Computing

Our Vision

We believe that through computing, our children will gain the confidence and ability they need to prepare them for the challenge of a rapidly changing and developing technological world. We aim to use ICT to enhance and extend the children's learning across the whole curriculum, whilst developing computational thinking skills, which are vital in enabling children to solve problems, design systems and understand the capability and restrictions of human and machine intelligence.

Computing Curriculum Overview

Early Years

In the EYFS, computing comes under the Curriculum area of 'Understanding the World.' Computing is developed as an integral part of topic work throughout the year. The children have the opportunity to use the interactive whiteboard (IWB), iPads, BeeBots, audio equipment, etc. In EYFS learning environments, ICT will often feature in scenarios based on real world experiences, such as role play. Children gain confidence, control and language skills through opportunities to paint on the IWB or drive remote-controlled toys.

Using ICT in an EYFS setting develops children's skills as they are not afraid of technology and are confident to try using new and unfamiliar equipment. Children are interested and excited by the challenges that ICT equipment offers.

Integrating ICT into the EYFS curriculum supports all areas of learning and development, encouraging collaborative learning, turn taking, vocabulary development and through using different software to support learning.

Language acquisition and development is key in the EYFS and the children are given lots of opportunities to develop their computing vocabulary like the names of ICT equipment.

Key Stage 1

In Key stage 1 the children begin to develop an understanding of technology in the world around us, and how it can help them. They will become more familiar with different components of a computer and develop their keyboard and mouse skills, as well as gaining many computing skills that are transferrable between devices and software. They begin to realise how technology can be used for good in our lives and focus on responsible use of ICT.

The children will be introduced to early programming concepts, including exploring individual commands, predicting the outcome of programs and designing, testing and debugging algorithms.

While exploring different software and tools, children will begin to discover the world of creating media in many different formats, including digital painting, digital writing, digital photography and making music. They will develop the range of tools available for creating

digital paintings, creating and changing text, capturing, editing and improving photographs, and making patterns with digital music tools. Alongside this, they will continue to develop their keyboard and mouse skills. Throughout all the units of work they will develop their computing vocabulary and computational thinking skills.

Key Stage 2

In key stage 2 the children will continue to develop an understanding of technology in the world around us, including developing their understanding of digital devices, with an initial focus on inputs, processes, and outputs. They will gain a greater knowledge of computer systems, how information is transferred between devices and how the internet works. The will learn how we can find information on the World Wide Web and how search engines work, as well as considering the reliability of sources.

The children will continue to develop their programming skills, being introduced to different tools to allow them to create their own programs including sequences.

At Summerville, we want our children to become familiar with many different techniques and tools to create a range of different media. Children will be introduced to desktop publishing and web page creation, focusing on how to make careful choices for the purpose of a document and evaluating the effectiveness of the documents they have produced. They will be introduced to stop frame animation, including adding a variety of media for effect. Throughout Key Stage 2, children will also develop skills in audio, video and photo editing, gaining the skills required to capture, edit and manipulate the different media, whilst focusing on how effective their choices are in terms of the task. The children will also develop an understanding of how technology can be used to create vector images and 3D models using a range of drawing tools.

4 Year Plan

After monitoring Computing and Education for a Connected World, and completing a staff survey, we have realised that there are a lot of issues with the Computing in our school. These include:
- Staff knowledge and confidence in teaching the curriculum
- Children's Computing skills and ability to access the curriculum
- Time constraints within the curriculum

Because of the above issues, we have developed a new 4-year plan beginning in the Spring term of 2020-2021, whereby all KS2 staff will begin teaching the Year 3 curriculum and all KS1 staff will begin teaching the Year 1 curriculum. This will then lead to a 4 year program in order to develop the skills of the staff and children. The four year rolling program will involve a staff meeting the half term before the unit is taught, where the teachers have the opportunity to complete the scheme of work themselves with the support of MB. During the staff meetings, the staff will also be told how the Computing must be recorded and assessed. After the 4 years, all staff should be trained to teach all units in their key stage and the children will have developed the skills required to complete the units in their relevant year group. Staff will also be confident in recording and assessing the Computing.