



# Computing at Malin Bridge

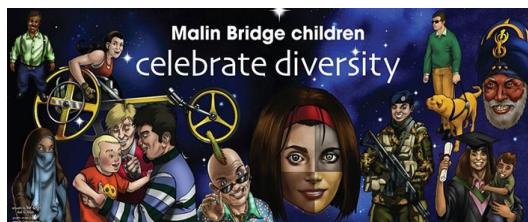
'Computing is about understanding computers and technology, and how to use them safely and respectfully to program and communicate information.



"It allows us to be creative with new technology and know how use it safely in the online world." *Rylie (Y6)*



AT MALIN BRIDGE PRIMARY OUR PUPILS...



## Vision

Our vision for Computing is to instil a sense of **enjoyment** around using technology and to develop pupils' **appreciation of its capabilities** and the opportunities technology offers to **create, manage, organise and collaborate**. Tinkering with software and programs forms part of the ethos of the computing curriculum as we want to develop pupils' **confidence when encountering new technology**, which is a vital skill in the ever evolving and changing landscape of technology. Through our curriculum, we intend for pupils not only to be **digitally competent** and have a range of **transferable skills** at a suitable level for future learning and employment, but also to be **responsible, safe online citizens**.

*Good is not enough if it can be better and better is not enough if it can be best.*

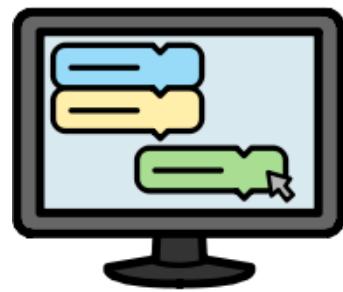
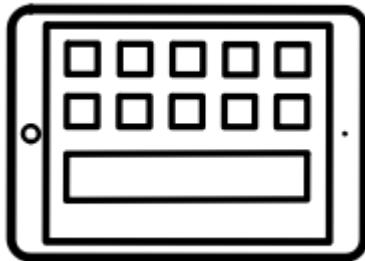
## Intent

For pupils to develop the **skills and knowledge** in order to navigate the digital landscape.

To develop **critical thinking** and **creativity and innovation** through computational concepts, problem-solving and algorithmic thinking.

For pupils to become **responsible and safe digital citizens**, guided by an understanding of ethical considerations, online safety and the responsible use of technology.

To build a solid foundation for **future learning**.



# Computing Implementation

Computing at Malin Bridge Primary School follows a 2-year cycle with units being delivered alternate half terms. The rationale behind this approach is to ensure that pupils have sufficient time to engage with the resources available in school, master the concepts, and apply their learning in a meaningful way. Retrieval time is built into the curriculum to ensure key knowledge and understanding is maintained. Each unit has been designed to ensure pupils progress through the curriculum appropriately.

## COMPUTING CURRICULUM CYCLE

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>EYFS</b>	Computing through continuous provision	Computing Systems and Networks: Using a Computer	Programming 1: All about instructions	Computing Systems and Networks: Exploring Hardware	Programming 2: Programming Bee Bots	Data Handling: Introduction to Data
<b>KS1</b>	Year 1 - None Year 2 - What is a computer? Algorithms and debugging	Year 1 - Improving Mouse Skills Algorithms unplugged Year 2 - None	Year 1 - None Year 2 - Data Handling Programming 2: ScratchJr	Year 1 - Creating Media Programming Beebots Year 2 - None	Year 1 - None Year 2 - Creating Media: Stop Motion	Year 1 - Skills Showcase Rocket to the Moon Year 2 - None
<b>LKS2</b>	Year 3 - None Year 4 - None	Year 3 - Networks and the Internet Journey inside a computer Year 4 - Collaborative Learning Scratch	Year 3 - None Year 4 - None	Year 3 - Video trailers Programming Scratch Year 4 - Investigating Weather Computational Thinking	Year 3 - None Year 4 - None	Year 3 - Emailing Year 4 - Website Design
<b>UKS2</b>	Year 5 - Search Engines Mars Rover 1 Year 6 - Bletchley Park Big Data 1	Year 5 - None Year 6 - None	Year 5 - Stop Motion Studio Programming Music Year 6 - History of Computers Intro to Python	Year 5 - None Year 6 - None	Year 5 - Skills Showcase Mars Rover 2 Year 6 - Skills Showcase Inventing a Product	Year 5 - None Year 6 - None

The Computing curriculum is built around three key strands, as detailed in the National Curriculum: **computer science**, **information technology** and **digital literacy**, with units organised around five core areas in order to create a cyclical route through which pupils can develop their computing knowledge and skills by revisiting and building on previous learning. The five core areas are **computing systems and networks**, **programming**, **creating media**, **data handling** and **online safety**. Online safety is taught as part of each unit, as well as through other curriculum areas such as PSHE, Citizenship and RSE.

# Computing Curriculum

## National Curriculum Guidance

### Digital Literacy

### Information Technology

### Computer Science

## Computing at Malin Bridge

Computing Systems and Networks



Programming



Creating Media



Data Handling



Online Safety

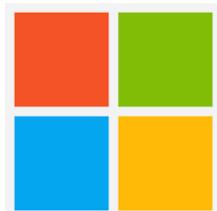


### Education for a Connected World

A framework to equip children and young people for digital life



The curriculum design enables pupils to meet the end of Key Stage attainment targets outlined in the National Curriculum and the aims align with those in the NC. In partnership with the PSHE and RSE curriculum, the computing curriculum also satisfies all the objectives of the DfE's Education for a Connected World Framework; guidance which was created to help equip children for life in the digital world, including developing their understanding of appropriate online behaviour, copyright issues, being discerning consumers of online information and healthy use of technology.



The implementation of the computing curriculum ensures a broad and balanced coverage of the National Curriculum requirements.

Component knowledge is taught clearly, which builds pupils **knowledge and skills** in order to be successful in creative, composite tasks. Teachers' exposition routinely models 'expert thinking', so pupils develop a deeper understanding of component knowledge. Other strategies used include the use of programming specific scaffolding (such as Parson's Problems and PRIMM [Predict,

Run, Investigate, Modify and Make]) and focussing on the most efficient and effective strategies to lessen cognitive load for pupils. Lessons incorporate a range of teaching strategies from **independent tasks, paired and group work** as well as **unplugged and digital activities**. This variety means that lessons are engaging and appeal to all pupils. Pupils are stretched and challenged appropriately, and knowledge organisers are used to support pupils in building a foundation of substantive knowledge by encouraging recall of key facts and vocabulary.



In Y1-6, computing is delivered in each class for a minimum of one 1-hour lesson per week, 3 terms a year. Teachers and pupils use iPads, laptops, Chromebooks, and PCs to ensure pupils are competent in their use, as well as additional technology such as Bee-Bots®. Software used include Microsoft Paint, Sketchpad, Microsoft Powerpoint, Google Docs, Scratch, Microsoft Photos, Microsoft Outlook, WeVideo, Microsoft Excel, TinkerCAD and Trinket.



# Online Safety and Safeguarding

Online safety and the safeguarding of our pupils is a key priority across all year groups. Pupils receive regular online safety lessons as part of their computing lessons, as well as other areas of the curriculum such as PSHE, RSE and Citizenship. Lessons cover all eight aspects identified in the Education for a Connected World Framework, and ensure our pupils develop safe and appropriate long-term behaviours. Robust safeguarding practices play a crucial role in ensuring the safety and well-being of children in school. These practices encompass various measures, including effective monitoring and filtering processes to safeguard children when they are online. Schools employ advanced monitoring and filtering systems to track and analyse online activities within the school network. Filtering systems restrict access to inappropriate content and websites, minimizing the risk of exposure to harmful material. Supervision is maintained during school hours, including areas of school where children have access to online activities. School actively involves parents and guardians in the safeguarding process, providing them with information and resources to support their children's online safety at home. All safeguarding policies and practises are subject to regular reviews and audits to ensure their effectiveness. Feedback from stakeholders is considered and adjustments are made to address emerging challenges or technological advancements.



Pupil voice is also used to establish what the online world is like for our pupils; this information is used to evaluate the appropriateness of the curriculum offer and make changes as necessary. For examples, leaders identify the potentially unsafe behaviours our pupils may demonstrate and ensure key safety messages are taught in the preceding year groups.

## Monitoring and Evaluation

Fidelity of the curriculum is achieved through ongoing monitoring and quality assurance; this includes lesson observations, work scrutiny, pupil voice, professional development, and data analysis. Feedback from monitoring is used to ensure the curriculum remains relevant, effective, and aligned to the intended outcomes set out above.



# Computing in the Early Years

Pupils in FS1 (Nursery) and FS2 (Reception) engage with Computing through a mixture of adult-led sessions and continuous provision. Pupils in FS1 focus on learning basic skills such as turning on and operating some digital equipment, operating mechanical toys and how to take photographs using iPads. Pupils in FS2 build on this by using a wider range of devices, such as

operating a CD player, using a remote control and using touch screen technology. Pupils consolidate their skills in making toys work by pressing parts and lifting flaps, and they begin to gain facts by using the internet. Talking postcards are used in continuous provision to provide children with instructions for using the internet, which they practise and refine. Pupils also begin to use programmable devices such as Bee-bots® to sequence instructions. Online Safety is also a

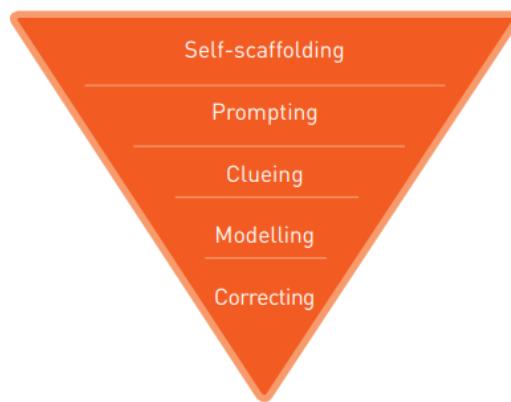
focus of the curriculum across EYFS, with children learning about what the internet is, the concept of being safe when online, the types of online behaviours that are safe and unsafe, what

personal information is, who trusted adults are and how they can help when we use the internet, what healthy habits are when using devices and why having responsible screen time is healthful. These lessons are taught primarily during the Spring 2 term, however content is shared and recapped regularly when children access digital devices.



# Scaffolding and Stretching

Teachers are highly skilled in adapting lessons to ensure they cater to the diverse learning needs of pupils. For those who need additional support and scaffolding, teachers and support staff use a range of techniques. These include providing more time to grasp concepts through pre-teach session and extended practise, using bespoke visual resources to support understanding, dual coding information, use of Kagan® structures to aid children's ability to formulate responses, use of knowledge organisers to aid recall of key information, adapted tasks and the opportunity to work with an adult or peer(s). For early graspers who quickly understand new concepts, teachers and support staff provide routine opportunities to extend their thinking. These activities encourage critical thinking, creativity and independent exploration. Flexible lesson structures allow early graspers the opportunity to access tasks sooner, whilst slower graspers have more time to practise skills and consolidate their understanding before moving on to independent work. Support staff are guided by the EEF's self-scaffolding model (*taken from Making Best Use of Teaching Assistants*) which helps to identify the most appropriate level of support for a child. Our goal is to create an inclusive learning environment where every student can thrive at their own pace and level of understanding.



## Adaptations for SEND

We are deeply committed to providing an inclusive education that caters to the diverse needs of all our students, including those with Special Educational Needs and Disabilities (SEND). Our computing curriculum is thoughtfully adapted to ensure that SEND pupils receive the support and accommodations necessary to thrive academically and personally. Teachers ensure ICT skills are demonstrated clearly and progressively. Subject specific language is taught explicitly at the start of new topics and pre-teaching of new vocabulary happens where needed. Teachers also ensure that all pupils, and especially those with SEND, have appropriate thinking time in order to respond in class discussions and debates. This approach is particularly helpful in increasing participation and build self-confidence.



See the **SEND** booklet for more information.

# Assessment: *The Impact*

The impact of the Computing curriculum at Malin Bridge Primary School can be monitored through both **formative** and **summative** assessment opportunities. Each lesson has a clear learning objective which is used at the beginning and end of a lesson to assess children's starting points and exit points. Pre-assessment tasks are used to inform the pitch of lessons and knowledge assessment quizzes are used at the end of a unit as a summative assessment. Information gathered is then used to inform planning and next steps for pupils as part of the school's commitment to **responsive teaching**. (*See separate Curriculum booklet for more information on responsive teaching*). Teachers record an overall PITA score at the end of each computing block.

When pupils leave Malin Bridge Primary School, they are equipped with a range of skills to enable them to succeed in their secondary education and beyond.

The expected **impact** of the Computing curriculum at Malin Bridge is that children will:

- ◊ Be critical thinkers and able to understand how to make informed and appropriate choices in the future.
- ◊ Understand the importance that computing will have going forward in both their education and working life and in their social and personal futures.
- ◊ Understand how to balance time spent on technology and time spent away from it in a healthy and appropriate manner.
- ◊ Understand that technology helps to showcase their ideas and creativity. They will know that different types of software and hardware can help them achieve a broad variety of artistic and practical aims.
- ◊ Show a clear progression of technical skills across all areas of the National Curriculum – *computer science, information technology and digital literacy*.
- ◊ Be able to use technology both individually and as part of a collaborative team.
- ◊ Be aware of online safety issues and protocols and be able to deal with any problems in a responsible and appropriate manner.
- ◊ Develop safe and appropriate behaviours when online.
- ◊ Have an awareness of developments in technology and have an idea of how current technologies work and relate to one another.
- ◊ Meet the end of Key Stage expectations outlined in the National Curriculum for Computing.

# Appendices

*(available on request)*

SEND Booklet

Curriculum Booklet

Citizenship Booklet

Personal Development Booklet



# Malin Bridge Primary School

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**Chorus** Education Trust