understanding consequences for their actions when using technology and communicating through digital platforms
- Respecting the feelings and opinions of others and how they express themselves creatively through technology
- Understanding and appreciating technological advances made historically within global communities and recognising the continuing digital development in Britain and the rest of the world

We hope that by providing our pupils with an exciting and progressive Computing curriculum, that addresses the challenges and opportunities offered by the technology rich world in which we live, they will be confident contributors to society as responsible digital citizens.

## Intent

Our Computing curriculum encompasses the aims of the National Curriculum to ensure 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

We aim to develop our children's use of computational thinking and creativity to understand the world and make positive changes to their lives. The core of our curriculum is computational understanding and computer science—the principles of information and computation and how to put this knowledge to use through programming.

To develop a love for and appreciation of computing and ICT applications—how they enhance our lives and how they can be used safely as tools for good.

To respond to new developments in technology and know how to use it safely and how to ask for help if they meet with something which makes them feel uncomfortable.

To enhance learning and motivation in other areas of the curriculum using IT and computing.

To ensure that through careful differentiation and management of classroom activities that all pupils are able to make good and better progress and meet with appropriate challenge.

### Teaching & Learning

We aim to ensure that all pupils:

can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation and communication

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

### In a Computing lesson at Mugginton, you will see:

Happy children, working with purpose individually or in groups. The children will be able to use age-appropriate vocabulary to tell you what they are learning and what skills/knowledge they need to use in order to succeed. They will be able to tell you about the different programs and applications they have used and what they particularly enjoy doing. Junior-aged children will be able to show a visitor their file and talk about the progress they have made in the subject and pieces of work they are most proud of. Children will be able to explain the key messages which help them to stay safe online.

## Implementation

In foundation stage children use IT in a range of contexts through a broad play-based experience:

Using electronic toys in play situations e.g. remote controlled cars. Playing back sounds recorded on a computer or sound player.

Interacting and exploring their outdoor environment using multimedia equipment, including digital cameras, video cameras and microscopes to capture still and moving images.

Using ipads to play games or to create a story.

Using programmes on the netbooks and interactive whiteboard.

We relate this to the objectives set out in the Early Learning Goals (ELGs), which underpin the curriculum planning for children aged three to five.

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 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.

By the end of 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.

### Teaching computing & IT to children with special needs

All teaching and non-teaching staff are responsible for ensuring that all pupils irrespective of gender, ability, ethnicity and social circumstances have access to the whole curriculum. All pupils are set appropriate work according to their ability, not age. Special needs pupils may be supported in a variety of different ways – see SEND policy.

## Impact

Teaching staff make short-term assessments during every lesson. For example, by evaluating children's responses to questions and written tasks, scrutinising their saved files or by watching their programming sequence run. Children are given the opportunity to reflect on their learning and feedback to their teachers and support-staff. This information is recorded in lesson evaluations and this knowledge influences the upcoming sequence of lessons.

Medium-term assessments are carried out at the end of each unit. A range of assessment activities including formal tests, teacher-prepared tests, book scrutiny and pupil-discussion is used to measure progress. These data are also used to inform planning and identify children for additional intervention programmes.

### **Assessment and recording**

See policy on Foundation Stage Assessment, Reporting and Recording.

#### Resources

Interactive whiteboards are installed in both classrooms. A bank of netbooks and i-pads are available for use. These are connected to the network and are stored in a locked trolley.

Other computing resources include;

A programmable robot,

Eggboxes for control technology

Dataloggers

Digital microscopes,

Tuff cams,

Sound recorders.

Remote controlled cars

#### Monitoring & Review

The computing coordinator monitors the work of pupils throughout the school and the Headteacher reviews the planning for each key stage termly. It is the responsibility of all staff to monitor and evaluate the curriculum provision for music within the school in order that pupils make the greatest progress.

Evaluation may take place by several methods including:

Assessment of pupils' work and their achievements.

Analysis of teacher's planning as seen in the long and short term plans.

Discussion between staff.

Classroom observation.

External inspection and advice.

Pupil interviews.

At the end of the topic teachers review their work and annotate plans for future reference.