Computing Vision for Kingsway Primary School

At Kingsway Primary School, we believe that computing is an essential part of the curriculum. New technologies and the digital world are becoming an integral part of the young people's lives, both within school and in their lives outside of school. It is essential that all pupils gain the confidence and capability they need in this subject to prepare them for the challenges of a rapidly developing and challenging technological world. In addition, the teachers at Kingsway aim to ensure all learners are responsible, safe and positive when they are using technology in any setting.

Our knowledge rich curriculum has to be balanced with the opportunity for pupils to apply their knowledge creatively which will in turn help our pupils become skilful computer scientists. We encourage staff to try and embed computing across the whole curriculum to make learning creative and accessible. In addition, children will also have one discrete ICT lesson per week that is dedicated to the specific computing curriculum. We want our pupils to be fluent with a range of tools to best express their understanding and hope by, Upper Key Stage 2, children have the independence and confidence to choose the best tool to fulfil the task and challenge set by teachers.

Our curriculum is divided into four main themes:
- ❖ Computing systems and networks
- ❖ Creating media
- ❖ Programming
- ❖ Sharing information

The aims of teaching Computing, as outlined in the National Curriculum are to ensure that all pupils:
- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology

By the end of Key Stage 1, children will be able to recognise technology, understand its use and begin to use it safely and responsibly. They will create algorithms and be able to debug programs, as well as design basic animation programs and begin to program sequences of coding. Key Stage 1 children will be able to group data and represent it using a computer. They will create media in the form of digital painting, digital photography, digital writing and making music through the use of technology.

By the end of Key Stage 2, children will have a deeper understanding of how computers are connected; how the internet and networks work; how information is shared, and how information can be accessed on this internet. They will be able to write more advanced sequenced codes in a block based programming language (e.g. scratch); write algorithm to trigger sequences of actions, use a text-based programming language; use a physical programmable microcontrolller; and code/program with a final purpose in mind, such as a game, quiz or to capture input from a physical device. Key stage 2 children will create branching and flat-file databases; use a data logger to collect data in an investigation; and use spreadsheets to organise and calculate data.Lastly, they will create media in the form of stop-frame animation, desktop publishing, audio, photo and video editing, vector drawing, webpage creation and 3D modelling.