Policy title	:	Computing Curriculum Policy
Date approved	:	September 2023
Review date	:	September 2024

'A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.'

Computing programme of Study, DfE, 2013

Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. 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.

We at Monega Primary School believe that Computing is an integral part of preparing children to live in a world where technology is continuously and rapidly evolving, so much so that children are being prepared to work with technology that doesn't even exist yet. For this reason, we feel that it is important that children are able to participate in the creation of these new tools to fully grasp the relevance of and the possibilities of emerging technologies thus preparing them for the world of work.

1. Purpose

Computing in the National Curriculum expectations has split the teaching and learning of Computing into three strands (Computer Science, Digital Literacy and Information Technology). It is therefore important that children recognise the difference between what makes each one relevant to their future, as well as their everyday lives. High quality teaching of Computing, from Year 1 through to Year 6, utilises a combination of practical lessons and theory lessons designed to promote discussion and nurture understanding, which are also relevant to other areas of the curriculum such as PSHE and Citizenship.

This policy reflects the values and philosophy in relation to the teaching and learning of Computing and teaching with ICT. It sets out a framework within which teaching and non-teaching staff can operate and give guidance on planning, teaching and assessment. This policy should be read in conjunction with the scheme of learning for Computing that sets out in detail what children in different year groups will be taught and how ICT can facilitate or enhance learning in other curriculum areas.

This document is intended for:
- All teaching staff
- All staff with classroom responsibilities
- School governors
- Parents

2. Aims

Computer Science

- To enable children to become confident coders on a range of devices.
- To create opportunities for collaborative and independent learning.
- To develop children's understanding of technology and how it is constantly evolving.

Digital Literacy

- To enable a safe computing environment through appropriate computing behaviours.
- To allow children to explore a range of digital devices.
- To promote pupils' spiritual, moral, social and cultural development.

Information Technology

- To develop ICT as a cross-curricular tool for learning and progression.
- To promote learning through the development of thinking skills.
- To enable children to understand and appreciate their place in the modern world.

3. British Values within Computing

Children at Monega Primary School demonstrate the following values whilst learning about Computing by:

Democracy

- Listening to everyone's ideas in order to form a majority.
- Working as part of a team and collaborating to use computing devices effectively.

Rule of Law

- Developing knowledge of lawful computing behaviours.
- Demonstrating respect for computing laws.

Individual Liberty

- Taking responsibility for our own computing behaviours.
- Challenging stereotypes and bias.
- Exercising rights and personal freedoms safely through knowledge of E-safety.

Respect and Tolerance

- Showing respect for other cultures when undertaking research using computing devices.
- Providing opportunities for pupils of all backgrounds to achieve in computing.

4. Objectives

In order to develop the Computing and ICT capability and understanding of each child we will provide through our planning:

- Computing through all three strands taught within the classroom.
- Continuity throughout the school to ensure that experience and skills are developed in a cohesive and consistent way.
- Access to computers, laptops and iPads within class or in designated communal areas.
- Experience of a variety of well-planned, structured and progressive activities.
- Experience cross-curricular links to widen children's knowledge of the capability of computing including safe use of the Internet and other digital equipment.
- Opportunities for children to recognize the value of computing and ICT in their everyday lives and their future working life as active participants in a digital world.

By doing this we will fulfil the requirements of the National Curriculum.

5. Equal Opportunities, Inclusion, Special Educational Needs and Disabilities (SEND)

It is our policy to ensure that all children, regardless of race, class or gender, should have the opportunity to develop Computing and ICT capability. We aim to respond to children needs and

overcome potential barriers for individuals and groups of children by:

- Ensuring that all children follow the scheme of learning for Computing.
- Providing curriculum materials and programmes, which are in no way class, gender or racially prejudiced or biased.
- Providing opportunities for our children who do not have access at home to use the school computers/Internet to develop independent learning.
- Providing suitable challenges for more able children, as well as support for those who have emerging needs.
- Responding to the diversity of children's social, cultural and ethnographical backgrounds.
- Overcoming barriers to learning through the use of assessment and additional support.
- Communication or language difficulties by developing computing skills through the use of all their individual senses and strengths.
- Movement or physical difficulties by developing computing skills through utilising their individual strengths.
- Behavioural or emotional difficulties (including stress and trauma) by developing the understanding and management of their own learning behaviours.

6. Assessment

As in all other subjects, children should be assessed and appraised of their progress in understanding and applying of computing skills. Teacher assessments of computing capability will be recorded throughout the year and reported to parents at the end of each academic year. Staff should keep or save examples of pupils' work and sufficiently detailed records to form a judgement on each pupil's level of attainment at the end of each key stage. Formative assessment occurs on a lesson-by-lesson basis determined by the aims.

7. Health and Safety

The school takes it very seriously and is aware of the health and safety issues surrounding children's use of ICT. We ensure that pupils have a safe environment in which to learn. We ensure effective filters are in place to safeguard pupils. As such, we will ensure that:

- All fixed and portable appliances in school are tested by an approved contractor every twelve months.
- Damaged equipment is reported to the computing leaders and office manager who will arrange for repair or disposal.
- Online safety is taught throughout the curriculum, and discretely through assemblies and parent presentations annually. There is also a link on our school website to direct parents to further information on how to keep children safe online.
- Children learn about rights and responsibilities when using the Internet.

8. Security, Legislation, Copyright and Data Protection

We ensure that the school community is kept safe by ensuring that:

- The school technician is responsible for regularly updating antivirus software.
- The use of ICT and computing will be in line with the school's Acceptable Use Policy (AUP).
- All staff, volunteers and children must sign a copy of the school's AUP.
- Parents are made aware of the AUP at school entry.
- All children are aware of the school rules for responsible use on login to the school network and will understand the consequence of any misuse.
- Reminders for safe and responsible use of ICT and computing and the Internet will be displayed in all areas via SMART rules poster.
- Software/apps installed onto the school network server must have been vetted by the teacher for suitable educational content before being purchased and installed. No personal software is to be loaded onto school computers. Further information can be found in the school's Data Protection policy.

9. Curriculum Development and Organisation

The curriculum for Computing is progressive and demanding. A displayed progress journey at the beginning of lessons enables pupils to rehearse, overlearn and deepen their learning by making connections.

Our clear approach to lesson sequencing ensures that lessons build upon each other. This, in turn, ensures that all pupils make exceptional progress. The building blocks or core components of lessons ensure that children are ready for subsequent learning, giving them the best opportunity to know more and remember more.

The school has adopted the 'NCCE' scheme of work for Computing as the basis for its curriculum planning. We have adapted the scheme to the local circumstances of the school.

We carry out the curriculum planning in Computing in three phases (long-term, medium-term and short-term). The long-term plan maps the Computing topics that the children study in each term during each key stage. The Computing subject leader works this out in conjunction with teaching colleagues in each year group, and the children are beginning to study Computing as part of their work in other subject areas.

Our long-term Computing plan shows how teaching units are distributed across the year groups, and how these fit together to ensure progression within the curriculum plan.

Our medium-term plans, which we have adopted from the 'NCCE' scheme of work, give details of each unit of work for each term. They identify the key learning objectives for each unit of work and stipulate the curriculum time that we devote to it. The Computing subject leader is responsible for keeping and reviewing these plans.

The class teacher is responsible for delivering the Computing component of each lesson. The mid-term plans list the specific learning objectives of each lesson over a half term. The class teacher keeps these plans and they often discuss them with the Computing subject leader on an informal basis.

The topics studied in Computing are planned to build upon prior learning. While we offer opportunities for children of all abilities to develop their skills and knowledge in each unit, we also build planned progression into the scheme of work, so that the children are increasingly challenged as they move up through the school.

10.Teaching and Learning

Across Key Stage 1 and Key Stage 2, our children will use technology to:

- Learn Programming by using programmable toys, programs on screen, through animation, developing games (simple and interactive) and to develop simple mobile apps.
- Develop their computational thinking through filming, exploring how computer games work, finding and correcting bugs in programs, creating interactive toys, cracking codes and developing project management skills.
- Develop computing creativity by illustrating an eBook, taking and editing digital images, shooting and editing videos, producing digital music, creating geometrical art and creating video and web copy for mobile phone apps.
- Investigate computer networks through finding images using the Web, researching a topic, finding out how the school network operates, editing and writing code, creating an online safety presentations, and planning the creation of mobile apps.
- Communicate and collaborate by producing a talking book, communicating clues, use email, produce wikis, create and write blog pages and design interfaces for apps.
- Understand the need for productivity as a life skill through creating a card electronically, record bug hunt data, create surveys and analyse results, record and analyse weather data, create virtual spaces and research the app market.

Teacher's planning is differentiated to meet the range of needs in each class. A wide range of teaching and learning styles are employed to ensure all children are sufficiently challenged. Children may be required to work individually, in pairs or in small groups according to the nature of the task. Different outcomes may be expected depending on the ability and needs of the individual child.

Foundation Stage
We develop computational thinking in Nursery and Reception as an integral part of the topic work covered during the year. As these classes are a part of the Foundation Stage of the National Curriculum, we relate the Computing aspects of the children's work to the objectives set out in the Early Learning Goals (ELGs) and Characteristics of Effective Learning which underpin the curriculum planning for children aged three to five. The children have plenty of opportunities to use the computers, iPads, digital cameras etc. During the year, they gain confidence and start using the computer to find information and to communicate in a variety of ways.

11.Internet Safety

Internet access is planned to enrich and extend learning activities across the curriculum. However, we have acknowledged the need to ensure that all pupils are responsible and safe users of the Internet and other communication technologies both in school and outside. An Internet Access policy has been drawn up to protect all parties (appendix A) and rules for responsible Internet use are displayed next to each computer and in each classroom within our school. To further ensure the safety of the children we teach each class the rights and responsibilities of using the Internet.

12.Roles and Responsibilities

The head teacher, in consultation with the Computing leader, IT technician and staff will:

- Determine the ways in which Computing and ICT supports, enriches and extends the curriculum.
- Decide on the provision and allocation of resources.
- Ensure that Computing and ICT is used in a way that achieves the aims and objectives of the school.

There is a designated Computing leader to oversee the planning and delivery of Computing and ICT within the school through:

Facilitating the use of ICT across the curriculum in collaboration with all subject leaders. Providing or organising training to keep staff skills and knowledge up to date.

Advising colleagues about effective teaching strategies, managing equipment and purchasing resources (in conjunction with IT Technician).

Monitoring the delivery of the Computing and ICT curriculum and reporting to the head teacher and governors.

The Computing Lead along with other subject leaders will work to ensure all National Curriculum statutory requirements are being met with regard to the use of ICT within curriculum subjects.

Whole school coordination and support is essential to the development of Computing and ICT capability however, it is the responsibility of each individual teacher to plan and teach appropriate Computing and ICT activities and assist the leader in the monitoring and recording of pupil progress in the subjects.

13. Monitoring

Monitoring termly enables the subject leader to gain an overview of Computing teaching and learning throughout the school. This will assist the school in the self-evaluation process identifying

areas of strength as well as those for development. In monitoring the quality of Computing teaching and learning, the subject leader will:

- Observe teaching and learning in the classroom.
- Hold discussions with teachers and children.
- Analyse children's work
- Examine plans to ensure full coverage of the Computing curriculum.

14. Home School Links

Our school website promotes the school and children's achievements as well as providing information and communication between the school, parents and the local community. Messages are sent to parents via School Ping as reminders or to inform instead of sending letters home with children.

15. Deployment of Computing Resources

To enable regular and whole class teaching of Computing, teachers have access to a bank of shared Chromebooks or Laptops as well as a shared bank of iPads and cameras. Every class has an interactive touch-screen board linked to a main computer on the school network. The school hall on the top floor has a ceiling mounted projector and a retractable screen, which are also linked to the school network.

Appendix A

Adapted from Childnet International by Monega PRIMARY SCHOOL

S — SAFE

Keep your personal information safe. Don't give away your name, password or home address.

M — MEET

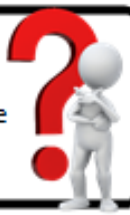
Meeting up with someone you only know online can be very dangerous. If someone you only know online ever asks you to meet tell an adult.

A — ACCEPTING

Think carefully before you click. Do not accept something if you are unsure.

R — RELIABLE

You cannot trust everything you see online. To find reliable information compare websites, check in books and talk to someone.



T — TELL

Tell a trusted adult if something or some makes you feel upset, worried or confused. There are lots of people who can help; teachers, parents, carers or contact ChildLine - 0800 11 11 or www.childline.org.uk

Always be kind and respectful to others online