MANOR ROAD PRIMARY SCHOOL

COMPUTING POLICY

September 2022-23

Manor Road Primary School
Computing Policy

This policy reflects the values and philosophy of Manor Road Primary School in relation to the teaching and learning of and with Computing. It sets out a framework within which teaching and non-teaching staff can operate and gives guidance on planning, teaching and assessment.

The policy should be used in conjunction with the Scheme of Work for Computing which sets out in detail what children in different classes and year groups will be taught and how Computing can facilitate or enhance work in other curriculum areas.

This document is intended for:
- All teaching staff
- All staff with classroom responsibilities
- School governors
- Parents

Introduction

Computing plays an important role in the children's lives and in society today. We believe that computers are valuable tools, which may be used to further enhance the curriculum already in place within the school.

Computers act as key resources in the classroom and enable different teaching approaches, which stimulate and inform the learner. Computers are an essential tool for supporting children's learning.
All technologies, inclusive of computers, iPads and other digital technologies are good motivators which can heighten pupil's interest and enjoyment, especially in subjects children find difficult. Computing can also provide opportunities for teachers to extend the basic curriculum by embracing it fully in their teaching.

The Computing curriculum in school aims to develop children's knowledge, skills, and understanding. Children will be given opportunities to develop a wide range of skills in Computing.

Aims and Objectives

- To develop the children's confidence and skills in the use of Computing
- To give children skills to use Computing both creatively and effectively
- To provide children with the knowledge of different applications of Computing. This includes, word-processing, data handling, simulations, control, data logging devices and internet technologies (including On-line Safety across the curriculum)
- To embed the three areas of computing into the curriculum and demonstrate progression in Computational Thinking, Digital Literacy and Online Safety and

Computers and Hardware.
- To encourage children to understand the effects and limitations of Computing and to make decisions about its suitability for a particular task
- To use Computing to enhance, support and extend the children's learning in all areas of the curriculum
- To use the computer to store, organise, manipulate and present data
- To give opportunities to explore, present and share their own ideas and findings, using a wide range of technologies
- To know how Computing can affect the nature of their work
- To ensure Computing resources are used to their full extent
- To ensure Computing resources and equipment are kept up to date as much as possible
- To ensure that staff skills and knowledge are kept up to date
- To have a clear understanding of how to programme digital devices

Curriculum

Computing is a foundation subject in the National Curriculum. At Manor Road Primary Schoo,l we use the National Curriculum (2014) as the basis for our curriculum planning.

This is supported by the Kapow scheme of work which follows the National Curriculum requirements.

Planning for computation is in three phases: Long Term, Medium Term and Short Term. Our Long Term Plan maps out the themes covered in each half term during EYFS, Key Stage 1 and Key Stage 2. See Appendix 1.

Medium Term and Short Term Planning is based on the Kapow themed units however teachers will make adaptations to ensure the plan is progressive in developing children's Computing capabilities.

Short Term Planning should identify specific learning objectives, additional resource needs, indicate whether optional activities have been undertaken and highlight how each ability group is catered for.

Teachers' planning is differentiated to meet the range of needs in any class including those children who may need extra support, those who are in line with average expectations and those working above average expectations for children of their age.

The Computing Subject Leader and SLT will review teachers' Computing plans to ensure that skills are being taught correctly and that the Computing scheme of work is covered regularly over the year.

Teaching and Learning

Teachers need to ensure that:
- A wide range of styles are employed to ensure all children are sufficiently challenged
- Children may be required to work individually, in pairs or in small groups according to the nature or activity of the task

- Different groupings of children - groupings may be based on either same ability or mixed ability
- Different levels of input and support permit different outcomes
- The understanding that not all Computing need be done on a computer

In each class there are computers designated for pupil use which support the development of Computing capability by enabling further development of tasks, to encourage research, and allow for the creative use of Computing in other subjects. Interactive whiteboards or touch screens are located in all of the classrooms. These are used as a teaching resource across the curriculum. Each member of staff has the ability to link iPad's to the Interactive Whiteboards and touch screens.

Equal Opportunities

It is our aim to ensure all children follow the Computing curriculum, staff will keep a record of children's Computing use to ensure equal access and fairness of distribution of resources, will provide curriculum materials and software which are in no way class, gender or racially prejudiced or biased.

Inclusion

We recognise that Computing offers particular opportunities for children with special educational needs and gifted and/or talented children and/or children with English as an additional language. Computing can cater for the variety of learning styles which a class of children may possess.

Using Computing we can:
- increase access to the curriculum
- raise levels of motivation and self-esteem
- improve the accuracy and presentation of work
- address individual needs

We aim to maximise the use and benefits of Computing as one of many resources to enable all children to achieve their full potential. If the situation arises, the school will endeavour to provide appropriate resources to suit the specific needs of individual or groups of children.

Roles & Responsibilities

Senior Management

The overall responsibility for the use of Computing rests with the Headteacher, in consultation with staff.

The Headteacher will:
- determine the ways Computing should support, enrich and extend the curriculum
- decide the provision and allocation of resources
- decide ways in which developments can be assessed, and records maintained
- ensure that Computing is used in a way to achieve the aims and objectives of the school

- ensure that there is a Computing Policy, and an identified Computing Subject Leader

<u>Computing Subject Leader</u>

There is a designated Computing Subject Leader to oversee the planning and delivery of Computing within the school. The Computing Subject Leader will be responsible for:
- leading staff in raising standards in Computing
- facilitating the use of Computing across the curriculum in collaboration with all Subject Leaders
- providing or organising training to keep staff skills and knowledge up to date
- advising colleagues about effective teaching strategies, managing equipment and overseeing purchasing resources
- monitoring the delivery of the Computing curriculum and reporting to the Headteacher on the current status of the subject.

Health and Safety

At Manor Road Primary School all Computing equipment is used in compliance with Health & Safety requirements. All electrical equipment is checked, any concerns are passed onto the school's IT Technician, Site Supervisor or Headteacher. Children and staff will also be made aware of the correct way to sit when using the computer and the need to take regular breaks if they are to spend any length of time on computers.

See also our Health Safety Policy.

Online Safety

Internet access is planned to enrich and extend learning activities. The school has acknowledged the need to ensure that all children are responsible and safe users of the Internet and other communication technologies.

An Online Safety Policy has thus been drawn up to protect all parties and rules for responsible internet use will be taught to the children and taught as part of the Computing curriculum. Although the school offers a safe online environment through filtered internet access, we recognise the importance of teaching our children about online safety and their responsibilities when using communication technology.

See also our Online Safety Policy

Monitoring

Monitoring Computing will enable the Computing Subject Leader to gain an overview of Computing teaching and learning throughout the school. This will assist the school in the self-evaluation process, identifying areas of strength as well as those for development.

In monitoring the quality of Computing teaching and learning, the Computing Subject Leader will:

- scrutinise plans to ensure full coverage of the Computing curriculum requirements
- analyse children's work
- observe Computing teaching and learning in the classroom
- hold discussions with teachers
- analyse assessment data.

These are done through subject leader time and monitoring and evaluation forms.

Software

All software loaded on school computer systems must have been agreed with the Headteacher in school. All our software is used in strict accordance with the licence agreement. We don't allow personal software, including social networking apps or games to be loaded onto school computers or iPads.

See also our Data Protection Policy.

Policy written by: Brogan Lawrenson
Policy written: September 2022-23
Policy to be reviewed: As required

LONG TERM PLAN

COMPUTING

	Autumn Term		Spring Term		Summer Term	
	1	2	1	2	1	2
Pre-School No KAPOW units for Pre-school. **Summer 2** children will begin to explore pre learning for the Reception units	Settling in Green Screen throughout the year to enhance learning		Using a computer Locate keyboard Use mouse 2Simple to mark make Online Safety	Using a computer Locate keyboard Use mouse 2Simple to mark make	Bee Bots Children play with the Beebots and begin to explore programming using the different BeeBot mats in play	Data Simple pictograms on children's favourite foods etc Online Safety
Reception	**30-50 Months** Knows how to operate simple equipment, e.g. turns on CD player and uses remote control. Shows an interest in technological toys with knobs or pulleys, or real objects.	**30-50 Months** Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. Knows that information can be retrieved from computers	**40-60 Months** Completes a simple program on a computer. Interacts with age-appropriate computer software.	**40-60 Months** Completes a simple program on a computer. Interacts with age-appropriate computer software. **ELG** Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	**Exceeding Descriptor** Children find out about and use a range of everyday technology. They select appropriate applications that support an identified need – for example in deciding how best to make a record of a special event in their lives, such	**Exceeding Descriptor** Children find out about and use a range of everyday technology. They select appropriate applications that support an identified need – for example in deciding how best to make a record of a special event in their lives, such

					as a journey on a steam train.	as a journey on a steam train.
Personalisation and Subject Links	Personalisation changed year by year linked to children's interests each cohort.	**GREEN SCREEN to be used this half term** Personalisation changed year by year linked to children's interests each cohort.	Personalisation changed year by year linked to children's interests each cohort.	Personalisation changed year by year linked to children's interests each cohort.	Personalisation changed year by year linked to children's interests each cohort.	Personalisation changed year by year linked to children's interests each cohort.
Key Vocabulary	Technology Share Create Internet	Buttons Equipment Sounds Movement	Screen Mouse Images Keyboard Paint	Screen Mouse Images Keyboard Paint	Technology Share Create Internet Bee bot Journey	Technology Share Create Internet Bee bot Journey
Year 1	**Getting Started** 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.	**Digital Imagery** 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.	**Introduction to Data** Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school.	**Programming- Beebots** Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. Understand what algorithms are.	**Algorithms- unplugged** 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. **Espresso Coding**	**Rocket to the Moon** Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Personalisation and Subject Links	Children to take photos of how they use technology in the home. *Art & Design, Maths*	Using the talking app to make photos from the Fire of London talk. Characters talking about what is happening. *English, history*	Link to Minibeasts and weather. **GREEN SCREEN to be used this half term** *Science* *Maths*	Asking children to create story maps linking to their English work and Traditional Tales. *English*		*Science* *DT* *Maths* *History*
Key Vocabulary	Purpose Online tools Communication Rules online Private information Photos Technology	Photo story Editing Filter Search engine Text	Data Pictogram Chart Information database	Buttons Instructions Robots Patterns Program Navigate	Algorithm Instructions Input/ output Siri	Keyboard Keys Type Sequence
Year 2	**What is a Computer?** • Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • Children explore exactly what a computer is, identifying and learning how inputs and outputs work, how computers are used in the wider world and designing their own computerised invention	**Word Processing and on-line safety** • Use technology purposefully to create, organise, store, manipulate and retrieve digital content Using their developing word processing skills, pupils write simple messages to friends and learn why we must be careful about who we talk to online	**International Space Station** Use technology purposefully to create, organise, store, manipulate and retrieve digital content • Building on their understanding of how computers sense the world around us, pupils learn how data is collected, used and displayed to keep astronauts safe on board the ISS	**Programming: Espresso Coding** • 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	**Algorithms and debugging: Espresso Coding** • Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	**Stop Motion** • Recognise common uses of technology beyond school**.** Pupils create simple animations, storyboarding their ideas then decomposing it into small parts of action to be captured using Stop Motion Animation Software

					• Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	
Personalisation and Subject Links	**GREEN SCREEN to be used this half term** *DT* *Science*	*PSHE*	*Science* *DT*			*English*
Key Vocabulary	Input Output Uses Laptop Mouse Keyboard Screen	Touch type Word processing Storing information Keyboard shortcuts Edit Copy & paste Online Safety	Data collection Mouse skills Keyboard skills Sensor monitors Algorithm Data	Programming Forward Backward Right angle turn Sequence Debug Predict Algorithm	Programming Forward Backward Right angle turn Sequence Debug Predict Algorithm	Animation Storyboard Frames Film Models
Year 3	**Journey inside a computer** Design, write and debug programs. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors.	**Emailing** Understand computer networks including the internet; how they can provide multiple services, such as the world wide web. Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content. Use technology safely, respectfully and responsibly; recognise	**Programming- Espresso Coding** Design, write and debug programs. 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	**Top Trumps Databases** Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content.	**Digital Literacy** Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	**Networks** Understand computer networks including the internet; how they can provide multiple services, such as the world wide web.

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		acceptable/unacceptable behaviour	and to detect and correct errors.			
Personalisation and Subject Links		*English*		**GREEN SCREEN to be used this half term** *Maths*	. *English*	
Key Vocabulary	Instruction Input/output Algorithm Purpose Hard drive Component	Email Attachment Features Online responsibility Cyberbullying Spam Junk Phishing	Sequence Instruction Debugging Test and improve Commands Programming	Databases Records Fields Data Digital database Sort and filter	Storyboard Photos Multimedia Presentation Voiceover Transition styles	Network Device Wireless Journey Operations
Year 4	**Collaborative Learning** Selecting using and combining a variety of software to design and create a range of programs, systems and content that accomplish given goals. Understanding opportunities offered by the World Wide Web for communication and collaboration	**Website Design** Selecting using and combining a variety of software to design and create a range of programs, systems and content that accomplish given goals. Understanding opportunities offered by the World Wide Web for communication and collaboration.	**How the Internet Works** Understanding 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 Identify components of a network and understand how they used to connect to the Internet	**HTML** Recognising that information on the Internet might not be true or correct. Using technology safely, by recognising acceptable/unacceptable behaviour and knowing what to do when they have concerns about content or contact online. Understanding that websites can be altered	**Investigating Weather** Understanding why some sources are more trustworthy than others. Understanding the role of inputs and outputs in computerised devices.	**Computational Thinking** Understand what decomposition is and how it facilitates problem solving. Designing, writing and debugging programs that accomplish specific goals Understand abstraction and

				by exploring the code beneath the site. Designing, writing and debugging programs that accomplish specific goals. Solving problems by decomposing them into smaller parts.		patterns recognition.
Personalisation and Subject Links		*History*	*History*		**GREEN SCREEN to be used this half term** *Science and Geography.*	
Key Vocabulary	Collaborative work Google Docs Presentation Create Google forms Data Spreadsheet	Google sites Features Review Showcase Webpage Site link	Websites Data transfer Network Connected Routers Encoded	HTML Code Content Layout Fake news Text image	Data Spreadsheet Design Gather Search engine Green screen	Abstraction Algorithm design Decomposition Pattern recognition
Year 5	**Online Safety** Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour	**Sonic Pi** Design, write and debug programs. 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	**Micro:bit** Design, write and debug programs. 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	**Search Engines** Understand computer networks including the internet; how they can provide multiple services, such as the world wide web. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour	**Mars Rover 1** Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content. Understand computer networks including the	**Mars Rover 2** Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content. Understand computer networks including the internet; how they

		and to detect and correct errors.	and to detect and correct errors.		internet; how they can provide multiple services, such as the world wide web.	can provide multiple services, such as the world wide web.
Personalisation and Subject Links		*Reading* *Music*			**GREEN SCREEN to be used this half term**	
Key Vocabulary	Online safety Danger Stop motion Animation Storyboards Editing	Sonic Pi Debugging Programming Loops Adapting	BBC micro: bit Programming Algorithm Polling programme Animation Debugging	Research Accurate information Fake information Relevant Canva Web index Page rank Web crawlers	Data Data transfer Binary code Random access memory Robot Programming	Pixel Digital image RAM ROM 3D design

Year 6	Bletchley Park	Bletchley Park	Big Data 1	Big Data 2	Into to Python	Skills Showcase
	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web. 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 on a range of digital devices to design and create a range of programs, systems and content. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web. 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 on a range of digital devices to design and create a range of programs, systems and content. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content. Understand computer networks including the internet; how they can provide multiple services, such as the world wide web.	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content. Understand computer networks including the internet; how they can provide multiple services, such as the world wide web.	Design, write and debug programs. 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.	Design, write and debug programs. 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. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
Personalisation and Subject Links	*History* *Maths*	*English*	*Science*		*Art & Design* *Maths*	**GREEN SCREEN to be used this half term**
Key Vocabulary	Code breaking Password hacking Enigma code Secure Password	Radio play Record & edit Console Mobile phone design	Barcode QR code Infrared waves Data transmission RFID	Data transfers Wifi Mobile data Big data privacy	Create Design Loops Nested loops	Design Evaluate Debug Software Website

	Digital literacy				Text based programming	Advert