Computing

Intent:

All pupils at Christ the King have the right to have rich, deep learning experiences that balance all the aspects of computing. With technology playing such a significant role in society today, we believe 'Computational thinking' is a skill children must be taught if they are to be able to participate effectively and safely in this developing digital world. A high-quality computing education equips pupils to use creativity to understand a changing world. Computing has deep links with mathematics, humanities, science and design and technology and provides insights into both natural and artificial systems. At Christ the King, the core of computing is Computer Science in which pupils are introduced to a wide range of technology, including laptops, iPads and interactive whiteboards, allowing them to continually revisit, practise and improve the skills they learn. This ensures they become digitally literate so that they are able to express themselves and develop their ideas through information and computer technology at a level suitable for the future workplace and as active participants in a digital world. We teach a curriculum that enables children to become effective users of technology who can:

♣ Understand and apply the essential principles and concepts of Computer Science, including logic, algorithms and data representation;

♣ Analyse problems in computational term, and have repeated practical experience of writing computer programs in order to solve such problems;

♣ Evaluate and apply information technology analytically to solve problems;

♣ Communicate ideas well by utilising appliances and devices throughout all areas of the curriculum.

Implementation:

We follow a scheme of work called 'Switched on Computing' which has been written by Rising Stars. Switched on Computing uses creative units that are taught throughout the year. Each unit focuses on specific skills and a strand of the computing national curriculum (computational thinking, computer science, information technology and communication). E-Safety is embedded throughout the year and linked to individual units. Staff adapt units to make links with other areas of the year group topics. For example, Year 5 and 6 might make links to designing a computer game linked to Earth and Space. Teachers will plan:

♣ A cycle of lessons for each unit, which carefully plans for progression and depth (including vocabulary);

♣ Regular questions to revisit learning, which are tested regularly to support learners' ability to block learning and increase space in the working memory;

♣ Challenge questions for pupils to apply their learning in a philosophical/open manner;

♣ Trips and visiting experts who will enhance the learning experience e.g. VR Headsets and Garage band (Music link);

♣ Entry and exit assessments to help teachers identify where children need extra support and which pupils need to 'keep up' and 'catch up'.

Impact:

Our Computing curriculum is high quality, well thought out and is planned to demonstrate systematic progression. If children are keeping up with the curriculum, they are deemed to be making good or better progress. In addition, we measure the impact of our curriculum through the following methods:

♣ A reflection on standards achieved against the planned outcomes,

♣ Children can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation;

♣ Children can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems;

♣ Children can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems;

♣ Children are responsible, competent, confident and creative users of information and communication technology.

♣ Tracking of gains from each entry and exit assessment;

♣ Pupil discussions about their learning.