The Royal Borough of Kingston upon Thames

Malden Parochial C of E Primary School
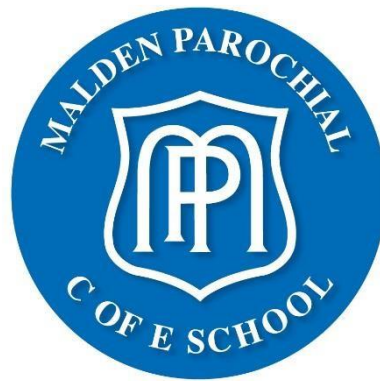
Computing Policy

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Vision Statement

Computing is an integral part of our children's everyday life and it will play an immeasurable part in their futures. Our children will be online safe, online inspired and online confident. Computing in our school is a practical subject in which invention and resourcefulness are encouraged. Computing ideas are applied to understanding real-world systems and creating purposeful products.

As computing is an increasing part of life today, children will be equipped with the confidence, knowledge and skills needed to face our rapidly developing and changing technological world.

Computational thinking will provide them with insights into many areas of the curriculum and influence their work at the cutting edge of a wide range of disciplines.

Computing: To code; to connect; to communicate; to collect.

Intent

At Malden Parochial, we aim for all pupils and members of staff to become confident users of technology. We understand that technologies are developing rapidly and we seek to provide pupils and staff with the skills, knowledge and understanding of computing they will need for the rest of their lives. Through our programme of study for Computing, they will learn how computers and computer systems work, design, and build programs. It also aims to develop 'computational thinking', which is a skill that allows pupils to solve problems, design systems, conceptualise and understand computer-based technology.

Children at Malden Parochial from Years 1 to 6 will follow the National Curriculum Computing Programmes of Study. We use a curriculum that has been written to reflect the three aspects of the programmes of study. The curriculum is split into three main strands: Digital Literacy, Computer Science and Applying Technology. Online safety is included within all of these areas.

Information Literacy and Online Safety

Our children will gain the ability to safely, responsibly and critically navigate, evaluate and create information using a range of digital technologies.

Computer Science

Our children will know and understand the principles of information and computation, how digital systems work and how they are applied to the real world, through many means including Coding and programming.

Media

Our children will develop an ability to use a range of computing devices to share differing media, from videos to cartoons; the children will be made aware of the variety of uses that technology has in the world around them.

Data Handling

Our children will use a variety of computing programs to help gather, share and interpret data that we come across in the world that surrounds us.

Throughout the Computing curriculum, children will create meaningful links with Mathematics, Science, Art, and Design and Technology, which will provide them with insights into both natural and artificial systems. In addition, developing their understanding of the ever-changing world of computing.

See Appendix A – Curriculum Mapping

The children will access the content of these topics at an age and ability appropriate level, building on their computing knowledge and skills from previous years. Further details of this can be found in the following documents.

See Appendix B - Curriculum Coverage

     Appendix C - Computing Scheme of Work

     Appendix D - Online Safety Scheme of Work

     Appendix E - Skills and Progression Documents

     Appendix F – Computing Knowledge Based Questions

     Appendix G – Computing KPIs

We teach a curriculum that enables children to become effective users of technology who can:

- understand and apply the essential principles and concepts of Computer Science, including 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 (debugging);
- understand and apply algorithms, data representation and communication digitally;
- evaluate and apply information technology analytically to solve problems;
- communicate ideas well by utilising appliances and devices throughout all areas of the curriculum;
- be responsible, competent, confident and creative users of information and communication technology;
- develop the understanding of how to use computing safely and responsibly;
- use computing as a tool to enhance learning throughout the curriculum;
- respond to new developments in technology;
- meet the requirements of the National Curriculum Programmes of Study for Computing.

Children in the Early Years and Foundation Stage at Malden Parochial will be given a broad, play-based experience of ICT in a range of contexts, including outdoor play.
Children will develop confidence, control and language skills through opportunities to 'paint' on the whiteboard or drive remote controlled toys such as Beebots.
Outdoor exploration will be an important aspect, supporting the development of coding skills by using ICT mobile devices and equipment. Recording devices will develop our children's communication skills.

Pupils in the Foundation Stage will 'recognise that a range of technology is used in places such as homes and schools. They will be able to select and use technology for particular purposes (Early Years Outcomes).

This early learning goal can be achieved by:

- Knowing how to operate simple equipment;
- Showing an interest in technological toys;
- Understanding that information can be retrieved from computers;
- Completing a simple program on a computer;
- Interacting with age appropriate computer software.

Implementation

Computing and ICT (Information and Communications Technology) play a vital role in our lives, particularly in current times where technologies are constantly changing and evolving. A sound knowledge and understanding of ICT and Computing enables and prepares pupils to be active participants in a world where work, and other activities, are increasingly transformed by access to varied and developing technology. It is our duty as educators to ensure all children have access to an education in which such technologies are available and skills taught and practiced to a high standard in a variety of ways.

Roles and Responsibilities

The Subject Leader for Computing is responsible for raising standards in Computing and Online Safety across the entire school by:

- Supporting others in planning, teaching and assessment;
- Facilitating the use of computing across the curriculum, in collaboration with other subject coordinators;
- Ensuring staff are up to date with training to enable them to deliver the curriculum confidently and effectively;
- Providing advice to staff in terms of resourcing, planning, using software and equipment, and effective resources;
- Managing school resources to ensure we have the technology to be able to deliver the new curriculum effectively;
- Monitoring the planning and delivery of the new Computing and Online Safety curriculum and reporting to the Headteacher.

The Headteacher and Governing Body are responsible for:

- Ensuring teachers are able to deliver the new curriculum by having access to the appropriate training and resources necessary;
- Providing opportunities for the Computing Lead to work with staff to plan and deliver lessons for the Computing curriculum;
- Reviewing policies relating to Computing, Online Safety and Acceptable Use.

The Class Teacher is responsible for:

- Following the guidelines set out in the Computing, Online Safety and Acceptable Use policies;
- Planning effective Computing and online safety lessons using the objectives from the long term plan outlined in this policy;

- Ensuring all objectives for their year group are planned for either through discrete or cross-curricular lessons;
- Providing many opportunities for Computing to be applied by pupils in a variety of ways, using a wide range of technology and software;
- Planning lessons which will support and/or challenge pupils as appropriate;
- Ensuring they have access to a range of necessary resources to be able to deliver the curriculum effectively. This includes liaising with the Computing Lead that resources are available, ensuring equipment is ready to be used, and returning equipment for others to use. Any breakages or faults must be reported by teaching staff to the Computing Lead;
- Supporting the Computing Lead in monitoring and assessment by completing the relevant planning and assessment grids at the end of each term;
- Ensuring support staff have access to planning and have the knowledge and skills to be able to support and challenge them in completing tasks;

The Support Staff are responsible for:
- Ensuring they have the relevant planning necessary to support and challenge pupils;
- Asking for support from the class teacher and/or Computing Lead to ensure their training requirements are met.

Equal Opportunities

At Malden Parochial, we ensure that all children are provided with the same learning opportunities whatever their social class, gender, culture, race, disability or learning difficulties. As a result, we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to ICT and computing and all staff members follow the Equal Opportunities Policy. Resources for SEN children and Gifted & Talented will be made available to support and challenge appropriately.

- We value the individuality of all of our children. We are committed to giving our children every opportunity to achieve at the highest of standards.
- We offer a broad and balanced curriculum, and have high expectations of all children.
- We seek to ensure that all pupils have equal access to the full range of educational opportunities provided by the school. We constantly strive to remove any forms of indirect discrimination that may form barriers to learning for some groups.
- We value each pupil's worth, we celebrate the individuality and cultural diversity of the community centred on our school, and we show respect for all minority groups.
- The achievements, attitudes and well-being of all our children matter.

Health and Safety

Malden Parochial is aware of the health and safety issues involved in children's use of ICT and computing.

- ➢ An LA contractor tests all fixed electrical appliances in school every five years and all portable electrical equipment in school is tested by an external contractor (PAT tested) every twelve months.
- ➢ It is advised that staff should not bring their own electrical equipment in to school but if this is necessary, then the equipment must be PAT tested before being used in school.

- ➢ Damaged equipment should be reported to the technician or Business Manager who will arrange for repair or disposal.
- ➢ Children should not put plugs into sockets or switch the sockets on.
- ➢ Trailing leads should be made safe behind the equipment.
- ➢ Liquids must not be taken near the computers.
- ➢ Pupil code of conducts are an integral part of the curriculum and the school will deliver further education through assemblies termly and parent presentations biennially (CEOP Online safety training).

Planning

All Malden Parochial children are entitled to a progressive and comprehensive Computing programme, which embraces the requirements of the National Curriculum and takes into account individual interests and needs.

The school has schemes of work, which outline the expected coverage for each year group, ensuring pupil exposure to coding, digital literacy and online safety. Class teachers prepare short-term plans for each computing lesson following the computing and online safety schemes of work. These list the specific learning objectives for each lesson and give details of how the lessons are to be taught, outlining how teachers can challenge or offer more support as appropriate.

The planning and delivery of each unit of work will ensure that each pupil will have the opportunity to acquire and develop skills; explore basic skills, actions and ideas with increasing understanding of coding, algorithms, debugging, and repeating simple skills and actions with increasing confidence.

Teaching

Early Years

It is important in the Foundation Stage to give children a broad, play-based experience of ICT in a range of contexts, including outdoor play. Computing is not just about computers. Early Years learning environments should feature ICT scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to explore using non-computer based resources such as metal detectors, controllable traffic lights and walkie-talkie sets. Recording devices can support children to develop their communication skills. This is particular useful with children who have English as an additional language.

By the end of Key Stage 1, children should be taught to:

- 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 ;
- Use logical reasoning to predict and compute the behaviour of 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.

By the end of Key Stage 2, children should be taught to:

- 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 and 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;

Teachers at Malden Parochial will formally assess the progress of pupils at the end of each unit of work. Informal assessment is carried out on a lesson-by-lesson basis, which leads into the final evaluation. Teachers complete a subject-specific Key Performance Indicator sheet outlining the attainment of the children for that area.

Organisation

At Malden Parochial the Computing and Online Safety Scheme of Work will be followed weekly for one hour teaching skills and then throughout the curriculum. The scheme of work has been organised to ensure progress of pupils' skills through a creative, flexible and multi-disciplined focus to ensure that our students are effectively engaged in their learning and that they have the opportunity to use ICT in a variety of different ways. The approach allows students the opportunity to extend their learning by combining different ICT skills to create work that they can be proud of. To ensure cross-curricular ICT, as a school we are committed to using the best tools for the job of teaching and learning in any given subject area and the Computing Lead works alongside other subject leads to ensure that there is appropriate provision of resources, including software and hardware. (This is where the computing technician and ClickOn IT help with the day to day organisation of software and hardware compatibility with the skills needed to be taught.)

The curriculum is designed and delivered to ensure children gain 'sticky knowledge' so that they can transfer all they have learnt to their long-term memory.

Homework

The children at Malden Parochial are given the opportunity to complete their weekly homework improving their computing digital literacy skills where appropriate, although the majority of home learning will have an English or Maths focus.

Equipment and Resources

Our children will have access to the hardware (computers, Chrome books, programmable equipment, cameras) and software that they need to develop knowledge and skills of digital systems and their applications.

Malden Parochial acknowledges the need to continually maintain, update and develop computing hardware by investing in resources that will effectively deliver the strands of the National Curriculum and support the use of ICT and computing across the school. We have a networked ICT suite and a variety of mobile technology, which is used throughout the school.

The ICT suite contains 30-networked workstations.

In addition to this, we also have a class set of Chrome books, which can be booked out by teachers and children. Foundation Stage also has the opportunity to use laptops that are connected to the network and Wi-Fi. These are used in a variety of ways including research activities and small group work.

Digital projectors are located within all classrooms and within the computer suite. Teaching staff have access to a networked computers, laptops and Chrome books which are used alongside interactive whiteboards, TVs and digital projectors as an interactive resource.

The school also has a wide variety of mobile technology including microphones, sound buttons, film camera, Easi-view microscopes and visualizers. A service level agreement with ClickOn IT is currently in place to help support the technician to fulfil his role in both hardware & audio visual.

Security

➢ The Computing technician/coordinator will be responsible for regularly updating anti-virus software.

➢ 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.

➢ Malden Parochial parents and carers will be made aware of the 'Acceptable Usage Policy' at school induction.

➢ All pupils will be aware of the school rules for responsible use on login to the network and will understand the consequence of any misuse (individual class code of conducts).

➢ The agreed rules for safe and responsible use of ICT and computing and the internet will be displayed in all computing areas.

Impact

Assessment

Assessment is regarded as an integral part of teaching and learning and is a continuous process. It is the responsibility of the class teacher to assess all pupils in their class.

Assessment is carried out through:
- Questioning
- Marking
- Mini-plenaries
- TA feedback
- Self-assessment
- Formal assessment

The school's Assessment and Marking Policies ensures that high quality feedback is given to pupils through next step marking and pupils are expected to respond.

Children are also encouraged to make personal assessments of their own work through evaluating activities and identifying what they need to improve by using traffic lighting to show achievement against success criteria in every lesson.

The children are formally assessed each term in foundation subjects to ensure that progress is being made and that children are working at the expected level for their year group. For each unit of work covered there are clear KPIs showing what is expected of the children in that year group. These assessments are submitted to the Headteacher and Subject Leader so that progress can be clearly tracked and monitored.

Monitoring and Evaluation
Monitoring takes place regularly through sampling children's work, teacher planning, through a book scrutiny and lesson observations.

Monitoring the standards of children's work and the quality of teaching in Computing is the responsibility of the Subject Leader and Leadership Team. The subject leader is also responsible for supporting colleagues in the teaching of Computing, for being informed about current developments in the subject, and for providing a strategic lead and direction for the subject in the school.

Review
The Subject Leader and Headteacher will review this policy and amend as appropriate in consultation with the Governors.

In conclusion
Consultation
At the end of each academic year, the coordinator, Headteacher and staff review and evaluate the computing skills taught. Evaluation should take into account:

- Implementation of the National Curriculum. This will include discussion of the lesson structure, progress of the children in line with key objectives, planning issues and staff needs as regards training and support;
- Pupil achievement, both in formal assessment and by ongoing teacher assessment;
- Coverage of curriculum;
- Analysis of children's books;
- Staff development;
- Any issues arising from teaching, regards common problems or difficulties;
- Children who have not reached the age related expectations.

Links to other policies and documents

- [Assessment policy](#)
- Marking policy
- Homework policy
- SEND policy
- Inclusion policy
- Online Safety policy
- Acceptable Use policy

Acronyms

ICT – Information and Communication Technology

KPIs – Key Performance Indicators

PAT – Portable Appliance Testing

CEOP – Child Exploitation and Online Protection

AUP – Acceptable Use Policy

SEN – Special Educational Needs

TA – Teaching Assistant

SEND – Special Educational Needs and Disabilities

Appendix

Appendix A – Curriculum Mapping

Appendix B - Curriculum Coverage

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