Whole School Curriculum Design: Computing INTENT – IMPLEMENTATION - IMPACT

Intent

We believe that an engaging and motivating Computing curriculum will enable our learners to use computational thinking and creativity to understand and change the world. They should be able to use their skills across the curriculum making links with other subjects. We will help them to understand the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Our curriculum enables children to become digitally literate, express themselves and develop ideas through information and communication technology.

We intend to deliver high-quality teaching and learning opportunities that inspire all children to succeed in computing and in developing life skills. We want to teach children skills to keep them safe when using the internet and to recognise when they should ask an adult for support if they see content, they find upsetting online.

We want our pupils to be confident with their computing skills, knowledge and understanding and to develop an understanding of the wider applications of computer systems and communication technology in society. We will help our children to use independent and logical thinking through reasoning, decision making and problem solving. The children will be given the opportunity to develop their imagination and creativity and be comfortable both working independently or collaboratively.

We offer a structure and sequence of lessons to help teachers ensure they have covered the skills required to meet the aims of the national curriculum. The content we have chosen is underpinned by 3 key areas 'Digital Literacy', Computer Science' and 'Information Technology'.

SMSC

Computing will prepare children for the challenges of living and learning in a technologically enriched, increasingly interconnected world. It will make clear the guidelines about the ethical use of the internet, how we keep ourselves and others safe and awareness of the moral dilemmas created by technological advances.

Implementation

When designing our curriculum, we have implemented the use of two core documents: the National Curriculum Programme of Study for Computing and the Statutory Framework for Early Years Foundation Stage.
Long term and medium term planning has been developed using the Purple Mash Scheme of work and demonstrates coverage and progression of the attainment expectations at the end of Key Stage 1 and Key Stage 2 as identified in the Computing POS.

EYFS

Although the 'Technology' strand has been removed from 'Understanding the World' in the new EYFS curriculum 2021, the children in the Early Years will continue to their build confidence when using technology purposefully through cross curricular links, such as communication and language, mathematics, physical development and the characteristics of effective learning.

KS1

Computer Science-The children will learn about algorithms, how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. They will create and debug simple programs and use logical reasoning to predict the behaviour of simple programs.
Information Technology- Children will find out how to use technology purposefully to create, organise, store, manipulate and retrieve digital content.
Digital literacy- Children will develop their confidence recognising common uses of information technology beyond school. They will be encouraged and taught how 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.

KS2

Computer Science- Children will learn to 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 develop their use of sequence, selection, and repetition in programs; work with variables and various forms of input and output. They will become confident when using logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. They will be able to explain their understanding of computer networks including the internet; how they can provide multiple services, such as the World Wide Web and appreciate how [search] results are selected and ranked.
Information Technology– Children will use search technologies effectively. 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.
Digital Literacy- Children will understand the opportunities [networks] offer for communication and collaboration. They will be discerning in evaluating digital content and use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour and identify a range of ways to report concerns about content and contact.

E-safety

Across the school we use a progressive e-Safety curriculum that ensures all pupils can develop skills to keep them safe online. Opportunities for learning about e-Safety are part of PSHE and reinforced whenever technology is used. Clear rules for e-Safety are agreed by each class at the beginning of every year. The school supports the international Safer Internet Day each February and provides opportunities for pupils to consider cyberbullying as part of Anti-Bullying week in the autumn term. The school has an e-safety policy in place that details how the principles of e-safety will be promoted and monitored.

Impact

We believe that the impact of using our computing curriculum and progressive units will ensure that learning is loved by teachers and made engaging and fun for all children across our school. We aim to equip children with the necessary lifelong skills needed to support their use of technology now and in the future. They should also be able to demonstrate the communication, teamwork and leadership skills in which they can transfer to other situations.

We measure the impact of our curriculum through the following methods:

- Whole class tracking with statements for each thread of Computing, 'Digital Literacy' Computer Science' and 'Information Technology'. This ensures teachers are aware of children working below expected level, at expected level and working in greater depth in computer science, information technology and digital literacy.
- Formative assessment is used by the class teacher during whole class or group teaching. Children's confidence and difficulties are observed and used to inform future planning.
- Open questions are used to challenge children's thinking and learning.
- Children are encouraged to evaluate their own and others' work in a positive and supportive environment, including peer assessment.
- Information is shared with the school community through whole school topics such as 'Safer Internet Day', displays, newsletters, and end of year reports.
- Governor monitoring with our subject Computing co-ordinator.
- Annual reporting of standards across the curriculum.
- Analysis of assessment data.