Computing Policy

Principal Vision

Glenmere Primary School values the contribution that Computing can make for the benefit of all pupils, staff, parents and governors. We strive to provide safe Computing opportunities in all subjects to motivate and inspire pupils and raise standards across the curriculum. 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. Computing skills are a major factor in enabling children to be confident, creative and independent learners.

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.

Aim

- Provide a relevant, challenging and enjoyable curriculum for Computing for all pupils.
- Meet the requirements of the national curriculum programmes of study for computing.
- Use computing as a tool to enhance learning throughout the curriculum.
- To respond to new developments in technology.
- To equip pupils with the confidence and capability to use computing throughout their later life.
- To enhance learning in other areas of the curriculum using computing.
- To develop the understanding of how to use computing safely and responsibly.

The new national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication.
- 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.

Teaching and Learning Style

As the aims of Computing are to equip children with the skills necessary to use technology to become independent learners, the teaching style is as active and as practical as possible. Pupils are taught a balanced curriculum involving 'skills' lessons, based on the Switched on Computing units by Rising Stars, and using children's Computing capabilities to support teaching across the curriculum. Teachers plan units of work which are based on 'Switched on Computing' units by Rising Stars.

Objectives

Early years

It is important in the foundation stage to give children a broad, play-based experience of computing in a range of contexts, including outdoor play. Computing is not just about computers. Early years learning environment feature computing scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to 'paint' on the whiteboard or program a toy. Recording devices support children to develop their communication skills. This is particular useful with children who have English as an additional language.

Key Stage 1

By the end of key stage 1, pupils are 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 computing 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.

Key Stage 2

By the end of key stage 2, pupils are 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; 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.

Cross Curricular Links

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 maths, while the Internet proves very useful for research in humanities subjects. Computing enables children to present their information and conclusions in the most appropriate way.

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 learn how to improve the presentation of their work by using desk-top publishing software.

Maths

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.

SMSC and Citizenship

Computing makes a contribution to the teaching of SMCS and citizenship as children learn to work together in a collaborative manner. They develop a sense of global citizenship by using the Internet and email. Through the discussion of moral issues related to electronic communication, children develop a view about the use and misuse, and they also gain a knowledge and understanding of the interdependence of people around the world.

Inclusion

Pupils with educational needs are encouraged to use the technology available in school to support their independence and develop their interests and abilities. All pupils have access to the use of Computing regardless of gender, race, cultural background or any physical or sensory disability. Pupils with learning difficulties can be given greater access to the whole curriculum through the use of computer technology. Children with a keen interest or great skill in Computing can attend an after-school Computer club to develop their abilities further. The school is also looking at starting a new Year 6 more able club at lunchtimes.

Resources

The school has a computer suite equipped with 30 laptops and 10 iPads providing children with a computer each. All devices have internet access. Each classroom has a video recorder, camera and an Interactive White Board. All classrooms have access to a resource area with a printer, Beebots and a range of different software and apps.

The school would like to invest and setup a video recording studio, with a green screen facility, to provide wide opportunities and purpose, extending children's knowledge and skills - editing their own videos and sharing ideas with other children around the world via Skype.

Assessment and Recording

Teachers assess children's work in Computing by making informal judgments as they observe them during lessons. Pupils' progress is monitored by the class teacher and work samples are put in the Computing work samples folder. Summative assessments are made in terms 2, 4, and 6 to analyse attainment progress to set actions to move children's learning on.

Security

- The Computing technician will be responsible for regularly updating anti-virus software.
- Use of computing will be in line with the school's 'acceptable use policy'. All staff, volunteers and children must sign a copy of the schools AUP.
- Parents will be made aware of the 'acceptable use policy'.
- All pupils and parents will be aware of the school rules for responsible use of computing and the Internet and will understand the consequence of any misuse.
- The agreed rules for safe and responsible use of computing and the Internet will be displayed in all computing areas.

The Role of the Co-ordinator:

The co-ordination and planning of the Computing curriculum are the responsibility of the subject leader, with support from the ICT technician, who also:

- Supports colleagues in their teaching, by keeping informed about current developments in Computing and providing a strategic lead and direction for this subject.
- Evaluates the strengths and weaknesses in Computing and indicates areas for further improvement.
- Monitors the progress through the school in Computing through regular sampling of the children's work, scrutinising planning and interviewing a cross section of children in the school.
- Updates the policy and scheme of work.
- Orders/updates resources.
- Attends appropriate courses to update knowledge of current developments, and by keeping links with local secondary schools