Where Learning is an Adventure

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. 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. (National Curriculum 2014)

The national curriculum for computing aims to ensure that all pupils:

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

The National Curriculum sets out subject content for key stages 1 and 2. This ensures continuity, coverage and progression in the teaching of computing. Despite computing not being explicitly mentioned within the Early Years Foundation Stage (EYFS) statutory framework, which focuses on the learning and development of children from birth to age five, there are many opportunities for young children to use technology to solve problems and produce creative outcomes.

Key Stage 1 outcomes

- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions.
- Write and test simple programs.
- Organise, store, manipulate and retrieve data in a range of digital formats.
- Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

Key Stage 2 outcomes

- Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- Use sequence, selection and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs.

- Use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs.
- Understand 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.
- Describe how Internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely.
- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Safeguarding: Online Safety

Online Safety has a high profile at Milton Road Primary School for all stakeholders. We ensure this profile is maintained and that pupil needs are met by the following:

- A relevant up-to-date online safety curriculum which is progressive from Early Years to the end of Year 6.
- A curriculum that is threaded throughout other curriculums and embedded in the day-to-day lives of our pupils.
- Training for staff and governors which is relevant to their needs and ultimately positively impacts on the pupils.
- Through our home/school links and communication channels, parents are kept up to date with relevant online safety matters, policies and agreements. They know who to contact at school if they have concerns.
- Pupils, staff and parents have Acceptable Use Policies which are signed and copies freely available.
- Our online safety policy (part of our safeguarding policy) clearly states how monitoring of online safety is undertaken and any incidents/infringements to it are dealt with. That policy, as well as others that are linked to this Computing policy, can be found in the 'Safeguarding & Child Protection Policies' section of our website here.

The purpose of Computing in our school is to develop:

- positive attitudes towards the subject and awareness of the relevance of computing in the real world
- Provide an exciting, rich, relevant and challenging Computing curriculum for all pupils.
- Enthuse and equip children with the capability to use technology throughout their lives
- Give children access to a variety of high quality hardware, software and unplugged resources
- Instil critical thinking, reflective learning and a 'can do' attitude for all our pupils, particularly when engaging with technology and its associated resources.
- Teach pupils to become responsible, respectful and competent users of data, information and communication technology.
- Equip pupils with skills, strategies and knowledge that will enable them to reap the benefits of the online world, whilst being able to minimise risk to themselves or others.
- Use technology imaginatively and creatively to inspire and engage all pupils, as well as using it to be more efficient in the tasks associated with running an effective school.

We aim to provide a stimulating and exciting learning environment that takes account of different learning styles and uses appropriate resources to maximise teaching & learning.

The way in which the teaching and learning of Computing is promoted at our school is underpinned by our focus on our 6 key values of:

Respect ⌒ Responsibility ⌒ Kindness ⌒ Creativity ⌒ Curiosity ⌒ Confidence

Teachers planning and organisation

Long term planning

The National Curriculum for Computing 2014 provides the long term planning for Computing for Key Stages 1 and 2.

Medium term planning
EYFS use 2Simple's Mini Mash and Years 1-6 use 2Simple's Purple Mash schemes of learning as their medium term planning documents. These schemes ensure progression of skills, knowledge and vocabulary throughout the school. Each year group has its own e-Safety unit in order to maintain the understanding of how children can keep themselves and others safe online and what to do if they are worried about something.

Short term planning
The 2Simple schemes of learning support daily lesson planning supported by a variety of online teaching tools. EYFS planning is based on the medium term plans and delivered as appropriate to individual children with thought to where the children are now and what steps they need to take next. All KS1 and KS2 classes have a weekly Computing lesson where possible. In key stage one lessons are 45-60 minutes and in key stage two around 60 minutes.

Teachers of the EYFS ensure the children learn through a mixture of adult led activities and child initiated activities both inside and outside of the classroom.

Pupils' Recording of work
Children are taught how to save and retrieve their working using 2Simple's integrated pupil folders. They are encouraged to use these folders to save work they have done in school and at home. Teachers are able to set tasks '2Dos' and will be notified when a child has completed these tasks. Teachers are then able to mark the work and give awards via the online feedback tool.

Inclusion and Equal Opportunities

At Milton Road Primary School, we aim to enable all children to achieve to their full potential. This includes children of all abilities, social and cultural backgrounds, those with disabilities, EAL speakers and SEN statement and non-statemented. We place particular emphasis on the flexibility technology brings to allowing pupils to access learning opportunities, particularly pupils with SEN and disabilities. With this in mind, we will ensure additional access to technology is provided throughout the school day. This policy is in line with the school's 'Equality and Inclusion' policy.

Further Uses of Purple Mash

Purple Mash has a wide variety of resources, lessons and tools which can be used across many areas of the curriculum. Teachers may decide to use these tools to support the teaching of many areas of topic for their year groups.

Out of class work and homework
Pupils in Key Stage Two have the opportunity to follow their own 'Pathway' via Century. For every year group, Mini Mash and Purple Mash activities may be set as homework tasks in order to supplement the computing curriculum or any other area of study.

Role of the Computing Subject Leaders

- To lead in the development of computing throughout the school.
- To monitor the planning, teaching and learning of computing throughout the school.
- To help raise standards in computing.
- To provide teachers with support in the teaching of computing.
- To provide staff with CPD opportunities in relation to computing within the confines of the budget and the School Improvement Plan
- To monitor and maintain high quality resources.
- To keep up to date with new developments in the area of computing

Jennifer Williman and Gareth Williams – Computing Subject Leaders