

Central Primary School



Computing Policy

Our motto: Children are Central.

This computing policy is in two parts; this the first part deals with the use of computing in the curriculum, while the second part, contained within the e-safety policy, looks at the safe use of computing as a curriculum tool and covers the safeguarding aspects of the modern use of Information Technology in school. Pupils are entitled to quality hardware, software and a structured and progressive approach to the learning of skills needed to enable them to apply it correctly.

Aims

Computing has become part of the way we all work and entertain ourselves. Almost everything we do at school now involves the use of IT equipment:

- online lesson research, teaching plans and resource materials;
- lesson delivery via interactive whiteboard;
- communication by e-mail, website, system upload and fax;
- document distribution and storage;
- assessment information analysis;
- use of technological devices i.e. visualizers;
- production and editing of reports.

Through teaching Computing, we equip children to participate in a world of rapidly-changing technology. We enable them to find, explore, analyse, exchange and present information. We also help them develop the necessary skills for using information in a discriminating and effective way. This is a major part of enabling children to be confident, creative and independent learners.

The objectives of teaching computing are to enable children:

- to develop computing capability in finding, selecting and using information;
- to use computing for effective and appropriate communication;
- to monitor and control events, both real and imaginary;
- to apply their computing skills and knowledge to their learning in other areas;
- to explore their attitudes towards computing and its value to them and society in general.

The national curriculum for computing aims to ensure that all pupils

- Can understand and apply the fundamentals of computer science, including algorithms, logic, data representation, and communication.
- Can understand and analyse problems in computational terms and be able to apply them. Children also have the opportunity to complete repeated practical experience of writing computer programs in order to solve these problems.
- Can evaluate and apply information technology, including familiar or unfamiliar technologies and then analytically solve problems.

Children are responsible, confident and creative users of Computing.

Teaching and learning style

An objective of teaching computing is to equip children with the technological skill to become independent learners, the teaching style that we adopt is as active and practical as possible.

We teach pupils computing in a variety of ways. Each week pupils receive a computing lesson as a discrete subject which teaches them skills and programmes which they will use in the rest of their computing work. This will assist them in their everyday lives. In addition to discreet lessons pupils will be using a range of computing equipment throughout their other curriculum learning, for example, children might research a history topic and then present their findings via a software programme on a PC.

We recognise that all classes have children with a wide range of computing abilities. This is especially true when some children have access to computing equipment at home, while others do

not. 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:

- setting tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty (not all children complete all tasks);
- grouping children by ability in the room, and setting different tasks for each ability group;
- providing resources of different complexity that are matched to the ability of the child;
- using classroom assistants to support the work of individual children or groups of children.

At our school we teach computing to all children, whatever their ability and individual needs. Computing forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our computing teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details, see separate policies: Inclusion; Gifted and Talented; English as an Additional Language (EAL).

Objectives for our school

Early Years

In foundation stage It is important to give children a play-based experience of ICT and computing in a range of contexts, including off-computer activities and outdoor play. Computing is not just about computers. Early years learning environments should feature ICT scenarios based on experience in the real world, such as in role play. Children can then gain confidence and acquire the language skills through opportunities such as 'programming' each other using directional language to find toys/objects, creating artwork using digital drawing tools and controlling programmable toys.

Outdoor exploration is an important aspect and using digital recording devices such as video recorders, cameras and microphones can support children in developing communication skills. This is particularly beneficial for children who have English as an additional language.

By the end of key stage 1, pupils will be taught to:

- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs are accomplished by following a sequence of instructions.
- Write and test simple programs.
- Use logical reasoning to predict the behaviour of simple programs.
- Organise, store, manipulate and retrieve data in a range of digital formats e.g. photographs or documents through paint.
- Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

By the end of key stage 2 pupils will be taught to:

- Design and write programs that engineer specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts to help them understand the structure of software in depth.
- Use sequence, selection, and repetition in programs by working with variables and various forms of input/ output patterns to generate appropriate predictions when testing.
- Use logical reasoning to explain how a simple algorithm works and to identify 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.
- Use search engines effectively; describe how internet search engines find and store data; use technology responsibly, securely and safely.
- Select and use 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 in different ways.

Computing Curriculum

The school uses the Hertfordshire Scheme of work for Computing as the basis for its curriculum planning. We have adapted this to the local circumstances of the school. The teachers use this to plan their computing lessons and build up pupils' skills. In addition to this we plan for the progression of software and hardware skills throughout the school to ensure that pupils are increasing in their confidence at using equipment as they go through the school.

When we think about computing we find it useful to separate it into different themes:

- Technology enhanced learning
- Computing
- Subject based technology

Technology enhanced learning is using technology to enhance a learning experience. This technology makes the learning more efficient, more detailed or facilitate learning that could not take place without the technology.

Computing is the overview name of the subject but is defined as discrete programming and information technology skills which may be taught in a variety of lessons over the course of each week.

Subject based technology is the technology that is linked to the individual subject e.g. internet maps view GPS and geography lessons.

Each theme places computing into a different context within the lesson and teachers consider the purpose of their use of information technology carefully.

Assessment

Teachers will assess children's work in computing by making informal judgements during lessons, after assessing work, through learning in other curriculum areas and from other evidence sources. The teacher assesses the work, and uses this assessment to plan for future learning. Written or verbal feedback is given to the child to help guide his/her progress in line with the school's marking and feedback policy.

Teachers assess pupils' work in computing through teacher assessments, measuring pupils against curriculum progression descriptors. These assessments are formally recorded on the school's assessment system once a term and inform how pupils are doing in relation to age-related expectations.

All class teachers and the subject leader keeps samples of the children's work in a portfolio. This portfolio may contain photographs of children accessing computing equipment as well as screen print outs etc which indicate work being completed. This portfolio serves as an exemplar for the achievement in computing in each cohort.

Resources

Our school has PCs in each classroom with one running the whiteboard and at least two further ones to support pupil work during lessons. Each class shares a laptop bus which provides access to a further 15 laptops to allow for whole class teaching.

- There are 30 iPads which are shared between each Key Stage.
- There is an iPad Sync & Charge cabinet in school containing 16 USB ports.
- Every classroom from Nursery to Year 6 has a computer connected to the school network and an interactive whiteboard with sound and video facilities.
- Internet access is available in all classrooms.
- Each class from Year 1 – Year 6 has an allocated slot one afternoon per week for teaching computing as a discrete subject.
- The laptops and iPads are available for use throughout the school day as part of computing lessons and for cross-curricular use.
- Pupils may use ICT and computing independently, in pairs, alongside an LSA or in a group with the class teacher.
- The school has a computing technician who visits the school every other Wednesday afternoon.

Our school has a radio Wifi network that allows for the smooth running of computing lessons when a number of pupils are accessing the server at the same time.

The school has numerous software programmes installed on the system and also buys into various internet-hosted programmes such as Education City and Mathletics.

Along with desktop and laptop computers, the school has the following:

Hardware

Examples of hardware used across the school include:

- network, including switch, router and server PC;
- network shared resources, including printers;
- interactive whiteboard and screen projection equipment;
- scanner;
- digital stills and video cameras and web cam;
- digital microscope;
- data logger and sensors;
- DVD and video recorders;
- tape-based listening centre and digital sound recorder;
- calculators;
- floor robot;
- control interface with buzzers etc.;
- headphones and microphones;
- USB drives for portable storage;
- keyboard (musical);
- visualisers;
- iPads

Software

- word-processing and desktop-publishing programs;
- painting and drawing software;
- music composition package;
- multimedia presentation program;
- spreadsheet and database programs;
- control program and models;
- simulations;
- encyclopaedia reference material;
- virus protection.
- Clicker 6
- Literacy World
- Primary Maths games
- Early year programmes

Online material

- online content subscriptions;
- school website and intranet;
- school e-mail accounts.
- Education City accounts.
- Mathletics accounts.

Staff training

The computing subject leader will assess and address staff training needs as part of the annual development plan process or in response to individual needs and requests throughout the year. Individual teachers should attempt to continually develop their own skills and knowledge, identify their own needs and notify the subject leader.

Teachers will be encouraged to use ICT and computing to produce plans, reports and teaching resources.

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 subject leader. The computing subject leader is also responsible for supporting colleagues in their teaching of computing, for keeping informed about current developments in the subject, and for providing a strategic lead and direction for computing in the school. The subject leader gives the head teacher an annual summary report in which s/he evaluates the strengths and weaknesses in the subject, and indicates areas for further improvement. This report is also presented to the Curriculum Governors. The subject leader has specially-allocated time for carrying out the vital tasks of reviewing samples of the children's work, and of visiting classes to observe the teaching of computing.

This policy is reviewed every two years.