COMPUTING DECODED

For tomorrow's digital creators.

Morden PRIMARY SCHOOL
Learn - Achieve - Enjoy

Subject Story

Computing

Intent:

We aim to prepare our children to be adaptable and intuitive to equip them to use technology confidently in a rapidly changing environment. Our high quality computing curriculum uses a variety of hardware and software designed to promote computational thinking, creativity and collaboration, this will ensure the skills necessary to compete in a future work marketplace.

The National Curriculum states:

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. 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.

Implementation
Computing skills are taught both discretely and in a cross-curricular way, supporting other areas of learning across the school. In Reception and Key Stage 1, children are taught to use equipment and software confidently and purposefully, to communicate and handle information and to support their problem solving, recording and expressive skills. In Key Stage 2, our children extend their use of computing that they use for communication, investigation and programming and work to understand how to communicate safely. Our planned curriculum for digital literacy that includes online safety is broad in covering a range of issues including understanding current issues such as 'fake news' and 'body image'.

We have a revolutionary way of delivering computing at Morden – possibly the first of its kind in the UK! Our children have a "real" and a "virtual" IT teacher for their computing lessons. Our IT technician relocated to Northumberland and we didn't want to lose him. Such is his dedication to Morden, that he continues to support the children by using remote access technology to view, communicate and demonstrate where necessary. It enables the children to have someone oversee and personally advise them and extend them in lessons and also upskills and supports the class teachers.

Impact
- ✓ Computing has a high profile at our school. Our children are confident using a wide range of hardware and software, and are diligent learners who value online safety and respect when communicating with one another.

If you were to walk into Computing lessons at Morden, you would see:

- Reference back to the unit overview at the start of each lesson, focussing attention on the skills to be developed in the proceeding learning activities.
- Retrieval practice, giving learners the chance to consolidate previous skills and knowledge.
- Proficient users of technology who are able to work both independently and collaboratively.
- Computing hardware and software being utilised to enhance the learning outcomes of our children, across the curriculum.
- Clear progression in technical skills.
- A learning buzz as children engage in programming, instruct floor robots, investigate and analyse data collected from a range of sources.

Pupil Voice

Y1: "I don't like leaving the computer room without finishing my work."
Y2: "I like making games."
Y2: "I like using all the different programmes."
Y4: "I really enjoy Maths whizz."
Y4: "I like making games using scratch."
Y6: "I like making PowerPoints using transitions and animations to display data."

An example of skills and knowledge progression within our Computing curriculum.

Autumn	Understand what algorithms are	Debugging	Logical reasoning for prediction.	Networking	Using technology for a purpose.	Staying safe and respectful.
Y1		Into the spider's web start to learn debugging methods. To suggest where the error might be.	Into the spider's web Start predicting what might happen when an even occurs e.g. pressing a hyperlink		A splash of colour To start to understand how information is stored and retrieved on a digital device. Using a variety of applications to start to develop content.	Into the spider's web Starting internet safety, looking at what to do if anything pops up on the screen unexpected. Who to talk to. How to record evidence.
Y2		Tell me about it Recognising errors in email addresses. Suggesting possible fixes			Show me what you've got To begin to use multiple files in one presentation. To further develop file management to store and retrieve files.	Tell me about it Start to develop understanding of respectful language and appropriate behaviour online. Start to understand consequences of misuse and/or cyber bullying.
Y3	Answer me this To implement loops and variables within algorithms that fulfil a task. Take user input and use this to engage with the user. Create variables for specific data storage.	Answer me this Identifying errors in code and suggesting fixes. Working with peers to find errors and suggest possible fixes.	Answer me this Predicting outcome of scripts Using previous experience to influence predictions.	LANWAN thinking To start to visualise local area networks. To understand the difference between LAN and WAN To begin to understand IP addresses and how computers communicate.		LANWAN Thinking Develop understanding of networks and how to secure files and folders. Understand how usernames and passwords allow access in different ways.
Y4		Becoming a web designer Identify line numbers of code that are not displaying using browser development tools	Becoming a web designer Predict logically what tags might mean. Use development tools to examine code and pick out areas of interest.		Cool when you're part of a team Using multiple online communication systems to share and create content. To understand that content can be stored not only physical devices but cloud networks too.	Becoming a web designer Cool when your part of a team Further developing use of appropriate language. Develop understanding of copyright and ownership of content. Develop working together online.

Outstanding examples of learning


Y3 child during a computing lesson


Two Y2 children participating in Maths Whizz


Not all computing takes place within the computer room.

Success for 2021 - 2022

Identify:

- New scheme of work implemented – Computing Decoded.
- New online Assessment app implemented.
- Planning includes videos to assist with technical demonstrations.
- New Peripherals purchased to replace old or broken.

Develop:

- Progression of skills written, mapping skills, knowledge and vocab across year groups and unit plans link back to this (evident in MTPs).
- LTP has been updated to give diversity links where appropriate for topics.
- 5-year budget plan in place for purchasing new equipment for children and infrastructure.
- Old equipment has been recycled. Any functioning equipment has been repurposed by the recycling company for use in underprivileged areas around the world.
- Each unit of work raises the profile of online safety.
- Computing lessons take place each week for each year group.

Embed:

- Computing is consistently taught on weekly basis across the school.

Priorities for 2022 – 2023

Identify:

- To deepen the understanding amongst pupils as to why online safety and online etiquette is so important.
- To research new software/apps to help enhance computing learning opportunities in EYFS and KS1
- To develop Computing Decoded curriculum to enhance learning opportunities for SEN and Gifted and Talented pupils.

Develop:

- Children will begin to suggest their own learning opportunities.
- Regular time to be made for teachers to liaise with computing lead to plan for upcoming lessons and review aspects of previous lessons.
- Teachers to have further training using classroom monitoring software.

Embed:

- Children will enter lessons with a clear understanding on how to set up for their lesson.
- Lesson plan half term development page to outline whole project learning goals.

Priorities for beyond 2023

Establish:

- Peer led learning – children will be able to demonstrate technical aspects to their peers via small group or whole class demonstrations.
- Children to have an input into online publications on the school website and local intranet.
- More independent group work for children to collaborate with each other both in year groups and across school

Some websites you might find particularly interesting

- www.lgfl.net
- www.hourofcode.com
- www.thinkuknow.co.uk
- www.scratch.mit.edu
- www.saferinternet.org.uk

Morden subscribe annually in order to gain access to award winning educational resources to help enrich our children's curriculum content. There is so much provided by the LGFL it would take years to access it all. By use of a login card, sent home at the start of each year, children can access these materials at home using their "USO".

The online applications span age ranges from EYFS (Early Years and Foundation Stage) all the way through to KS3 (Key Stage 3) as well as subjects literacy, maths, space explorations, online safety, dance, music and so many more.