



The Mosley Academy

Subject Leader Curriculum Overview – Computing

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The National Curriculum for Computing aims to ensure that all pupils by the end of Year 6:

- 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 (both online and offline)

Pupils at KS1 should be taught:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Pupils at KS2 should be taught:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Intent	<p>At The Mosley Academy, it is our aim for children to leave Mosley with the skills to use computational thinking and creativity to understand and be active participants of the digital world by: -</p> <ul style="list-style-type: none"> • Developing a rich understanding of computing, computer science digital literacy, in which pupils are taught the principles of information and computation; • Understanding how digital systems work and how to put this knowledge to use through programming; • Building on their knowledge and understanding by providing pupils with the opportunities to use information technology to create programs, systems and a range of content; • Allowing pupils to become digitally literate by teaching them to use and express themselves through information and communication technology; • Providing pupils with the knowledge and skills essential to an ever-developing digital world. 				
	<p>At The Mosley Academy our children will present the following characteristics of learners:</p>				
	<p>Show confidence in using computational thinking to break problems into steps to solve them.</p>	<p>Demonstrate knowledge about how computer systems and be able to use this knowledge when programming.</p>	<p>Become increasingly digitally literate to express their ideas through information and communication technology.</p>	<p>Demonstrate skills suitable for the future workplace and as active participants in a digital world.</p>	<p>Use technology positively, responsibly and safely.</p>

At The Mosley Academy, we follow the Teach Computing curriculum. This scheme is a spiral curriculum that builds upon difficulty each year, developing children's schema. The Teach Computing curriculum includes the following areas: Algorithms, Computing Systems, Creating Media, Data and Information, Design and Development, Effective Use of Tools, Networks, Programming and Safety and Security.

This scheme is used weekly within KS1 and KS2 and is accompanied by our electrical technology, such as iPads, laptops, beebots, crumble kits and microbots (to name a few).

We also thrive to ensure our children in Early Years are exposed to and have opportunities to use and learn about computing - even though it is not in the specific curriculum. These children are given different half termly opportunities to engage in areas of digital literacy.

At The Mosley Academy we ensure Online safety is covered through a variety of ways, such as:

- Through everyday lessons, where staff reiterate to children the importance of online safety and remind them of scenarios and situations (and how to deal with them).
- Participation in Internet Safety Day
- Digital Literacy coverage across the school through half termly topics from the 'Education for a Connected World' document
- During PSHE/Jigsaw lessons
- Assemblies

Alongside Teach Computing we use Project Evolve which is based upon the 'Education for a Connected World' documentation and allows an in depth coverage of Online Safety. To ensure this coverage, KS1 and KS2 staff have dedicated a Wednesday class assembly slot to this learning, with EYFS using a Friday circle time.

There are 8 areas within Project Evolve and as a school these are distributed across each half term.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Self Image and Identity	Online Reputation	Online Bullying	Managing Online Information	Privacy and Security	Copyright and Ownership
Online Relationships					

Health, Well-being and Lifestyle covered throughout PSHE across all classes

Amongst our thorough teaching of online safety, we also use Securus for our Filtering and Monitoring - meaning children have to log in to devices they use and we can filter and monitor what is being searched for or used.

We are always striving to ensure there are personal development opportunities within Computing. In school we have digital leaders, that are ever evolving in their roles and beginning to take on responsibility and understanding that can then be shared and used for the support of other staff.

Alongside these children we also run a coding club for children after school, where they have the opportunity to deepen and shared their knowledge of coding and thrive in something that they may not have the resources to do at home.

At The Mosley Academy we understand that SEND can be categorised in four main ways:

social, emotional, and mental health cognitive and learning communication and interacting physical and/or sensory

We aim to understand individual barriers to learning and adapt lessons accordingly to enable SEND pupils to feel successful, as well as improve their understanding of concepts and retention of knowledge. In school, this support may include some of the following methods: the use of visual or practical resources, the use of adult support, differentiating by outcome according to the child's needs, pre-teaching key vocabulary, providing templates to scaffold, the use of spaced repetition to improve memory, consideration of the type of task e.g. group, partnered, individual.

Assessment at The Mosley Academy is teacher based and formed using formal strategies (e.g. half termly assessment tasks, end of unit tasks/final pieces, quizzes) and informal strategies (use of concept maps, verbal/written outcomes, reflection tasks/presentations). Formative assessment is used as the main tool for assessing the impact of Computing as it allows for misconceptions and gaps to be addressed more immediately rather than building on insecure foundations.

Implementation

Impact

	<p>Staff also use the online based system of Sonar to allow tracking of progression for children. At each termly interval staff register if a child is Working at or towards Age Related Expectations in this subject - using their teacher judgement for the support of this.</p>		
	<p>To ensure we assess and monitor the impact of online safety, staff use the Project Evolve Knowledge Maps tool to assess at the start of their half termly topic - identifying specific areas of weakness or lack of knowledge and then reassess at the end of their half term - ensuring progression has been made.</p>		
	<p>Monitoring through: Learning Walks Pupil Voice Book/work Scrutiny</p>	<p>Increased Cultural Capital through an exposure to a wide range of vocabulary.</p>	<p>Broad, balanced curriculum where skills and knowledge are embedded and create a shift in long term memory.</p> <p>Provision is adapted so that it is suitable for all groups of learners, including SEND.</p>