

LITTLE KINGSHILL COMBINED SCHOOL

COMPUTING POLICY



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Little Kingshill Combined School

Computing Policy

Introduction

Computing is concerned with using Information and Communications Technology (ICT) with regard to the storage, processing, presentation and transmission of information by electronic means, and also with the control of machines and other devices.

The use of computers and peripheral devices dominate Computing activities in the school, but it also encompasses the use of programmable robots, calculators, cameras, tablets, video and audio recording and playback devices. Computing can be applied to, and enhance learning in all areas of the curriculum. It is our hope at Little Kingshill Combined School that, as children use Computing to learn; they will also become capable of using, adapting and appraising the Computing applications that they encounter both in school and beyond.

Computing plays an increasingly significant role in society. It is therefore vital that our young learners are equipped to utilise technology in order to enhance their development as they become confident individuals, successful learners, responsible citizens, effective contributors and facilitate the process of lifelong learning. A high quality computing education equips pupils to understand and change the world through computational thinking. It develops and requires logical thinking and precision. It combines creativity with rigour: pupils apply underlying principles to understand real world systems, and to create purposeful and useful artefacts. More broadly, it provides a lens through which to understand both natural and artificial systems, and has substantial links with the teaching of maths, science and design and technology.

Aims

The aims of working in Computing at Little Kingshill Combined School are:

- to enrich and extend learning throughout the curriculum, using Computing in a variety of individual and collaborative situations;
- to enable pupils to become confident with a range of Computing systems and devices;
- to enable pupils to develop the ability to assess the capabilities of the systems they encounter and to decide on suitable applications for these systems;
- to make pupils aware of the everyday applications of Computing in the wider world, the home, place of work and society;
- to encourage an enquiring mind, to allow pupils to adjust to, and take advantage of technological change whilst being able to consider the implications of these changes;
- to use Computing to assist pupils with special educational needs to increase their independence and self-esteem, and to develop interests and abilities
- to encourage pupils to make use of and adapt Computing systems to solve problems and overcome difficulties.
- to enable pupils to use Computing in a safe and secure manner both in and out of school.

Objectives

During their time at Little Kingshill School, all pupils will be given opportunities to use a range of Computing resources in a variety of learning situations. The National Curriculum for Computing aims to ensure that 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

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- consider through discussion, some of the social changes and ethical implications linked with, and created by, the increasing use of Computing;
- use different types of Computing equipment, initially with guidance, but later autonomously;
- consider the purposes and use of Computing use in a variety of situations.
- understand both the benefits and potential risks of the use of Computing.

Organisation and Management

The National Curriculum provides overall continuity and progression throughout the school, while individual teachers will provide Long Term, Medium Term and Short Term plans for teaching and learning. Pupils will be given opportunities to use Computing across the curriculum.

Teachers will utilise a range of organisational strategies including:

- Teacher demonstration
- Individual computer use
- Collaborative work

In the **Foundation Stage** children will be given the opportunity to use ICT:

- In play contexts
- Across all areas of the curriculum
- Both indoors and out
- In role play
- Individually, in pairs, in small groups and as a whole group

Children will also be given the opportunity to experience ICT being used in the setting and in the wider environment. They will begin to understand how ICT relates to their life and why it is important.

Pupils will learn to:

- complete a simple computer program
- perform simple functions using mouse and keyboard
- log on to a computer network such as the school's Learning Platform
- use appropriate internet-based games and activities to support their learning.

During **Key Stage 1** pupils will learn 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

During **Key Stage 2** pupils will learn 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

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- describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; 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 recognise that children will have different backgrounds in Computing capability, and this may offer a challenge to the organisation and teaching of Computing. Children who do not have access to Computing outside school may lack confidence and need additional support and encouragement.

Teaching strategies

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. 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.

Every class is allocated at least one session per week in the computer suite for discrete Computing lessons. In addition to this, classes have further access to the Computing suite during the week for cross-curricular activities. There are also opportunities for children to use a range of equipment including laptops, video cameras, recordable microphones etc in the classroom to complement the teaching they receive in other subject areas.

The Role Of The Teacher

Teachers should aim to give every pupil the opportunity to experience success in learning and to achieve as high a standard as possible. A variety of teaching strategies should be used to enable children to develop their individual Computing capabilities.

Schemes of work

Teaching at Little Kingshill School follows the National Curriculum for Computing through the use of the Switched On Computing scheme of work units. These units are allocated across the relevant year groups and each is taught over a half-termly period. These are supplemented by additional units of work where appropriate, particularly within Key Stage 2 where children become proficient in specific skills and require extension activities. Following these units and scheme ensures that continuity and progression are met within the school to the benefit of all pupils.

Differentiation

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. Differentiation is the process of matching work to the differing capabilities of pupils in order to extend their learning. 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);
- using teaching assistants to support the work of individual children or groups of children.

Computing offers many opportunities for successful differentiation of tasks, some of which are listed below:

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- altering the demands of a set task such that children utilise and extend their existing knowledge and skills at an appropriate level;
- using the same software at different levels of sophistication, thereby grading the access to menus, toolbars, layouts and options;
- providing pre-prepared 'template' documents on which the children can develop a document of their own while gaining from the support such a template can offer;
- making more difficult concepts of Computing visible to children such as the replacement of text with other media including pictures, drawings or clip art;
- providing children with the opportunity to have information reinforced in different formats;
- providing children with support in carrying out a given task;
- using Computing helps provide greater equality in the standard of presentation of work regardless of ability.

Inclusion and Equal Opportunities

All pupils, regardless of religious background, race or gender, shall have the opportunity to develop Computing capability. The School will promote equal opportunities for computer usage and fairness of distribution of Computing resources. Children with a computer at home are encouraged to use it for educational benefit and parents are offered advice about what resources are relevant and appropriate.

Teachers planning Computing will encourage cultural diversity (e.g. pattern in mosques as an inspiration for graphics, consideration of religious festivals and music from other cultures). Software and support materials will be non-racist and will encourage the participation of all cultures.

Groupings for computer usage should generally follow the same pattern as for all lessons. It is appropriate to match pairs of equal ability, rather than have a more able Computing users always guide a less able pupil. However it is appropriate to plan to have peer tutors for some lessons where the objectives also enable the more able user to learn by specifically teaching.

Positive images of computer use by people of both sexes will be promoted.

Special Needs

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 and enhance language skills.

Staff should structure their teaching materials to match a learning difficulty. If the situation arises, the school will endeavour to acquire appropriate resources to suit the specific needs of the child. Teachers will provide effective learning opportunities for all pupils through:

- setting suitable learning challenges
- responding to pupils diverse learning needs
- overcoming potential barriers to learning and assessment for individuals and groups of pupils.

Differentiation may be by resource, task, support or outcome.

Assessment and recording

Assessments in Computing will be made on appraisal of work, observation during practical work as well as an evaluation of written and saved documents. Parents are kept informed of their child's progress in the subject during the twice-yearly teacher-parent consultation evenings.

Resources

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At present, there is a central computer suite housing desktop computers . All computers in the central suite include headphones and microphones for the use of audio recording and playback facilities. In addition we have a number of laptop computers for pupil use in class- these have access to the internet but not the main server.

There are also a range of other devices throughout the school which utilise Computing systems. There are currently digital cameras, digital video recorders and a flatbed scanner available. Sensors and datalogging equipment are accessible for measuring and monitoring physical phenomena such as light, temperature and sound level, while compatible software allows this information to be viewed, recorded, displayed and edited as required. A microscope is available for the manipulation and display of magnified images via a computer.

All teaching staff have a personal laptop that also has access to the Internet via the school network. Every classroom also has the facility to be connected to multimedia projectors that enable the use of interactive whiteboards to enhance whole class teaching using Computing systems. There are also a number of visualisers for the display of text and 3D resources via the class projectors.

Health and safety

In all Computing work due regard is paid to the school's Health and Safety Policy. It is the responsibility of the Computing Co-ordinator and the Health and Safety Co-ordinator to make staff aware of any issues.

Possible issues include:

- Environment
- Computer systems
- Ergonomics
- Power
- Hazardous substances
- Transport of Equipment

The Health and Safety at Work Act (1 January 1993), European Directive deals with requirements for computer positioning and quality of screen. This directive is followed for all administration staff. Whilst this legislation only applies to people at work we seek to provide conditions for all children which meet these requirements.

During the teaching of Computing, consideration is given to the health and safety of children by ensuring that the equipment is electrically tested and that the work areas, machine operation, seating, lighting, heating and posture are within acceptable limits.

The school has a separate policy for Internet Access and e-Safety which is shared with parents and a Computing Code of Practice which all pupils are required to sign before accessing resources online.

The school has an alarm system installed throughout. Each computer system has individual security against access to the management system. The files and network system are backed up daily and the virus protection is updated regularly via our service provider.

The Obscene Publications Act 1959 and 1964 make it an offence to publish an obscene article or to have an obscene article for publication or gain. The Criminal Justice Act makes possession of computer pornography an offence and extends the powers of search, seizure and arrest by police. Schools must take reasonable steps to ensure that pupils are protected from computer pornography.

At Little Kingshill we will:

- Ensure that the use of on-line facilities is always supervised
- The internet provider provides a degree of filtering from the less desirable aspects of the internet
- Teachers will sign the teacher's Code of Practice before access to the Internet is provided.

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- Pupils will sign the pupils Code of Practice

E-Safety in the Computing curriculum

Computing and online resources are used across the curriculum. We believe it is essential for our pupils to receive e-safety guidance to our pupils on a regular basis. E-safety is becoming embedded within our new curriculum and we continually look for new opportunities to promote e-safety.

We aim to provide a range of opportunities to teach children about e-safety including:

- Educating pupils about the online risks that they may encounter outside school is done informally when opportunities arise and as part of the E-safety curriculum
- Pupils need to be taught about copyright, respecting other people's information, safe use of images and other important areas through discussion, modelling and appropriate activities
- Pupils need to be aware of the impact of Cyberbullying and know how to seek help if they are affected by any form of online bullying. Pupils will also be made aware of where to seek advice or help if they experience problems when using the internet and related technologies; i.e. parent/ carer, teacher/ trusted staff member, or an organisation such as Cybermentors, Childline or CEOP report abuse button

Monitoring and Review

Monitoring of the subject's teaching throughout the school is practiced by the Computing co-ordinator and concentrates on the medium and short term plans. Lessons are also observed periodically across year groups.

Subject co-ordination

A member of the teaching staff is responsible for producing a Computing action plan and for the implementation of the Computing policy across the school. Progress of the plan will be monitored as stated in the plan and reported in the Head teacher's report to Governors. A governor is invited to take a particular interest in Computing in the school. Individual teachers will be responsible for ensuring that pupils in their classes have opportunities for learning Computing skills and using Computing across the curriculum.

Copyright

The Computing co-ordinator will ensure teachers are made aware of the Copyright Act of 1988 and the Computer Misuse Act of 1990. Also that staff and pupils know that breach of copyright is considered theft. The Copyright Act of 1988 states that unauthorised copying of software is illegal. The Computer Misuse Act of 1990 states it is also illegal to alter, copy or erase a program or data from a person's computer without their permission.

Unauthorised copying is the responsibility of the classroom teacher, the Head teacher and Governors as much as the person who copies it. The Head teacher and the Governors are liable to prosecution even if they do not know that illegal use of software is going on.

Teachers should generally assume one piece of software is for one machine unless a site license has been obtained. Generally one back up copy of a piece of software is allowed (check copyright agreement) and the originals should be kept in a central area. Fonts and clip art can only be used in accordance with the licence agreement – they cannot be freely copied.

Software will be dealt with in the following way to ensure the school does not breach copyright:

- A record of the software used in school will be kept
- Proof of purchase and/or invoices will be kept
- The Computing Subject Leader/ network manager will keep a record of licence agreements.

Data Protection

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The 1984 Data Protection Act covers personal data held on computers. It is a criminal offence not to register such data with the Data Protection Registrar.

Pupil data should not be stored on unsecured devices (e.g. un-encrypted memory sticks). Access to pupil data should always be restricted by password (device and/or application based).

Computer Viruses

In order to prevent viruses from affecting the school's computers, hardware and software that is not school property will not be used on school computers.