

Computing at The Mill Academy

Rationale and Intent

All pupils at The Mill Academy have the right to have rich, deep learning experiences that balance all the aspects of computing. Computing, in general, is a significant part of everyone's daily life and children should be able to participate effectively and safely in this digital world.

Computing within schools can therefore provide a wealth of learning opportunities and transferrable skills explicitly within the Computing lesson and across other curriculum subjects. At The Mill Academy, 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 practice 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 aim for our children to have a breadth of experience to develop their creativity, resilience, problem solving and critical thinking skills to develop their understanding of themselves within their community but also as members of a global community and be a responsible digital citizen.

Implementation

Our children begin their journey with technology in Early Years, with access to iPads and BeeBots, as well as some time spent in the computer room to familiarise children with a desktop setup. Teachers facilitate children's curiosity with challenge and modelling how to use the equipment carefully and safely.

In KS1 children continue their journey with the BeeBots, using them more precisely. They learn how to programme a BeeBot to reach a destination and begin to be able to debug when something doesn't work out the way they imagined. In the computer room they improve their mouse control and learn how to log on and off a computer using their own username and password. They learn about online safety and what to do if they encounter something which makes them feel uncomfortable as well as what personal information is and why it is important we don't share it with someone on the internet. Coding then progresses from BeeBots onto a computer-based programme where children learn how to programme a variety of sprites.

In KS2, children continue this coding journey using Scratch. As children progress up KS2 the coding becomes more complex and they are able to create basic games with code. Their digital literacy skills are combined with English, science, history and geography and work is word processed and presentations are created using PowerPoint. Children learn how to use the hardware we have in school including webcams, where they are taught how to take and manipulate pictures, showing them that what they view in the media isn't always accurate. The children are also taught internet safety throughout their time at school. They know how to keep themselves safe online and what to do if they come across something that makes them uncomfortable. KS2 are taught the difference between being a bystander and an upstander and the importance of reporting something they experience happening to themselves or another person, as in accordance with our Anti Bullying Policy and our Online Safety Policy. Upper KS2 understand the importance of media balance and appreciate that as they get older, they are more responsible for their online presence and how often they access a variety of forms of media.

Impact

Our Computing Curriculum is well thought out and is planned to demonstrate progression and build on and embed current skills. We focus on progression of knowledge and skills in the different computational components and alike other subjects discreet vocabulary progression also form part of the units of work.

We measure the impact of our curriculum through pupil discussions and interviewing the pupils about their learning (pupil voice), monitoring with our subject computing lead, opportunities for collaboration between teachers, photo evidence and images of the pupils practical learning and their digital area on the school system to store work.

Children will be confident users of technology, able to use it to accomplish a wide variety of goals, both at home and in school. Children will become critical thinkers that can solve problems. They will be responsible, respectful and safe users of data, information and communication technology.

Children will have a secure and comprehensive knowledge of the implications of technology and digital systems. This is important in a society where technologies and trends are rapidly evolving.

Children will be able to apply the British values of democracy, tolerance, mutual respect, rule of law and liberty when using digital systems.