THAMES VIEW JUNIOR SCHOOL COMPUTING POLICY AND GUIDANCE

Updated September 2022

Introduction

The use of information and communication technology is an integral part of the National Curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At Thames View Junior School, we recognise that pupils are entitled to quality hardware and software and a structured and progressive approach to the learning of the skills needed to enable them to use it effectively. The purpose of this policy is to state how the school intends to make this provision.

Aims

The school's aims are to:
- Meet the requirements of the National Curriculum programmes of study for computing.
- Provide a relevant, challenging and enjoyable curriculum for computing for all pupils.
- Use ICT and 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 ICT and computing throughout their later life.
- To develop the understanding of how to use ICT and computing safely and responsibly.

The 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.

By the end of key stage 2 pupils should be 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.

Resources

Every child has access to a computer at least once throughout the week. We have a computer suite of 30 computers and three laptop trolleys around the school. These are timetabled for use by all children.

Computers around the school are networked and have Internet access. We keep resources for ICT and computing, including software, in a central store. Interactive Whiteboards are available for all children to access daily. The computing suite is available for use throughout the school day as part of computing lessons as well as for cross-curricular use.

Online resources for home use

In recent years there has been a boom in the education opportunities that are available online. We have bought into the following to give pupils safe access to online education opportunities outside of school. These are:
- Maths Whizz

- Lexia
- Times Tables Rockstars
- Bug Club

Pupils have passwords that can be used to access these sites. Pupils have been shown how to use them and how to keep their passwords safe from others.

Planning

To ensure whole school consistency and progression, the school follows the National Curriculum and uses 'Teach Computing' to tailor the curriculum to Thames View Junior School.

The Teach Computing Curriculum uses the National Centre for Computing Education's computing taxonomy to ensure comprehensive coverage of the subject. All learning outcomes can be described through a high-level taxonomy of ten strands, ordered alphabetically as follows:

- Algorithms — Be able to comprehend, design, create, and evaluate algorithms
- Computer networks — Understand how networks can be used to retrieve and share information, and how
- they come with associated risks
- Computer systems — Understand what a computer is, and how its constituent parts function together as a whole
- Creating media — Select and create a range of media including text, images, sounds, and video
- Data and information — Understand how data is stored, organised, and used to represent real-world artefacts
- and scenarios
- Design and development — Understand the activities involved in planning, creating, and evaluating computing artefacts
- Effective use of tools — Use software tools to support computing work
- Impact of technology — Understand how individuals, systems, and society as a whole interact with computer systems
- Programming — Create software to allow computers to solve problems
- Safety and security — Understand risks when using technology, and how to protect individuals and systems

The taxonomy provides categories and an organised view of content to encapsulate the discipline of computing. Whilst all strands are present at all phases, they are not always taught explicitly.

The units taught within Teach Computing are based on a spiral curriculum. This means that each of the themes is revisited regularly (at least once in each year group), and pupils revisit each theme through a new unit that consolidates and builds on prior learning within that theme. This style of curriculum design reduces the amount of knowledge lost through forgetting, as topics are revisited yearly. It also ensures that connections are made even if different teachers are teaching the units within a theme in consecutive years.

Assessment

Assessment for Learning:

Children receive effective feedback through teacher assessment and assessment for learning strategies are integral to the design of each lesson.

At the start of each blocked unit of work, the children complete the carefully aligned Teach Computing 'End of Unit Assessment' as a 'Pre-test'. The outcome of this is used by the teacher to ensure planning is effective in meeting the needs of the children. Any identified gaps in understanding can be addressed while teaching the unit. A similar 'End of Unit Assessment' is then completed by the children at the end of the unit to show whether progress has been made. The outcome of this is also then used by the teacher to address any further gaps or misconceptions. Each child's scores are also inputted onto a class spreadsheet, which provides an overview of achievement in each specific area within the programme of study. This also informs dialogue with parents and carers during open evenings, as well as the judgements made at the end of the term as to the extent that each child has achieved the expectation for their year group.

Equal Opportunities

The school is committed to ensuring the active participation and progress of all children in their learning.

All children will be given equal opportunities to achieve their best possible standard, whatever their current attainment and irrespective of gender, ethnic, social or cultural background, home language or any other aspect that could affect their participation or the progress of which they are capable.

Inclusion

At Thames View Junior School, we teach computing to all children, whatever their ability, age, gender or race. 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 specific needs of children with learning difficulties. In some instances, the use of ICT has a considerable impact on the quality of work that children produce; it increases their confidence and motivation and allows access to parts of the curriculum to which the children would otherwise not have had. When planning work in computing, we take into account any targets which are evident on a class' provision map.

Role of the Subject Leader

The subject leader is responsible for providing professional leadership and management of computing within the school. They will monitor standards to ensure high quality teaching, effective use of resources and improved standards of learning and achievement. This will include observation of lessons and scrutiny of the pupils' work. They will collect, analyse and distribute, where applicable, information relating to the subject to the relevant people.

Class Teachers

It is the responsibility of each class teacher to ensure that their class is taught all elements of the computing curriculum as set out in the National Curriculum programme of study.

Parents

Parents are encouraged to support the implementation of computing where possible by encouraging use of computing skills at home during home-learning tasks and through the school website. They will be made aware of e-safety and encouraged to promote this at home.

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