'Together we grow'

Emmaville Primary School

Computing Policy

Computing Co-ordinator: Sue Lawrence

Rationale

Computing prepares pupils to participate in a rapidly changing world in which they work and other activities are increasingly transformed by access to varied and developing technology. Pupils use ICT to find, explore, analyse, exchange and present information responsibly, creatively and with discrimination. ICT promotes initiative and independent learning, with pupils being able to make informed judgements about when and where to use ICT to its best effect.

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 and Objectives – Intent

The national curriculum for computing aims to ensure that all pupils:

- are able to understand and apply the fundamental principles and concepts of computing science, including abstraction, logic, algorithms and data representation
- are able to analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve problems
- are able to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- will be responsible, competent and creative users of information and communication technology

Approaches to learning - Implementation

At Emmaville, teachers provide balance in teaching approaches, and the planned sequence of work throughout the school encourages pupils to use prior knowledge when approaching new work. The National Curriculum for Computing is used as a framework for computing content, skills and pupil expectations at our school. To support our key principles, we will deliver this curriculum through:

- A clear and effective, bespoke cross curricular scheme of work that provides coverage in line with the National Curriculum. Teaching and learning should facilitate progression across all key stages within the strands of digital literacy, information technology and computer science
- Access to resources which aid in the acquisition of skills and knowledge.
- Children will have access to the hardware (computers, tablets, programmable equipment) and software that they need to develop knowledge and skills of digital systems and their applications
- Teaching and learning should facilitate progression across all key stages within the strands of digital literacy, information technology and computer science. Children will have the opportunity to explore and respond to key issues such as digital communication, cyber-bullying, online safety, security, plagiarism and social media.
- The importance of online safety is shown through displays within the learning environment.

The children will be able to work independently, in mixed ability pairs, and in groups, allowing all children access to the curriculum. A variety of teaching methods best suited to activities and interests of the pupils will be used, including teacher demonstrations, whole-class/group/paired discussions, role-play activities, video clips and animations, focused investigations and experiments, close observations and many practical experiences.

- **In Foundation Stage,** Nursery and Reception follow the Early Years Foundation Stage statutory framework for the teaching of ICT. Information Communication Technology is found within the specific area Understanding the World: Technology. Objectives and Early Learning Goals detail the knowledge, skills and understanding for ICT within the EYFS. The children are provided with a range of opportunities to use the Smart interactive whiteboards, laptops, and iPads. The children also have access to CD players, technological toys, as well as a range of other technical equipment. Themes follow the interests of the children through a child initiated approach to teaching and learning.

- **In Key Stage One,** the children will learn to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. They will be taught to create and debug simple programs and use logical reasoning to predict the behaviour of simple programs. They will be shown how to use a range of technology purposefully to create, organise, store, manipulate and retrieve digital content as well as recognise common uses of information technology beyond school. They will be taught to 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.

- **In Key Stage Two,** the children will design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. They will use sequence, selection, and repetition in programs, use logical reasoning to explain how some simple algorithms work and correct errors in algorithms and programs. Children will be taught to understand computer networks, including the internet, and the opportunities they offer for communication and collaboration. They will use search technologies effectively, learn to appreciate how results are selected and ranked, and be discerning in evaluating digital content. Children will be taught to select, use and

combine a variety of software (including internet services) on a range of digital devices to create a range of programs, systems and content that accomplish given goals. They will use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Assessment - Impact

The way in which we have designed the computing curriculum is to help the pupils to meet the attainment goals, known as milestones. As learning is a change to long-term memory, it is impossible to see impact in the short term and we believe that sustained mastery takes time. The milestones describe attainment at the end of a two-year period.

Milestone 1 – at the end of Key Stage 1
Milestone 2 – at the end of Lower Key Stage 2
Milestone 3 – at the end of Upper Key Stage 2

As much of the computing curriculum has a practical element to it, actual recording of the lessons in books will not always be evident. The co-ordinator will ensure that there is pictorial evidence of lessons where appropriate. Assessment will also be carried out using questionnaires so the pupils can assess their learning and give valuable feedback.

The Role of the Co-ordinator

- To take the lead in curriculum development in consultation with the headteacher, staff and governors;

- To monitor the teaching of computing in the school, ensuring that there is sufficient coverage and progress in the subject;

- To lead curriculum meetings;

- To attend computing network meetings and relevant courses;

- To support staff by providing information on training;

- To ensure that there are appropriate resources to support the computing curriculum.

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COVID – 19 amendment

At Emmaville, we are aware that all children will all have had different learning experiences during the time they were away from school. It is our intention to ensure that all children are able to access the computing curriculum we provide. We will ensure that any 'gaps' in knowledge are addressed though discussion with teaching staff and lessons will be adapted to ensure full coverage of the subject.

We will also ensure that e-safety lessons are given a priority early in the Autumn term to ensure that all of our pupils know how to stay safe when accessing online learning.