



Computing

Intent:

At Bessemer we understand the significance that technology plays in all areas of our lives and will increasingly do so in our children's futures. Therefore, we aim for our computing curriculum to enable our pupils to become confident, safe and responsible technology users, imaginative content creators and critical thinkers. We want them to understand the processes, systems and networks that underpin the technology they are using, while developing their computational thinking skills.

Our curriculum asks children to think critically about when and how we choose to use technology. In addition to teaching children the wide range of amazing, helpful and wonderful things we can do with technology, we ask them to consider the safety and legal aspects of content creation and sharing, and how we can use our time most effectively and meaningfully.

Computing is an integral part to a child's education and everyday life. Therefore, we intend to support our pupils to access and understand the core principles of this subject through engaging discrete computing teaching and cross-curricular opportunities.

Implementation:

Our scheme of work for Computing is adapted from the 'Teach Computing' Curriculum, and covers all aspects of the National Curriculum. This scheme was chosen as it has been created by subject experts and based on the latest pedagogical research. The spiral nature of the curriculum allows for children to revisit areas of learning each year, building on their previous understanding, allowing them to embed the subject specific knowledge and practise the key skills in fun, engaging and challenging ways. The curriculum covers the three core areas of learning in Computing: Computer Science, Digital Literacy and Information Technology.

Computer Science:

Beginning in EYFS, children begin to explore the concepts of Computer Science in a play-based way, through using language to give clear instructions, programming Beebots and exploring apps like 'Daisy Dino'. As children move through the school, new concepts are introduced, building on the previous years' skills and knowledge. They use programming software such as Scratch and Logo and Micro:bit kits to develop computational thinking skills. Children learn to use more complex commands such as repetition, selection and the use of variables, and develop their logical reasoning and problem-solving skills when identifying whether given commands will work effectively.

Information Technology:

During computing lessons children learn how to use different software to create and modify digital content (E.g. photographs, sound files and videos, animations, presentations, word processing and data handling). During lessons in other subject areas, children apply and practise these skills, working imaginatively and

creatively to produce work and develop their ideas. Children evaluate the effectiveness of the programs for completing certain tasks, consider which programs may be best to achieve a certain outcomes and when technology can be used to complete a task more efficiently and effectively.

Digital literacy:

Throughout their time at Bessemer, children have opportunities to use a variety of technological devices such as: laptops, iPads, digital cameras and data loggers. Lessons cover understanding how we use technology – both in school and the wider world – and how devices can be connected by networks, such as the Internet. Online safety is embedded throughout our computing curriculum, as well being taught discreetly during PSHE lessons. We also participate in 'Internet Safety Week' in which each class is provided with age appropriate texts and tasks. As a school we also use Google Apps for education. Pupils have their own Google account which they can use to access Google Classroom, where they are able to access documents their teachers share with them and upload home learning files. Pupils use these accounts in lessons to work collaboratively on documents with their peers and to share their work – learning how the Internet allows them to share files, work collaboratively and comment on other's work in a constructive, fair and respectful way.

Through formative assessment opportunities within lessons, teachers are able to identify and target support where appropriate and provide challenge where needed to ensure all learners are able to achieve in line with their abilities. Our schemes of work remain flexible and children share their thoughts on their 'computing learning journeys' to help enable sessions to be adapted to their interests and needs. In order to achieve the outlined intentions, the Computing curriculum is continuously reviewed through monitoring and evaluation by the Subject Leader and Senior Leadership Team.

Staff are provided with selected devices which they can explore within their classrooms and feedback from LA subject lead meetings is shared to ensure that we are using relevant and up-to date technologies. Specific vocabulary for each year group is outlined in the curriculum map and this is regularly modelled by teachers within their lessons. Staff are encouraged to share any gaps in their knowledge and skill sets to inform appropriate and individualised training/CPD.

Impact

Within Computing we encourage a creative and collaborative environment in which pupils can learn to express and challenge themselves. The success of the curriculum itself will be assessed via the analysis of yearly progress data, conducting regular pupil voice sessions, lesson observations and skills audits. This will then inform future adaptations of the schemes of work and help to ensure that progression is evident throughout school.

In order to demonstrate that we have accomplished our aims, pupils at Bessemer Primary School should:

- Be enthusiastic and confident in their approach towards Computing.
- Present as competent and adaptable 'Computational Thinkers' who can use logical reasoning and problem-solving skills, identify and address problems in systems, networks and programs, showing resilience
- Create and evaluate their own project work
- Have a secure understanding of the positive applications and specific risks associated with a broad range of digital technology.
- Transition to secondary school with a keen interest in the continued learning of this subject