



Curriculum Intent and Policy

"Building a life-long love of learning in a safe and happy school."

Computing

Principles

At Loughton Manor First School we believe that computing is an essential part of the national curriculum. Computing is an integral part of modern day life and therefore provides a wealth of learning opportunities that have strong links to other subjects.

We deliver a high quality computing education which gives the children the necessary experiences to become digitally literate and use their logical reasoning to solve problems. Computing allows children to explore and engage with a range of programs to express themselves.

Children will have many opportunities to create, organise and store digital content through the use of PurpleMash. Children take pride in the work that they create and also have the opportunities to share their learning with their parents at home.

By the time children leave Loughton Manor First School at the age of seven, they will:

- be confident in using technology and understand how technology can be used safely and respectfully
- understand how to tell an adult if they see something unsafe online
- know what information is appropriate to share online
- know that there are different types of technology at school and beyond
- be able to discuss differences between technologies
- be able to demonstrate competence in digital literacy, computer science and information technology



Progression in Computing Skills and Understanding

KEY VOCABULARY	Foundation Stage	Year 1	Year 2
	Computers technology forwards backwards turn stop go	As above + Program instructions clockwise anti-clockwise left right	As before + algorithm e-safety email software hardware reply personal information digital footprint
Computer Science	Foundation Stage	Year 1	Year 2
	Complete a simple program Shows a skill in making toys work	Predict the behaviour of simple programs Understand what algorithms are and how they are implemented on digital devices	Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs Understand that programs run by following clear instructions
Computers (Taught alongside Digital Literacy)	Foundation Stage	Year 1	Year 2
	Interacts with age-appropriate computer software Knows how to operate simple equipment Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.	Identify examples of technology in school and explain how technology helps us Can name the main parts of a computer	Identify examples of technology beyond school and explain how technology helps us Sort technology by their uses
Information Technology	Foundation Stage	Year 1	Year 2
	Interacts and shows an	Uses technology	Uses technology

	<p>interest in technological toys with knobs or pulleys or real objects</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<p>purposefully to create digital content</p> <p>Able to save information to a program</p>	<p>purposefully to create, organise, store, manipulate and retrieve digital content</p> <p>Use technology purposefully to create digital content comparing the benefits of different programs</p> <p>Capturing a digital photography</p> <p>Able to save and open their own work</p>
Digital Literacy - E-Safety	Foundation Stage	Year 1	Year 2
	<p>Asks an adult to use technology</p> <p>Explain the reasons for rules, know right from wrong and try to behave accordingly.</p>	<p>Knows what personal information is</p> <p>Understands where to go for help if they are concerned about content on the internet</p>	<p>Knows what personal information is and is able to keep it safe</p> <p>Use technology safely and keep personal information private</p>

COMPUTING POLICY

Introduction

A high quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.

Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content.

Reviewed by Subject Leader – Autumn 2023
 Agreed by Staff – Autumn 2023
 Adopted by Governing Body – November 2023
 To be Reviewed – Annually – Autumn Term

Computing also ensures that pupils become digitally literate – able to use and express themselves and develop their ideas through information and communication technology – at a level suitable for the future workplace and as active participants in a digital world. NC in England 2013

Objectives

It is our belief that Computing will allow pupils of Loughton Manor First School to:

- understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- be responsible, competent, confident and creative users of information and communication technology.

Teachers will:

- encourage children to develop positive attitudes towards Computing
- provide pupils with opportunities to develop their Computing capabilities in all areas
- empower children to develop computational thinking, to create and analyse digital content and to become safe and responsible users of digital technology.

Planning

Our long term and weekly planning for the delivery of Computing is based on the Programme of Study for KS1 in the 2013 National Curriculum in England, and on the requirements of the technology strand of the Reformed EYFS 2021.

Weekly computing lessons in KS1 focus mainly on the Computer Science and Digital Literacy elements of the curriculum, while computing skills are taught and practised and given greater purpose by being incorporated into other subject areas.

In the Foundation Stage opportunities are planned into the weekly activities, for children to explore a wide range of digital equipment, such as touch screens, iPads, as well as programmable toys including Bee Bots and remote controlled vehicles. Planning is evaluated during weekly planning meetings.

Organisation

The fundamental skills, knowledge and concepts that children need to learn to fulfill the Computing curriculum are set out under three categories.

Computer Science – learning how digital systems work, understanding algorithms and writing and debugging computer programs (coding)

Digital Literacy - learning to be confident, creative and responsible users of technology. Much emphasis is placed upon learning how to stay safe online (e-safety).

Information Technology – learning to use, create and manipulate digital content, including using existing software to present work and retrieving and saving work.

The Computer Science and Digital Literacy elements are mainly taught by a teacher or experienced teaching assistant in a once weekly session. During these sessions up to 30 iPads are available to ensure that wherever possible the computers are allocated one per child. When using other digital equipment such as the Bee Bots or iPads, the children may be working in pairs or small groups.

The Information Technology elements are mainly planned to link to other areas of the curriculum and are taught and practised throughout the year. The iPads in KS1 are shared between the classes and are readily available for use in English, Maths and other subject lessons.

There is inevitably some crossover, for example the e safety elements of Digital Literacy would be revisited whenever children are carrying out online research or communication.

Pupils will be encouraged to adopt an investigative, hands-on approach to learning new skills. Teachers will use the touchscreens to demonstrate techniques where appropriate.

Continuity and Progression

The ability to use Computing to solve problems and develop computational thinking is both a valuable learning tool and an important life skill in itself. The development of the relevant skills, knowledge and understanding requires progressive experience from nursery age onwards and across all curriculum areas. This experience should include the use of a variety of technological play opportunities, software and websites in different contexts.

As in all subject areas, children will have different aptitudes and abilities in Computing and will progress at differing rates.

In order to ensure continuity and progression we have also identified the equipment and software that each pupil will use at each key stage and matched relevant software to the most appropriate year groups.

Differentiation

Differentiation will be determined by the complexity of the task set, the support/independence involved and the quality and accuracy of work produced.

Outdoor Learning

At Loughton Manor First School we pride ourselves in our school grounds and benefit from a community rich with learning opportunities. We recognise the importance of Outdoor Learning (OL) on our children's development and plan OL opportunities whenever possible. This will include the use of iPads.

Inclusion and EAL Children

Pupils with SEN often benefit from using computers and digital devices as they enhance access to the curriculum, and this in turn encourages motivation and the development of skills. We seek to ensure that pupils with SEN who would benefit from particular ICT support get access to those resources.

Equal Opportunities

All pupils regardless of race, gender, ability or mobility will have equal access to the Computing curriculum in line with the school's Equal Opportunities Policy.

Health and Safety

To ensure the health and safety of pupils and staff the following guidelines must be adhered to:

- pupils should not be allowed to switch on/off power at the mains.
- equipment should be situated away from water and wet activities.
- pupils are trained to carry equipment correctly.
- computers should not be placed near magnets, radiators or have trailing wires which can be tripped over.
- pupils will not normally work in front of a computer screen for more than half an hour at a time.

All staff should make quick visual checks whenever equipment is used e.g. for frayed or trapped cables.

As with all our teaching, children will work within the school's Health and Safety Policy.

Resources

Hardware

12 laptops and 10 iPads are provided to assist teachers with planning, preparation and assessment. These are loaned to individual teachers for the duration of their employment at the school. There is also 1 communal desktop PC for staff use. Staff need to ensure that each computer and peripherals are kept in working order and that a safe and tidy environment exists on and around the computers.

Eight Beebots are located in FS2.

There are 30 iPads for use in KS1: 15 in Y2 and 15 in Y1. Each class has a touchscreen and a visualiser. Children are encouraged to use the iPads as digital and video cameras. A set of Talking Tins are available for class use.

In the event of equipment becoming damaged or broken it must be reported to the Computing Subject Leader so that it can be repaired.

Software

Appropriate software is pre-loaded onto machines.

Pupils and staff have access to the following online learning resources to which the school subscribes and which can be accessed from school or home.

Espresso
Purple Mash
Monster Phonics

All staff have school email accounts which allows access to Google Drive. Teachers use Google Drive to share documents such as weekly planning and resources. It is now required that teachers begin to use shared drive in order for all planning to be saved to the school.

Security

All machines have virus checkers. To ensure that computers are kept virus free children and staff must not be allowed to load software brought in from home. We have a filtered broadband service and pupils will be taught about the safe use of the internet. All pupils will be required to read and sign our Online Safety Agreement. All staff will be required to read and sign our Staff Acceptable Use Agreement as part of our Online Safety Policy. The relevant policies and agreements are the Online Safety Policy, The Staff and Governors Acceptable Use Agreement, the Pupil's Online Safety Agreement (SMART) and the MK Policy on Social Networking Sites and Personal Internet Presence. These will be reviewed annually in line with the Computing Policy.

Staff Development

Computing is a constantly evolving subject and we endeavour to give staff the opportunity to familiarise themselves with new hardware and software as it becomes available in the school and provide In-service training to meet individual needs.

Roles and Responsibilities

The Computing Subject Leader, with the headteacher and governing body, is responsible for the review of the subject policy. The role of the subject manager also includes:

- reviewing planning
- supporting colleagues
- monitoring progress in Computing
- keeping up to date with developments in this rapidly changing field and passing on information to colleagues as appropriate
- identifying and supplying adequate hardware and software provision, so that Computing can become a part of every classroom
- arranging technical support as required

Assessment and Recording

Ongoing teacher assessment and the pupils' self-assessment are used to guide the progress of individual pupils in Computing. It involves identifying each child's progress, determining what each child has learnt and what therefore should be the next step in his/her learning. Formative assessment is carried out by teachers in the course of our teaching.

Although the 'Technology' strand has been removed from the EYFS curriculum, computing and technology are still vitally important subjects to deliver.

At the end of the year when FS2 teachers assess the following Early Learning Goals, they will take into account Computing:

- Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.
- Explain the reasons for rules, know right from wrong and try to behave accordingly.
- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

At the end of each year teachers complete The Outcome Statements document which is passed onto class teachers as well as the Computing subject manager for monitoring and observation purposes. Teachers use this information to ensure planning meets the needs of individuals.

Monitoring and Evaluating

Monitoring and evaluation will be within the remit of the Maths, Science and Computing Team, a curriculum team which meets half termly. Their annual SIP Action Plan will identify aspects for development/improvement that help to support and sustain our high standards. The action plan details aspects to be monitored and evaluated, and identifies these members of staff/governors involved.



FS2 Assessment – Outcome Statements for Technology

FS2 Class _____ Transfer information for Yr 1 teacher

Number of children in class:
Number of SEN in class:
Number of EAL in class:
Number of PP in class:

The majority of the class will meet the expected outcomes. See notes below for children working towards or greater depth expectations (Put in brackets if they are SEN/EAL/PP).

I am a Foundation Stage 2 child. I can...

- Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.
- Explain the reasons for rules, know right from wrong and try to behave accordingly.
- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

- Asks an adult to use technology.

Working towards (names and comments)

Greater Depth (names and comments)



KS1 Assessment – Outcome Statements for Computing

Yr 1 Class _____

Transfer information for Yr 2 teacher

Number of children in class:
Number of SEN in class:
Number of EAL in class:
Number of PP in class:

The majority of the class will meet the expected outcomes. See notes below for children working towards or greater depth expectations (Put in brackets if they are SEN/EAL/PP).

I am a Year 1 child. I can...

Digital Literacy and E-safety (End of year assessment)

- tell you what personal information is

- identify examples of technology in school and explain how technology helps us
- name the main parts of a computer
- tell you where to go for help if I am concerned about content on the internet

Working towards (names and comments)	Greater Depth (names and comments)
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Computer Science (End of year assessment)

- predict the behaviour of a programmed toy
- explain that an algorithm is a step by step set of instructions

Working towards (names and comments)	Greater Depth (names and comments)
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Information Technology (through observation)

- use technology purposefully to create digital content
- save information to a program

Working towards (names and comments)	Greater Depth (names and comments)
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KS1 Assessment – Outcome Statements for Computing

Year 2 Class _____ Transfer information to KS2

Number of children in class:
Number of SEN in class:
Number of EAL in class:
Number of PP in class:

The majority of the class will meet the expected outcomes. See notes below for children working towards or greater depth expectations (Put in brackets if they are SEN/EAL/PP).

I am a Year 2 child. I can...

Digital Literacy and E-safety (End of year assessment)

- tell you what personal information is and is able to keep it safe
- use technology safely and keep personal information private
- identify examples of technology beyond school and explain how technology helps us
- sort technology by their uses

Working towards (names and comments)

Greater Depth (names and comments)

Computer Science (End of year assessment)

- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- understand that programs run by following clear instructions

Working towards (names and comments)

Greater Depth (names and comments)

Information Technology (through observation)

- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- use technology purposefully to create digital content comparing the benefits of different programs
- capture a digital photography
- save and open my own work

Working towards (names and comments)

Greater Depth (names and comments)