



Inspire Learning, Ignite Curiosity

Marlow C of E Infant School Computing Policy 2020

Then God said, "Let us make mankind in our image, in our likeness"

Genesis 1:26

Rationale

At Marlow Church of England Infant School our vision is to inspire learning and ignite curiosity, within a welcoming Christian and spiritual community. We embrace the uniqueness of everybody and are inclusive of all. Our values of helpfulness, respect, kindness, perseverance, forgiveness, thankfulness and service guide all that we do and our aim is for every child to feel nurtured, supported and safe.

Our belief is that every individual is created in God's image and therefore is precious and valuable. We believe in treating everybody with respect and dignity because we acknowledge everyone's God given value and unique identity

We aim to achieve this by providing children with the opportunity to work towards achieving their full potential by:

- Embracing the uniqueness of everybody and be inclusive of all
- Empowering all to be enthusiastic learners
- Ensuring that every child feels nurtured, supported and safe
- Enriching learning through progressive teaching methods and technology
- Being responsible to and for society
- Being good citizens of the planet

As a school we support the rights of children and these rights are encompassed in UN Convention of the Rights of the Child. This policy focuses on helping to realise Article 28 *All children have the right to a quality education.*

Computing Intent

Computing is an integral part of our children's lives and their future lives so at Marlow C of E Infant school we place a huge importance on the children's learning of Computing Skills, Safety Online and Computing in everyday life, providing an impressive technology-rich learning environment for its children and teachers. All classrooms have an interactive board, a visualiser, tablet and access to a wired and wireless network to support the use of our Learnpads and PCs. Teachers and children have access to a wide range of software and hardware to enhance the curriculum, we enrich learning using PurpleMash, Lexia, Doodle Maths, 2Simple, StopMotion as well as igniting curiosity with handheld devices, such as Beebots.

Our learning programmes give children an opportunity to make the most of the technologies available to them, adapting to new ways of doing things as technologies evolve and limiting the risks to themselves and others in a digital environment. Children develop IT capabilities as they learn to use digital tools effectively and appropriately to access, create and communicate information and ideas, solve problems and work collaboratively in all learning areas at school. The primary areas for learning are Computing Science, E-Safety and Digital Literacy, as well as Computing in everyday life.

The skills are taught independently in computing lessons and put into practice in other lessons so children learn the skills and then use them in meaningful contexts.

We aim to provide the children with the opportunity 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.

Statutory Requirements

Statutory requirements for the teaching and learning of Computing are laid out in the National Curriculum (2014)

http://www.computingschool.org.uk/data/uploads/primary_national_curriculum_-_computing.pdf

The *statutory framework for the Early Years Foundation Stage (2017)*

https://www.foundationyears.org.uk/files/2017/03/EYFS_STATUTORY_FRAMEWORK_2017.pdf

and in the *Development Matters in the Early Years Foundation Stage guidance document (2012)*

<https://www.foundationyears.org.uk/files/2012/03/Development-Matters-FINAL-PRINT-AMENDED.pdf>

EYFS

The Early Years curriculum is founded on the principles and practice laid out in the Development Matters document. The requirements for Computing are in 'Understanding the World: Technology' section of Development Matters.

'Understanding the world involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment.' EYFS Framework 2017

KS1

Statutory requirements for the teaching and learning of Computing are laid out in the National Curriculum Document (2014) for KS1. Computing is a foundation subject in the National Curriculum which states that:

'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 computing science, in which pupils are taught 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 (NC) 2014

During KS1 pupils are taught to:

- 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
- 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, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Curriculum Organisation

Throughout EYFS and KS1 each class has access to LearnPad tablets, free standing personal computers, Beebots and Interactive Boards. Pupils in KS1, follow the whole-school computing curriculum, which reflects the NC 2014 objectives. Digital technologies are also used to support other subjects throughout the curriculum. Computing lessons are taught discretely once a week.

Teaching and Learning Strategies

In studying computing pupils experience a variety of approaches to their learning including:

- Teacher demonstrations
- Individual and shared use of digital devices
- Collaborative work
- Open-ended investigation

Computing provides opportunities for pupils to develop the following key skills:

1. Computer Science – the principles of information and computation, how digital systems work and how to put this knowledge to use through programming.
2. Information and communications technology – creating programs, systems and a range of content.
3. Digital Literacy – the ability to use, and express themselves and develop their ideas through, information and communication technology.

NAACE website

Differentiation

Differentiation is planned for so that pupil interest is maintained, their individual needs are met and to ensure that all pupils are challenged and achieve success.

Special Educational Needs

Careful attention is given to meeting the needs of SEN pupils at the planning stage. This can be assisted if the following is taken into account:

- The importance of relating the activities to the pupils own experiences
- Emphasis on learning through visual, aural and tactile and expressions of that through non-verbal and creative media
- The use of practical activities and learning through first hand experiences
- Opportunities for response and reflection and the use of self-evaluation and assessment
- Extension activities to enable those with developed skills
- All pupils are given credit for their own personal achievement.

Planning

Each year group will base their planning where possible around their current topics in line with the relevant curriculum skills.

Progression, coverage and continuity in Computing is planned for by:

- Following the objectives outlined in the National Curriculum 2014 in Key stage 1
 - Following the objectives outlined in the Development Matters 2012 in EYFS
 - Producing long term plans, which group the objectives for each year group into topic areas
 - Producing medium term plans, which show opportunities for cross-curricular work and identify teaching activities where the children can show evidence of mastery of the curriculum
 - Producing short term plans which detail progression across the Computing topic being studied.
- Differentiated, learning tasks, the deployment of extra adult support and the focus for the plenary are also identified
- The learning objectives, outcomes and success criteria for each lesson are clearly identified on planning and are shared with the children as part of the 'learning culture' created within our school
 - Regular monitoring/reviewing/revising of weekly and medium-term plans takes place, led by senior staff and the Computing subject lead.

The use of Purple Mash across the school underpins the curriculum needs for all areas of the Computing curriculum and it enables us to forge cross-curricular links.

Assessment

Assessment is an integral part of the planning process. For example:

- Evidence for assessment is gathered through planned opportunities for observation, peer and self-assessment and teacher-led activities.
 - Teachers use the Learning Ladders platform to record assessments against the objectives from the National Curriculum/Development Matters.
 - When planning, the gap analysis from the Learning Ladders is used to identify gaps in the children's knowledge.
 - Pupils are encouraged to reflect upon their chosen processes and materials and how effective they were and what could they do next time to improve or achieve different results.
- Further detail is contained in the school's Assessment Policy.

Record Keeping and Assessment

Children's' work is completed in their Topic books or on digital devices. If necessary, photographs are also taken for evidence and added to pupils' folders/books. Teachers keep their own records of pupil's progress on Learning Ladders. The subject leader keeps sample evidence of the pupils work in a portfolio. This demonstrates the expected level of achievement in Computing in each year of the school. Assessment is a central part of the learning process and can be carried out by:

- Planning activities which enable assessment to take place
- Discussion with children
- Asking open-ended questions
- Listening to children
- Observation of children working
- Looking at products of work diagnostically (print-outs, blocks of code etc)
- Using programs children have created.

Health and Safety

If pupils are involved in the use of specialist objects, the teacher in charge will make suitable provision to ensure the safety of all pupils.

Equal Opportunities

Please refer to the school's Equalities policy.

Staff development and training

Staff development and training is provided in the following ways:

- School based INSET
- Liaison with appropriate county and national services;
- Working alongside other teachers or visiting other classrooms as an observer to share good practise.

The Role of the Computing subject leader

The role of the subject leader is to:

- Distribute resources appropriately and monitor their use across the school
- Offer advice on teaching methods and the use of resources to all members of the teaching staff
- Inform the staff of any new resources, if appropriate, or ideas in implementing the Computing Curriculum
- Update the policy when necessary
- Co-ordinate the portfolio of examples of work
- Research and Organise a list of locally available IT experts for teachers to source
- Coordinate whole school Computing events and research suitability for local/national events
- Manage the Computing budget and order materials and equipment to enrich the school's provision for the subjects
- Monitor and offer advice where necessary to develop displays in classrooms and around the school

The Role of Governors

Governors determine, support, monitor and review school policies. They support the use of appropriate teaching strategies by allocating resources effectively. They ensure that building and equipment are safe. They monitor pupil attainment across the school and ensure that staff development and performance management promotes good quality teaching.

Monitoring and evaluation of Computing policy

The effectiveness of the policy will be monitored during the year through:

- Monitoring of teaching and learning by the Computing subject leader and the SLT
- Visits from the inspectorate or advisory team
- Consultation with staff
- Sampling of pupil's work
- Governors to monitor through discussions with subject leader.

The following criteria can be used as a measure of success:

- Have the learning targets been achieved?
- Have standards improved?
- Is there whole-school consistency?
- Has any part of the policy been difficult/ impossible to achieve?

Date reviewed: February 2020

Review Date: February 2023