



# Computing Policy

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# Computing Policy

## Our School Vision

### Vision

Our vision is to create extraordinary learning, for all of our children to be proud of their achievements, develop resilience and grow as learners so that they can discover their place in the world, where their possibilities are endless!



## Curriculum Intent

At Manor Primary School, the intent of our Computing Curriculum is to offer a broad, balanced, rich and vibrant curriculum that provides challenging pathways to achievement for all learners, no matter their starting point. We intend that it will provide children with the skills necessary to use a range of differing technologies; ensuring children become confident, creative and independent learners who are able to use technology in an effective way.

Through their learning in Computing, children will find, explore, analyse, exchange and present information. Children will discover how to use a range of hardware and software to create, use and edit images, sounds, animations, websites, blogs, databases and algorithms. Through their growing knowledge and understanding of computing, children will gain an appreciation of how to use technology safely and respectfully, promoting our key British Values.

- ★ Our Computing Curriculum is designed to allow each pupil to:
  - Experience digital media in different aspects of their lives
  - Enhance digital literacy
  - Use search technologies effectively
  - Develop the skills to use technology appropriately
  - Develop confidence using a range of software and hardware
  - Develop independence using technology
  - Know how to stay safe online
  - Understand how to communicate and collaborate
  - Solve problems using technology
  - Design, write and debug programs that accomplish specific goals
  - To analyse and present data
  - Recognise how information technology is used beyond school

Exceptionality

Collaboration

Integrity

Respect

## Curriculum Design

The computing curriculum is designed to ensure the **substantive and procedural knowledge within the three pillars of progress**, computer science, information technology and digital literacy, is built upon year on year.

**Substantive Knowledge** – consists of facts, rules and principles and the relationships between them. It can be described as 'knowing that, knowing what'

**Procedural Knowledge** – is knowledge of methods or processes that can be performed. It can be described as 'knowing how'.

Pupils make progress in computing by knowing and remembering more about and, importantly, across each of these categories, and being able to apply this knowledge. However, these pillars do not sit separately from each other. Knowledge from each pillar complements the others and some subject content only exists at the interplay between these 3 pillars

### Key Concepts:

- **Computing systems and networks** – systems, networks and how they are used, the internet, hardware and software
- **Programming** – interpreting, creating and evaluating algorithms, programming to accomplish specific goals, detecting and correcting errors
- **Data and information** – collecting, analysing, evaluating, presenting data and information
- **Creating media** – design and development, communicating and collaborating online, evaluating online content, respectful and responsible communication, presenting, creating content)

### Second Order Concepts

- **Responsibility** – being safe online, using social media responsibly and respectfully, privacy, cyberbullying
- **Similarity and difference** – making comparisons, finding patterns, noting differences and drawing conclusions)
- **Cause and consequence** – inputs and outputs, programming
- **Significance** – significant inventions, significant figures from the world of computing
- **Chronology** – changes in technology over time, inventions, future technology
- **Written and oral expression** – using Computing terminology, using technology to support and improve communication, using technology to presenting and interpreting data, digital media

## Curriculum Implementation

Our Computing Curriculum at Manor Primary School, will enable children to gain a broad and balanced understanding of the key computing skills and knowledge of digital literacy, information technology and computer science required for life. The curriculum supports children in developing their understanding of how technology is used effectively and safely in the world around them.

### Organisation and Planning

The schools Medium term planning and coverage of key Computing skills will be used by teachers to create short term plans, this will drive the journey of Computing for every year group, building on from prior learning and develop progressively key skills and developing depth.

\* In Early Years, we teach Computing in nursery and reception classes as a part of the topic work covered during the year. As the Nursery and Reception classes are part of the Foundation Stage of the National Curriculum, we relate the Computing aspects of the children's work to support objectives in the Early Learning Goals (ELGs) which underpin the curriculum planning for children aged three to five. The children have the opportunity to use computers, digital cameras and programmable devices such as Beebots.

In Key Stage 1, we teach Computing both as discrete lessons in which the children learn new skills; alongside using their new found skills in other areas of the curriculum in order to support and enhance their learning. Children are given the opportunity to explore how computers can be used to create new content, program, communicate with others and research for a range of different purposes. During the year, children will have the opportunity to use computers, digital cameras, iPads, programmable devices and green screen technologies in a variety of ways.

In Key Stage 2, children continue to implement and develop a wider range of purposeful skills that permeate through curriculum subjects. At Manor, children have an ignited passion through enjoying and exploring the National Curriculum. Children continue to enhance their understanding of computing science where they are taught the principles of information and computation, how digital systems work and the practical implications for programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create and explain programs and algorithms. Pupils are taught how to be digitally literate in order to express themselves and develop their ideas through information and communication.

### Our Children's Charter

In Computing our children are entitled to a world class curriculum which enables them to;

- Become competent, confident, creative and responsible users of information and communication technology.
- Become digitally literate by using computing proficiently to find, select and use information and for effective and appropriate communication.
- Gain a knowledge of how computing is used in real world systems and used to create purposeful products.

- Apply a range of hardware and software to create programs, systems and a range of content.
- Understand and apply the fundamental principles and concepts of computer science including abstraction, logic, algorithms and data representation.
- Monitor and control events both real and imaginary.
- Gain practical experience of writing computing programs to solve problems.
- To evaluate and apply information technology analytically to solve problems.
- Apply their computing skills and knowledge to their learning across the curriculum.
- Have access to a range of resources including physical devices e.g. Beebots, hardware- iPads, computers, green screens, media suite and software.

#### ★ Inclusion

All children have equal access to the curriculum as expressed in our Equal Opportunities Policy. We will ensure that Computing is accessible to pupils by:

- Setting suitable learning objectives and differentiated success criteria.
- Responding to the variety of learning styles
- Overcoming potential barriers of individuals and groups

This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between different groups of learners.

## Curriculum Impact

Our curriculum design will lead to outstanding progress for all pupils, regardless of their starting points, over time. Planned learning will progressively build on prior knowledge and understanding and support children in producing outcomes of the highest quality. Teaching and learning is adapted to cater for the needs of all pupils; providing support for children with special educational needs and enrichment and challenge for more able children.

The Computing Subject leads are responsible for regularly monitoring and reviewing the curriculum, the standard of the children's work and the quality of teaching in Computing including seeking the children's views. The Computing Subject leads are also responsible: for supporting colleagues in the planning and teaching of computing, for being informed about current developments in the subject, and for providing a strategic lead and direction for the subject in the school. Time will be allocated for reviewing samples of children's work and for visiting classes to observe teaching in the subject. Feedback will be given around what is going well and what are the ways to grow.

Our assessment system of Building Blocks will be used by the children and staff to reflect on the progress that is made over time. Assessments will be made based upon observations of learning alongside written and non-recorded outcomes. A summary judgement about the work of each pupil in relation to the National Curriculum

Exceptionality

Collaboration

Integrity

Respect

Age Related Expectations will be made at the end of each unit of work. This forms the basis for assessing the progress of the children and the level of attainment at the end of a school year. The Computing leads will evaluate progress that has been made and the impact of the curriculum to ensure all pupils have been taught the knowledge and skills they need to deepen their computing understanding.

#### Links to other Policies

- Teaching and Learning Policy
- Feedback and Marking Policy
- Assessment policy
- SEND policy
- ★ • Equality information Policy

#### Review

This policy will be reviewed every 2 years by Computing leads, SLT and governors

The Governors may however review the policy earlier than this if Government introduce new regulations or if the Governing Body receive recommendations about how the policy may be improved.