INTENT AND SEQUENCING

Computing Page Profile

Curriculum

COMPUTING AT MCPA

Intent
At MCPA we aim to give our pupils the life-skills that will enable them to embrace and utilise technology in a socially responsible and safe way in order to flourish. Our pupils will be able to operate in the 21st century workplace and know the career opportunities that will be open to them if they study computing. The use of technology will support learning across the entire curriculum and we will ensure that our curriculum is accessible to every child. Not only will our pupils be digitally literate and competent end-users of technology but, through our computing lessons, they will develop creativity, resilience, problem-solving and critical thinking skills. Our pupils will have a breadth of experience to develop themselves as individuals but also become responsible digital citizens.

Implementation
Children will have a weekly computing week once every half term. These lessons are based around the National Curriculum to ensure a clear progression. This ensures that skills and knowledge are built on year by year and sequenced appropriately to maximise learning for all children.

To ensure a broad range of skills and understanding, computing is taught across three main strands: digital literacy, computer science and information technology.

As part of information technology, children learn to use and express themselves and develop their ideas through ICT for example writing and presenting as well as exploring art and design using multimedia.

Within digital literacy, children develop practical skills in the safe use of ICT and the ability to apply these skills to solving relevant, worthwhile problems for example understanding safe use of internet, networks and email. Online safety is also taught through our PHSE curriculum and communicated with all staff and parents, through our school website and Parent Breakfast meetings. National Online Safety is a website we use to support teaching and also delivering training to both teachers and parents.

In computer science we teach children to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. Also to analyse problems to computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.

At MCPA, we provide cross curricular opportunities for children to apply their computing knowledge and skills. We use Rosenshine's Principles of Instruction to help us in our delivery of lessons. Lesson structure consists of a recap over previous learning, teacher modelling and practise time for the children. Lessons are very hands on with the children being actively engaged and the adults checking for understanding and providing additional support where needed.

Impact
All children will leave MCPA as competent and safe users of ICT with an understanding of how technology works. They will have developed skills to express themselves and be creative in using digital media and be equipped to apply their skills in computing to different challenges going forward.

Research
EEF:
- Technology offers ways to improve the impact of pupil practice
- Technology can be used to improve the quality of explanations and modelling
- Technology can play a role in improving assessment and feedback

Sue Sentance and Andrew Csizmadia
In a 2015 paper, Sue Sentance and Andrew Csizmad concluded that concentrating on a few specific strategies could help teachers to feel more confident in the classroom. They classified the strategies as:
- Contextualised learning.

- Computational thinking skills development.
- Working collaboratively.
- Learning away from the computer.

Rosenshine's Principles of Instruction (2012) recommends:

- Start each lesson with a recap of what has been covered already.
- Introduce new material in baby steps, with students practising each one in turn.
- Ask students questions and check all of their answers.
- Provide models.
- Provide scaffolds.