

Computing 3 I's

Intention

We aim to equip our children with the many skills and knowledge they need to adapt to the ever-changing landscape of the digital world. During their time with us, our children will develop the confidence to make use of digital aids, such as computers, as a tool in their learning experience and to become fluent with the technology which will be an integral part of their future life on a personal, national and global level.

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; 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; 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.

Mundy CofE Junior School intends to cover these targets set by the National Curriculum using an enjoyable and bespoke curriculum which adapts to the needs of our children and the ever-evolving digital landscape. This includes the focus points of digital literacy, digital safety and computing ability to ensure effective computer skills are met during a child's time with us.

- An exciting curriculum that addresses the challenges of technology while showing children the many opportunities that can come from working with technology.
- Children are taught proper online etiquette so that they can keep themselves safe while using technology and to adapt to any changes they encounter in their future. This includes identifying safe and unsafe websites, real and fake news, data and information ownership including cookies and social media safety.
- Knowledge of computational systems of all kinds and an ability to apply computational thinking to solve problems, design systems and understand the power and limits of human and machine intelligence.
- Children make significant progress with their digital literacy skills through effective use of different software and deepening their understanding of the real life applications of these fluency skills.

- A practical project-based approach to programming which allows children to continue to develop their individual problem solving and reasoning skills.
- Children are given the knowledge of how to apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Children are able to analyse problems use computing vocabulary and continue to solve more and more complex problems as they progress through the curriculum.
- Children begin to apply their digital knowledge and skills learnt to areas across the wider-curriculum and in the wider world.

Implementation

We have ensured that each class has access to full class of computers each week to fulfil these objectives. Lessons are taught using laptops, iPad, cameras as well as unplugged activities and discussions. Each student has the use of their own computer as well as several personal accounts which encourages them to take personal responsibility for their digital education. Lessons are focused on digital literacy to ensure that our children's fluency is at a standard to maximize the benefits of these learning tools. Once digital fluency has improved to an effective standard, children are further encouraged to apply these skills to the wider curriculum and witness how their digital literacy can aid in their wider learning experience. There are also lessons focused on computing skills which our children continue to develop during their time at Mundy CofE Junior School. These skills are then applied to several larger projects allowing children to appreciate the application of the knowledge that they have accumulated.

Digital safety is integral to our children's computing curriculum. Children are taught online safety naturally through our curriculum, issues that can arise from the types of technology that the children interact with are addressed by teachers who demonstrate the proper etiquette to adapt to these issues in this rapidly changing digital world, all this is done in a safe and monitored learning environment.

We understand that children can vary greatly in their levels of computer fluency. Our lessons are planned so that all children can access the objectives while more skilled individuals can continue to feel challenged throughout their learning experience. This is achieved by:

- A combination of guided, teacher led and independent tasks.
- A range of projects with an in-built challenge that allows all children to showcase their individual ability.
- Word processing and digital literacy development tasks to build fluency.
- Whole class discussions of experiences online.
- Real-world examples reported in the media to aid knowledge and retention.
- Programming and computational thinking using Scratch.
- Online quizzes on learned knowledge to promote retention and memory.

Impact

During their time at Mundy CofE Junior School, children will obtain all the knowledge and skills needed to prepare them for the next steps in their learning at secondary school.

Children are assessed throughout the year to ensure that are meeting the targets of the computing curriculum. They are assessed in the following ways:

- Digital fluency tests to ensure that typing speed and accuracy is at the age-related level
- Children given the chance to apply their knowledge of online safety in specific scenarios which are monitored by the teacher.
- Children are asked open-ended questions and given open-ended projects where they can show the extent of their computing knowledge.
- Computers are used in the wider curriculum to aid in research with teachers monitoring the quality of information that children are able to gather independently and how this information is made use of in future work.
- Children's computing project such as Scratch coding or music lab produce a finished product which can then be reviewed against targets set. Children are able to view each other's work and make further analysis or changes if deemed necessary.