

# Mountfields Lodge Primary School



## Computing Policy

**Aim High, Reach for the Sky**

# Mountfields Lodge School

## Learning and Teaching Policy for Computing

Children are growing up in a technological age. Computing prepares children to participate in a rapidly changing world in which work and other activities are increasingly transformed by technology. Children use ICT tools to find, explore, analyse, exchange and present information responsibly, creatively and with discrimination. Computing skills are a major factor in enabling children to be confident, creative and independent learners.

### Aims for Computing

The school's aims for ICT are to:

- enrich learning for all pupils;
- meet the requirements of the Foundation Stage curriculum and the National Curriculum.
- use Computing to support problem solving and learning across the curriculum;
- enable children to have a growing awareness of how ICT and computer science is used in the world around them and the benefits that it provides;
- enable teachers to develop confidence and competence in the effective teaching of Computing;

The aims of Computing are to enable children to:

- **persevere** to become competent in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects.
- develop the ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity.
- **explore** and understand the connected nature of devices.
- have the ability to communicate ideas well by using applications and devices **independently** throughout the curriculum.
- have the ability to collect, organise and manipulate data and digital content effectively and to then **communicate** findings.
- select, use and **explore** a variety of software, working purposefully with others, asking questions and **overcoming challenges**.

### Teaching and learning style

A variety of teaching styles are used and are active and practical. Children are taught computing skills which are often used to support learning across the curriculum. In addition, children are given the opportunity to demonstrate their ICT capabilities independently in integrated tasks.

It is recognised that children have differing computing experiences. This is especially true when some children have access to equipment at home, while others do not. Learning opportunities are provided for all children by matching the challenge of the task to the ability and experience of the child. We achieve this by:

- taking account of differentiation and progression in planning;
- considering all learning styles;
- using open questions to challenge children's thinking and learning.
- creating stimulating learning environments;
- ensuring independent learners have access to a variety of resources and are encouraged to reflect on the choices that they have made.

## **Computing curriculum planning**

The school follows the national curriculum for computing as the basis for its curriculum planning. Long term planning for computing shows how the objectives are distributed across the age groups, and how these fit together to ensure progression (Appendix 1). Due to some mixed-age classes, the computing curriculum is planned on a two-year cycle which ensures that units are not repeated.

Computing is planned to build upon prior learning. Opportunities are offered for children of all abilities to develop their skills and knowledge in each area of computing, and are increasingly challenged as they move up through the school.

Computing is integrated to ensure that delivery of ICT and coding is linked to themes and takes on board the statutory requirements of other national curriculum subjects.

Each class is allocated a time to use the Computer Suite to accomplish their computing scheme of work, with additional time to apply the use of ICT and coding to other subject areas.

Individual computers in classrooms support the development of ICT capability by enabling further development of tasks; encourage research and allow for the creative use of computing in other areas of the curriculum. This is highlighted in subject/theme plans.

## **Foundation Stage**

Computing is taught in foundation classes as an integral part of the themed work covered during the year. The foundation classes follow the EYFS Curriculum Guidance, therefore, the computing aspects of the children's work are related to the objectives set out in the Early Learning Goals. These underpin the curriculum planning for children aged three to five. The children have computing and ICT experiences indoors, outdoors and through role play in both child initiated and teacher directed time.

## **Assessment and recording**

Teachers assess children's work in computing by making informal judgements as they observe them during lessons. Children are encouraged to save their work into electronic folders on the Pupil network and, when appropriate, to print out work as a record of their achievements. Each child in KS1 and KS2 completes self assessment records which allows children to record and monitor their own skill progression. Self assessment records are designed to encourage children to reflect on their learning in computing.

## **Inclusion**

All pupils, regardless of race or gender, shall have the opportunity to develop computing capability. The school promotes equal opportunities for computer usage and fairness of distribution of resources. Children with a computer at home are encouraged to use it for educational benefit and parents are offered advice about what is appropriate (safe use of the internet leaflets, booklets and on our website). Efforts are made to ensure that the level of access to computers in the home environment does not unduly disadvantage any pupil.

Groupings for computer usage generally follow the same pattern as for all lessons. It is sometimes appropriate to match pairs of equal ability, whereas at other times it is appropriate to have peer tutors. Positive images of computer use by people of both sexes will be promoted. The school recognises the advantages of the use of computing by children with special educational needs.

Using computing can:

- address children's individual needs
- increase access to the curriculum
- enhance language skills

Staff structure their teaching materials to match a learning difficulty. If the situation arises, the school will endeavour to provide appropriate resources to suit the specific needs of the child.

## **Professional Development**

Training for all staff in computing is provided on a regular basis throughout the year, either during staff meeting time or for small groups when a need is identified. Teachers' training needs are identified :

- through discussion with staff
- according to the development plan
- skills audits and performance management targets

Most staff have personal access to computing through the use of a school laptop. Support staff are able to loan a laptop from school in order to prepare lessons. A replacement plan is in place to ensure these laptops are maintained or replaced.

## **Technical support**

Ongoing support in computing is provided daily by the Computing Subject Leader and the ICT administrator (4 ½ days per week). Technical problems are recorded by staff and dealt with daily, either by the Computing Subject Leader, the ICT administrator or our Internet Provider.

## **Access to Computing**

All classes have access to an interactive whiteboard and is equipped with at least one computer which is linked to the school's curriculum network.

In addition, there are loan laptops which link to the computer network by wireless technology.

The Computing Subject Leader has completed a software audit and software needs have been identified.

All computers are equipped with a suite of core software which is age appropriate and which supports the Computing curriculum (Appendix 2).

The school has a computer suite which is linked to the network and is timetabled for KS1 and KS2 classes throughout the week.

Most computers in school are linked to the internet, have anti-virus software installed and are governed by an efficient firewall (See E-Safety Policy). Resources for Computing, including peripherals, are kept in a central store (Appendix 3).

## **Health & Safety**

This policy is linked to the Health and Safety policy and to the E-Safety Policy.

Before being allowed to work with computers in school, children will be made aware of the rules for acceptable use of the internet and acceptable behaviour. These rules are on display next to every computer in school.

Computing equipment is secured with a security locking device where possible. The school has an alarm system installed throughout. There is security against access to the management system from the curriculum network. The files and network system are backed up regularly. The virus checker is updated regularly.

## **Environmental Disposal**

Obsolete equipment is written off from the school inventory with the permission of the governors and is disposed of environmentally.

### **Assessing, Recording and Reporting**

Throughout each unit of work, class teachers will observe progress against short focused tasks where appropriate, and assess the children's progress in a final assessment task. The result of this will be used to support teaching and learning. Assessment will be based on statements of whether individual children have achieved 'some', 'most' or 'further' objectives for the unit of work.

Evidence is to be kept in the form of e-portfolios of work on the school network and will accompany the children throughout their time at the school. At times, it may be necessary to also include photographs, discussion and printouts of pupils' work.

For reporting purposes, a statement of each pupil's computing capability will be given.

### **Monitoring and review**

The monitoring of the standards of the children's work and of the quality of teaching in computing is the responsibility of the Headteacher and the Computing Subject Leader. The Computing Subject Leader is also responsible for supporting colleagues in the teaching of ICT and coding, for keeping informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The Computing Subject Leader regularly discusses the ICT situation with the Headteacher and provides an annual summary report in which the strengths and weaknesses in the subject are evaluated and areas for further improvement are indicated. During the year, the Computing Subject Leader has specially-allocated time for the management of computing.

**This policy was reviewed : February, 2017**

**Next review date : February, 2019**

See also the:

- Health and safety policy
- E-Safety policy
- Assessment policy

Aspect of Subject	KS1	Y3/4	Y5/6
Computer Science	<p>◆ To understand and use algorithms to create, predict the behaviour of and debug simple programs.</p> <p><b>Motion:</b> Control motion by specifying the number of steps to travel, direction and turn.</p> <p><b>Looks:</b> Add text strings, show and hide objects and change the features of an object.</p> <p><b>Sounds:</b> Select sounds and control when they are heard, their duration and volume.</p> <p><b>Draw:</b> Control when drawings appear and set the pen colour, size and shape.</p> <p><b>Events:</b> Specify user inputs (such as clicks) to control events.</p> <p><b>Control:</b> Specify the nature of events (such as a single event or a loop).</p> <p><b>Sensing:</b> Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).</p>	<p>◆ To design, write and debug programs that accomplish specific goals.</p> <p><b>Motion:</b> Use specified screen coordinates to control movement.</p> <p><b>Looks:</b> Set the appearance of objects and create sequences of changes.</p> <p><b>Sounds:</b> Create and edit sounds. Control when they are heard, their volume, duration and rests.</p> <p><b>Draw:</b> Control the shade of pens.</p> <p>◆ Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</p> <p><b>Events:</b> Specify conditions to trigger events.</p> <p><b>Control:</b> Use IF THEN conditions to control events or objects</p> <p><b>Sensing:</b> Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions).</p> <p><b>Variables and Lists:</b> Use variables to store a value. Use the functions define, set, change, show and hide to control the variables.</p> <p><b>Operators:</b> Use the Reporter operators  () + ()  () - ()  () * ()  () / ()  to perform calculations.</p>	<p>◆ To design, write and debug programs that accomplish specific goals including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p><b>Motion:</b> Set IF conditions for movements. Specify types of rotation giving the number of degrees.</p> <p><b>Looks:</b> Change the position of objects between screen layers (send to back, bring to front).</p> <p><b>Sounds:</b> Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.</p> <p><b>Draw:</b> Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.</p> <p>◆ Use sequence, selection and repetition in programs; work independently with variables and various forms of input and output.</p> <p><b>Events:</b> Set events to control other events by 'broadcasting' information as a trigger.</p> <p><b>Control:</b> Use IF THEN ELSE conditions to control events or objects</p> <p><b>Sensing:</b> Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.</p> <p><b>Variables and Lists:</b> Use lists to create a set of variables.</p> <p>◆ Appreciate how search results are selected and ranked.</p> <ul style="list-style-type: none"> <li>- Use the Boolean operators  () &lt; ()  () = ()  () &gt; ()  () and()  () or()  Not()  to define conditions.</li> </ul>

Aspect of Subject	KS1	Y3/4	Y5/6
Computer Science			<p>◆ <b>Appreciate how search results are selected and ranked.</b></p> <ul style="list-style-type: none"> <li>- Use the Reporter operators                      () + ()                      () - ()                      () * ()                      () / ()                      to perform calculations.</li> <li>- Pick Random () to ()                      Join () ()                      Letter () of ()                      Length of ()                      () Mod () This reports the remainder after a division calculation                      Round ()                      () of ().</li> </ul>

Aspect of Subject	KSI	Y3/4	Y5/6
Information Technology	<ul style="list-style-type: none"> <li>◆ Use a range of applications and devices in order to <b>communicate</b> ideas, including text, graphics, messages and online content.</li> <li>◆ Use technology purposefully to organise, store and retrieve digital content.</li> <li>◆ Use simple databases to record information in areas across the curriculum.</li> <li>◆ Participate in class social media account, e.g. VLE projects.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Use some of the advanced features of applications and devices in order to <b>communicate</b> ideas effectively, including text, graphics, animation, video, messages and online content.</li> <li>◆ Use technology purposefully to organise, manipulate, store and retrieve digital content <b>independently</b>.</li> <li>◆ Devise and construct databases in areas across the curriculum, including collecting, evaluating and presenting data.</li> <li>◆ Contribute to blogs that are moderated by teachers, e.g. VLE projects.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Independently choose the most suitable applications and devices for communicating ideas.</li> <li>◆ Use many of the advanced features in order to create high quality, professional or efficient <b>communications</b>.</li> <li>◆ Use technology effectively to organise, manipulate, store and retrieve digital content independently, giving consideration to file size, type and location.</li> <li>◆ Select appropriate applications to devise and manipulate data, including independently collecting, analysing, evaluating and presenting data in an effective way.</li> <li>◆ Collaborate with others online on sites approved and moderated by teachers.</li> </ul>
Digital Literacy	<ul style="list-style-type: none"> <li>◆ Understand online risks, keeping safe using the SMART rules.</li> <li>◆ Recognise common uses of information technology beyond school.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Give examples of the risks posed by online communications.</li> <li>◆ Understand the term 'copyright'.</li> <li>◆ Understand that comments made online that are hurtful or offensive are the same as bullying.</li> <li>◆ Understand how online services work.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.</li> <li>◆ Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission from the copyright holder.</li> <li>◆ Understand the effects of online comments and show responsibility and sensitivity when online.</li> <li>◆ Understand how simple networks are set up and used.</li> </ul>