

# Castle School



## Computing

### **Philosophy**

This policy sets out Castle School's vision, aims, principles and strategies for the delivery of Computing and the use of technology to support the curriculum. It forms the basis for the development of Computing in the school.

The National Curriculum Programme of Study states that computing equips pupils with knowledge and skills to use computational thinking and creativity to understand the changing world. Computing has deep links with Mathematics, Science and Design & Technology and provides insights into both natural and artificial systems.

### **Aims & Intentions:**

The computing curriculum aims to teach 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,
- develop systems and a range of content, and;
- enable pupils to become digitally literate – able to use, and express themselves and develop their ideas through computing at a level suitable for the future workplace and as active participants in a digital world.

The Computing Curriculum has an increased focus on Computer Science including developing pupils' programming skills and their understanding of what happens 'behind the scenes', as well as continuing to develop their Digital Literacy and e-safety capability. The school curriculum is designed to reflect this. This policy should be read in conjunction with National Curriculum documentation and whole school policies.

### **Teaching & Learning:**

Pupils have access to a curriculum which is 'balanced and broadly based' to meet the needs of our learners. Our aim is to produce learners who are confident, discerning and effective users of technology, have an understanding of how computers and computer systems work, and how they are designed and programmed.

We strive to achieve this aim by:

- supporting all pupils in using technology with purpose and enjoyment,
- meeting, and building on the minimum requirement set out in the National Curriculum (in a modified form where necessary) as fully as possible and helping all pupils to achieve the highest possible standards of achievement,
- helping all pupils to develop the underlying skills and capability which is essential to developing computing capability (such as problem solving, perseverance, learning from mistakes) and apply them elsewhere,

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- helping all pupils to develop the necessary skills to exploit the potential of technology and to become autonomous and discerning users,
- helping all pupils to evaluate the benefits and risks of technology, its impact on society and how to manage their use of it safely and respectfully,
- using technology to develop partnerships beyond the school, and;
- Celebrating success in the use of technology.

In Castle School, teachers develop pupils' computing skills through cross-curricular activities, especially in English, Maths and Science as well as in timetabled Computing lessons. These links include the use of a range of digital devices in a wide range of contexts. Both plugged and unplugged learning opportunities are planned to support pupils' understanding of the underlying concepts in computing.

In order to enhance the curriculum, pupils should have access to quality equipment and software, enabling them to gain maximum value from lessons to support the strands in the curriculum, with modifications to suit individual needs through:

- devices such as iPads, switches, alternative keyboards, and mice
- software to enable pupils to use computers or other types of equipment, throughout the school
- the use of specialist rooms and resources to create rich sensory environments
- Soundbeam - as part of the school's Computing and Music curriculum
- the Sensory Rooms – Light Room and Explore room to provide a range of visual, aural and kinaesthetic experiences
- the Hydrotherapy pool - used for exercise and physiotherapy and as an additional source of sensory stimulation aided by the installation of sound and light systems, including beneath the water, to provide rich and pleasurable experiences
- hardware, adapted and/or supplemented to make it easier for pupils e.g. Touch screens
- mouse and keyboard alternatives (as advised by Occupational Therapist) e.g. Trackerballs, Big Key keyboards etc.
- individual logon to enable adaptations to the screen e.g. size of print, less option on pages, alternative cursors (as advised by Occupational Therapist)
- additional "low tec" devices to aid communication for individual pupils (recorders, microphones), talking buttons, photo albums and time table strips supporting curriculum access
- a range of generic software to support Computing and other areas of the curriculum.

In these ways computing and the use of technology become integrated into the curriculum and are used as a truly beneficial tool for learning. At Key Stages 1, 2 and 3, the school's Computing curriculum is organised into the following aspects:

- Multimedia
- Programming
- Handling Data
- E-safety
- Technology in our Lives

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- These themes are mapped in a long term plan for the whole school, with elements of each theme taught in most terms. When delivering the curriculum for Computing, teachers employ a range of strategies to decide on the most appropriate teaching and learning style for the class, groups of pupils or individual pupils.

At Key Stages 4 and 5, pupils participate in accredited courses e.g. Entry Level ICT, Moving On and Functional Skills certification.

E safety is taught across Key Stages 3, 4 and 5 every term.

Approaches and strategies used may include:

- an ‘unplugged’ approach in order to develop their understanding of some of the underlying concepts of Computer Science,
- ‘plugged’ activities which allow pupils to practise and demonstrate their levels of understanding,
- using presentation technology to demonstrate something to a group of pupils or the whole class,
- leading a group or class discussion about the benefits and risks of technology,
- individual or paired work, and;
- Collaborative group work.

### **Safeguarding Pupils: E-safety**

To live, learn and work successfully in an increasingly complex and information-rich society, our pupils must be able to use technology effectively. The use of these exciting and innovative technology tools in school and at home has been shown to raise educational standards and to promote pupil achievement. At the same time we recognise that the use of these technologies can put pupils at risk within and outside the school.

The school has developed a separate policy which details our approach to e-safety & safeguarding pupils and staff when using technology both within and beyond the school. This policy has been developed according to local authority guidance provided at [www.esafety.cceducation.org](http://www.esafety.cceducation.org). This includes reference to the e-safety ‘education’ elements of the National Curriculum for computing.

### **Access and Inclusion**

Each pupil’s access to technology varies dependent on the nature of the activity they are involved in. However, on average, pupils receive two lessons allocated to computing each week using a mixture of unplugged activities and the following technology:

- Computer Suites,
- Mobile devices,
- Laptops and iPads,
- Classroom PCs, and
- Programming equipment.

In addition to discrete computing sessions, opportunities to develop and extend computing capability are provided in other curriculum areas and technology is used to support most other subject areas.

All pupils have equality of access to appropriate technology in order to develop their personal computing capability. When pupils are working in groups, we endeavour to ensure that their hands-on experience is equitable. We check resources, software and documentation to ensure that gender and ethnicity are reflected in a balanced way.

The School Multi-disciplinary Team advise teachers on examples of technology which can be provided to support individual pupils with particular physical, linguistic and educational needs, including gifted and talented pupils.

### **Extended Opportunities for Learning**

Technology is used to develop partnerships with parents and the wider community through the school website. Extended Opportunities for Learning at Castle School include the Lunchtime Computing Club.

### **Attainment and Progress**

The Computing Subject Leader follows a systematic and regular programme of evaluation and monitoring of the Computing curriculum, across the school. This is so that (s)he can:

- check that the full curriculum is being delivered effectively,
- evaluate the success (or otherwise) of curriculum planning and delivery,
- have an awareness of impact and be able to demonstrate progression and attainment; and
- have an overview of resource and staff training needs.

Monitoring is completed through a variety of methods including:

- Observations & Learning Walks,
- analysing of planning,
- work scrutinies,
- gathering information from observations of other subjects and departments,
- pupil voice; and
- staff feedback.

As a result of monitoring, appropriate CPD opportunities are provided for staff on an individual, group and whole school basis in line with the school's wider CPD policy, School Development Plan and Strategic Technology Development Plan.

As assessment of computing is still developing in line with national and local guidance, this policy will be updated and amended as we continue to clarify our approach. We ensure that:

- appropriate Assessment for Learning approaches are applied to formative assessment in order to inform future planning,
- pupils' achievement and attainment is assessed and recorded; and
- pupils' achievement and attainment is measured against the relevant National Curriculum requirements at the end of each Key Stage and reported according to government guidelines (including statutory requirements for reporting to parents).

## **Leadership and Management**

The role and impact of technology stretches beyond the National Curriculum for Computing and it is therefore important to acknowledge the roles and responsibilities held by key people across the school.

### **The following responsibilities are carried out to:**

- ensure the consistent implementation of Computing policy,
- ensure continuity between year groups,
- oversee health and safety policy and practice,
- manage budget resources,
- coordinate and oversee equipment maintenance,
- ratify the school's Strategic Development Plan for Technology,
- arrange in-service support; and
- lead the development and implementation of the school's e-safety policy in line with other Child Protection policies.

### **The following responsibilities are carried out by the Computing Subject Leader:**

- present exemplary practice in the teaching of computing,
- advise colleagues on planning, delivering and assessing computing,
- monitor the effective use of technology and give advice where appropriate,
- ensure progression in computing,
- propose purchasing plans for hardware and software,
- organise computing resources; and
- review and revise the computing policy and other associated documents.

### **Responsibilities carried out by ICT Support Technician**

All equipment is supported and maintained through a fortnightly visit from an Education ICT Technician under the direction of the Deputy Head Teacher.

### **Resources**

The current provision and organisation of resources is coordinated by the Deputy Head Teacher. The school plans for the replacement of hardware as part of a rolling plan. Specific resources (including software and online resources) are purchased or found to address specific needs, as identified through Subject Leader Monitoring.

### **Safe Disposal of Equipment**

Government regulations state that any old electrical or electronic equipment must be disposed of in an environmentally responsible way. The regulations which govern this are the [Waste Electrical and Electronic Equipment Regulations](#) (WEEE) 2006 and 2013. Schools are therefore required to have a compliant process for disposing of waste electronic and electrical equipment (anything that requires batteries or a plug to operate).

Castle School acts in accordance with advice from the Cambridgeshire Education ICT Service regarding safe disposal of equipment; in particular, electrical equipment is safely disposed of (and information wiped where necessary). The appropriate certificates are obtained and kept by the school office. Ink cartridges are recycled.

## **Health and Safety**

Both staff and pupils are aware of the need for health & safety to be kept in mind when using technology. In particular, the following safety issues have been considered when using technology in school:

**Comfort** - users should be comfortably positioned with easy access to all equipment.

**Space** - There should be enough space around a workstation including special educational equipment and peripherals.

**Seating** – this has been chosen so that it is the correct height for knees to fit comfortably under the desk.

**Monitors** - These should be moveable to suit the needs of the users.

**Keyboards** - Users should have the option to have their keyboard flat or tilted and move it to a comfortable position.

**Cables** - Are covered and secure. Pupils are not to connect or unplug electrical equipment.

**Digital Projectors** – Users are aware that they must not look directly into the light beam emitting from the digital projector.

All pupils are taught to handle equipment correctly and to switch computers on and off using the correct procedures. The dangers of electricity are stressed and the entire above are presented so as to ensure pupils respect the equipment and other people's work on the computer. All users are also reminded of the need to take regular breaks when using computing equipment. No drinks are allowed in areas where computers are placed.

## **Copyright**

The school takes its rights and responsibilities in relation to copyright seriously and a whole school document detailing this approach is available.

We refer to the advice provided by the IPO ([Intellectual Property Office](#)), CLA ([Copyright Licensing Agency](#)) and other organisations to guide us in the appropriate use of materials in school. Schools are allowed limited use of copyright works without permission of the copyright owner and staff are guided to [www.copyrightandschools.org](http://www.copyrightandschools.org) for guidance on specific queries they have around what they can and cannot use.

The school is also aware of the [changes in Copyright Law introduced in June 2014](#) and works within these regulations, especially when using materials digitally. Further information can be found via the [IPO's 'teaching exceptions' page](#).

## **Monitoring and review**

This policy will be reviewed and updated by the co-ordinator every two years.

It will be monitored by the Deputy Head teacher and approved by the Governing body in Autumn 18

The Next review is Spring 21 for approval in Autumn 21.