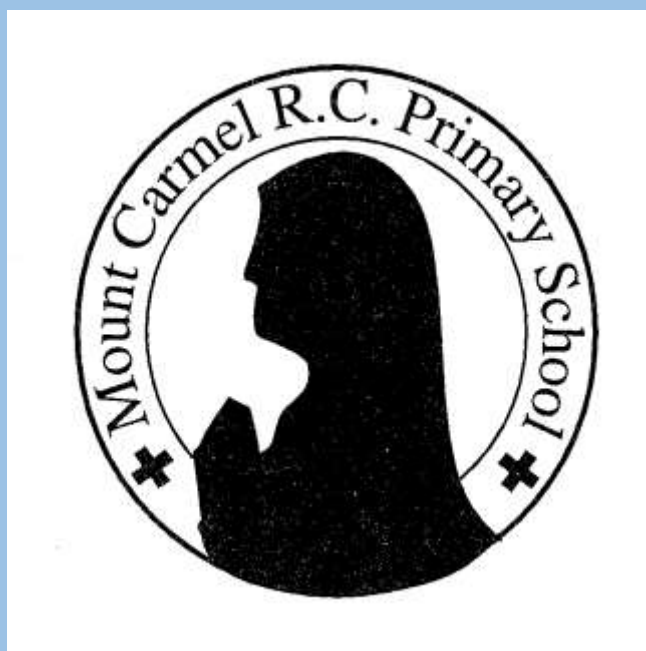


Mount Carmel ICT/Computing Policy 2014-



"Proclaiming Christ's message of hope, we live as a caring family of faith and mutual respect." (Mission Statement)

Mount Carmel Primary School I.C.T/Computing Policy

Introduction

This policy document is designed to reflect how Mount Carmel will continue to achieve best practise in ICT and help children acquire the skills necessary to succeed and enjoy a more 'Computer Science' lead Computing Curriculum. At the heart of the new curriculum, and our own policy is the safety of children in a social media age as well as a well-structured and enjoyable coding program of study.

Purpose of study

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.

Aims

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.*

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Schools are not required by law to teach the example content in [square brackets].

Source: DFES Computing Curriculum 2014

1. Aims and objectives

1.1 Computing is changing the lives of everyone. Through teaching Computing we equip children to participate in a rapidly-changing world where work and leisure activities are increasingly transformed by technology. We enable them to find, explore, analyse, exchange and present information. We also focus on developing the skills necessary for children to be able to use information in a discriminating and effective way. Computing skills are a major factor in enabling children to be confident, creative and independent learners.

1.2 The aims of the new Computing Curriculum are to enable children:

- to develop IT capability in finding, selecting and using information;
- to use ICT for effective and appropriate communication;
- to monitor and control events both real and imaginary;
- to apply hardware and software to creative and appropriate uses of information;
- to apply their Computing skills and knowledge to their learning in other areas;
- to use their skills to develop their language and communication skills;
- to explore their attitudes towards Computing and ICT and its value to them and society in general. For example, to learn about issues of security, confidentiality and accuracy.
- to be able to use technology safely and explore and explain possible miss-use of technology and social media.

2. Teaching and learning style

2.1 As the aims of Computing are to equip children with the skills necessary to use technology to become independent learners, the teaching style that we adopt is as active and practical as possible. At times we do give children direct instruction on how to use hardware or software in 'skills' lessons but we often use Computing capabilities to support teaching across the curriculum. So, for example, children might research a history topic by using a CD-ROM, or they might investigate a particular issue on the Internet. Children who are learning science might use the computer to model a problem or to analyse data. We encourage the children to explore ways in which the use of Computing can improve their results, for example, how a piece of writing can be edited or how the presentation of a piece of work can be improved by moving text about etc.

2.2 At Mount Carmel we recognise that all classes have children with widely differing Computing abilities. This is especially true when some children have access to Computing equipment at home, while others do not. We provide suitable learning opportunities for all children by matching the challenge of the task to the ability and experience of the child. We achieve this in a variety of ways, by:

- setting common tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty (not all children complete all tasks);
- providing resources of different complexity that are matched to the ability of the child;
- using classroom assistants to support the work of individual children or groups of children.
- Targeting children early so that they have a basic understanding of Computing language , have the fine motor skills required for manipulating objects using a mouse or other hand-held devices.
- Target children in Years 3-5 to help improve their typing speed.

3. Computing Curriculum Planning

3.1 Mount Carmel uses the national scheme of work for Computing in addition to the Switched On Scheme as the basis for its curriculum planning. We have adapted the national scheme to the local circumstances of the school and have incorporated it into our creative curriculum as part of a new, broader approach to Computing.

3.2 We carry out the curriculum planning for Computing in three phases (long-term, medium-term and short-term). The Computing subject leader works this out in conjunction with teaching colleagues in each year group (SEE SCHEME OF WORK 2014), and the children often study Computing as part of their work in other subject areas.

3.3 Our medium-term plans, which we have adopted from the national scheme of work and Switched On 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. As we have some mixed-age classes, we do our medium-term planning on a two-year rotation cycle. In this way we ensure that we cover the National Curriculum without repeating topics.

3.4 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.

4. Foundation Stage

4.1 We teach Computing in reception classes as an integral part of the topic work covered during the year. The children have the opportunity to use the computers and digital cameras. Then during the year they gain confidence and start using the computer to find information and use it to communicate in a variety of ways (SEE SCHEME OF WORK – FOUNDATION STAGE).

5. The contribution of Computing to teaching in other curriculum areas

5.1 Computing contributes to teaching and learning in all curriculum areas. For example, graphics work links in closely with work in art, and work using databases supports work in mathematics, while Apps and the Internet prove very useful for research in humanities subjects. Computing enables children to present their information and conclusions in the most appropriate way.

5.2 English

Computing is a major contributor to the teaching of English. Through the development of keyboard skills and the use of computers, children learn how to edit and revise text. They have the opportunity to develop their writing skills by communicating with people over the Internet, and they are able to join in discussions with other children throughout the world through the medium of video conferencing. They learn how to improve the presentation of their work by using desk-top publishing software.

5.3 Mathematics

Many Computing activities build upon the mathematical skills of the children. Children use Computing in mathematics to collect data, make predictions, analyse results, and present information graphically. They also acquire measuring techniques involving positive and negative numbers, and including decimal places. Increasingly, the use of coding in the scheme of work relies heavily on variables and predictions.

5.4 Personal, social and health education (PSHE) and citizenship

Computing makes a contribution to the teaching of PSHE and citizenship as children learn to work together in a collaborative manner. They develop a sense of global citizenship by using the Internet and e-mail. Through the discussion of moral issues related to electronic communication, children develop a view about the use and misuse of Computing, and they also gain a knowledge and understanding of the interdependence of people around the world. Previously, taught lessons have included Internet Safety and drug related resources (SEE ACCEPTABLE USE POLICY).

6. Teaching Computing to children with special needs

6.1 At Mount Carmel, we teach Computing to all children, whatever their ability. Computing forms part of our school curriculum policy to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. In some instances the use of Computing has a considerable impact on the quality of work that children produce; it increases their confidence and motivation. When planning work in Computing, we can take into account the targets in the children's Individual Education Plans (IEPs).

The use of Computing can help children in achieving their targets and progressing in their learning. Often it is the case that children on the SEN register, feel a great sense of achievement and creativity using technology they cannot always find in the classroom.

7. Assessment and recording

7.1 Teachers assess children's work in Computing by making informal judgements as they observe them during lessons. Pupils' progress is closely monitored by the class teacher and at the end of each term, each pupil will be levelled for the strand of Computing which has been studied. This class record is kept in pupil portfolio folders held on our server. When a child demonstrates their attainment of a new level statement, they show the evidence to their teacher and tick off the relevant box (levels 1 – 5).

7.2 The Computing subject leader keeps samples of the children's work in a portfolio. This demonstrates the expected level of achievement in Computing for each age group in the school.

8. Resources

8.1 At present we have a well maintained computer suite with 16 Apple Computers. In addition we also have 16 iPads in the Junior building and a further 10 iPads shared between the Infant and Foundation Departments. The Infant Department is also supplemented with a bank of laptops for use with small groups. Children in the Nursery and Reception have access to TuffCams so they can record their world as well as FloorBots to encourage the 'green shoots' of an understanding of programming.

Mount Carmel uses a dedicated Wi-Fi broadband service, provided by Virgin Media which is heavily protected and monitored by Smoothwall and Malwearbytes Technology.

9. Further Guidance

For further information see Mount Carmel's Scheme of Work for each year groups objectives and Mount Carmel's Acceptable Use Policy for our rules on Internet Safety.