

Orchard Community Primary School



Computing and IT Policy

This policy was approved by the Governing Body of Orchard Primary School at their meeting on.....

Signed..... Chair of Governors

Version	Date	Author	Reason for Change
0.1	12-3-19	JP	New Policy in line with the Creative Curriculum
0.2	15-6-22	KS	Policy update to reflect new changes to 22/23 Added curriculum statement

Review Frequency	Next Review Date
Every 3 years	Spring 2025

Orchard Primary School Computing and IT Policy

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 Orchard Primary 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

- Provide a relevant, challenging and enjoyable curriculum for IT and computing for all pupils.
- Meet the requirements of the national curriculum programmes of study for IT and computing.
- Use IT 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 IT and computing throughout their later life.
- To enhance learning in other areas of the curriculum using IT and computing.
- To develop the understanding of how to use IT 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.

Rationale

The school believes that IT and computing:

- Gives pupils immediate access to a rich source of materials.
- Can present information in new ways, which help pupils understand access and use it more readily.
- Can motivate and enthuse pupils.
- Can help pupils to focus and concentrate.
- Offers potential for effective group working.
- Has the flexibility to meet the individual needs and abilities of each pupil.

Objectives

Early years

It is important in the foundation stage to give children a broad, play-based experience of IT in a range of contexts, including outdoor play. IT is not just about computers. Early years develop fine motor, co-ordination and language skills through opportunities to 'paint' on the whiteboard or programme a toy. Recording devices are also an effective tool for children to develop their communication skills. This is particularly useful for SEN children or children who have English as an additional language.

Key Stage 1

By the end of key stage 1 pupils should be 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 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 and Access

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible pc system by investing in resources that will effectively deliver the strands of the national curriculum and support the use of IT and computing across the school.

Teachers are required to fill out the faults folders with any faults as soon as they are noticed. Orchard Primary School has a dedicated IT Technician to help support the Schools infrastructure.

To ensure IT can be delivered across the whole School, every classroom currently has access to the following set of IT equipment:

- A Teacher Laptop
- A Teacher iPad
- An Interactive whiteboard with separate sound bar and DVD facilities
- Apple classroom & Air Server for teachers
- A class set of laptops
- A class set of iPads
- A class set of chrome-books
- Relevant and up-to-date apps on all devices
- Programmable devices

Specific IT and computing skills are taught as and when required and children are given opportunities to apply these skills with our creative curriculum.

Pupils may use IT and computing independently, in pairs, alongside a TA or in a group with a Teacher.

A governor will be invited to take a particular interest in IT and computing in the school.

Planning

All teachers will follow the NCCE Teach Computing scheme; long term, medium term and short term plans are readily available with supporting materials (such as teaching slides, videos, resources and assessment tools). Computing will be taught discreetly once a week in every class Year 1 – Year 6. Computing will also feature throughout the creative curriculum in all areas.

Assessment and Record Keeping (also see Assessment Policy)

The following strategies are in place:

- The programmes of work identify clear opportunities for the monitoring and record keeping of pupils' progress.
- A clear recording mechanism.
- Programmes of work include related tasks that assist the teacher to assess the pupils' progress and attainment in Computing.
- Differentiated assessment for pupils with high levels of Computing capability, or special needs.
- Progress in Computing will be reported at least once a year and information about the use of ITs within the wider curriculum will inform the annual assessment.

Monitoring and Evaluation

The subject leader is responsible for monitoring the standard of the children's work and the quality of teaching in line with the schools monitoring cycle. This may be through lesson observations, book looks, pupil voice and staff voice. The subject leader is also responsible for supporting colleagues in the teaching of computing, for being informed about current developments in the subject, and for providing a strategic lead and direction for the subject in the school. We allocate special time for the vital task of reviewing samples of children's work and for visiting classes to observe teaching in the subject.

Pupils with Special Educational Needs (see also SEN policy)

We believe that all children have the right to access IT and computing. In order to ensure that children with special educational needs achieve to the best of their ability, it may be necessary to adapt the delivery of the IT and computing curriculum for some pupils. We teach IT and computing to all children, whatever their ability. IT and computing forms part of the national curriculum to provide a broad and balanced education for all children. Through the teaching of IT and computing we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Where appropriate IT and computing can be used to support SEN children on a one to one basis where children receive additional support. Apps such as Clicker8 are also used to support SEN children.

Additionally, as part of our dyslexia friendly approach to teaching and learning we will use adapted resources wherever possible such as visual timetables, different coloured backgrounds and screen printouts.

Equal Opportunities (see also Equal Opportunities Policy)

Orchard Primary School will ensure that all children are provided with the same learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. As a result, we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to IT and computing and all staff members follow the equal opportunities policy. Resources for SEN children and gifted & talented will be made available to support and challenge appropriately.

The role of the co-ordinator

- The Computing Coordinator is responsible for producing an IT and computing development plan implementing the IT and computing policy across the school.
- To offer help and support to all members of staff (including teaching assistants) in their teaching, planning and assessment of computing.
- To maintain resources and advise staff on the use of materials, equipment and books.
- To monitor classroom teaching or planning following the schools rolling programme of monitoring.
- To lead staff training on new initiatives.
- Share management of IT budget
- To attend appropriate in-service training and keep staff up to date with relevant information and developments.
- To have a passion for computing and encourage staff to share this enthusiasm.
- To keep parents and governors informed on the implementation of IT in the school.
- To liaise with all members of staff on how to reach and improve on agreed targets.
- To help staff use assessment to inform future planning.

The Role of the IT Manager

- Maintain and manage the network.
- Monitor and maintain licenses including anti-virus.
- Support class teachers in IT delivery.
- Lead training for staff.
- Support the IT coordinator in developing new IT resources and strategies.
- Manage the school website.
- Ensure the smooth day to day running of the school WIFI and network.
- Ensure technologies are up to date and well maintained.
- Support the IT coordinator when extracting data for staff and governor reporting.

The role of the class teacher

Individual teachers will be responsible for ensuring that pupils in their classes have opportunities for learning IT and computing skills and using IT and computing across the curriculum

Class teachers will:

- plan and deliver the requirements for IT to the best of their ability. At Orchard Primary School we set high expectations for our pupils and provide opportunities for all pupils to achieve, including pupils with educational special needs, pupils with disabilities, pupils from all social and cultural backgrounds, and those from diverse linguistic backgrounds. The class teacher ensures success by creating effective learning environments.
- follow the Teach Computing scheme for year group; adapt where possible to suit the needs of all pupils
- provide equality of opportunity through teaching approaches
- use effective assessment tools to check pupils' understanding
- set suitable targets for learning as outlined in the inclusion policy
- provide a stimulating and engaging learning environment to motivate pupils

The class teacher's role is a vital role in the development of IT throughout the school and will ensure continued progression in learning and understanding.

Staff training

The IT and computing coordinator 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 coordinator. Teachers will be encouraged to use IT and computing to produce plans, reports, communications and teaching resources.

Health and Safety (see also Health and Safety Policy)

The school is aware of the health and safety issues involved in children's use of IT and computing. All fixed electrical appliances in school are tested by a LA contractor every five years and all portable electrical equipment in school is tested by an external contractor every twelve months. It is advised that staff should not bring their own electrical equipment in to school but if this is necessary, then the equipment must be pat tested before being used in school. This also applies to any equipment brought in to school by, for example, people running workshops, activities, etc. and it is the responsibility of the member of staff organising the workshop, etc. to advise those people.

All staff should visually check electrical equipment before they use it and take any damaged equipment out of use. Damaged equipment should then be reported to the IT Technician, bursar or head teacher who will arrange for repair or disposal.

- Children should not put plugs into sockets or switch the sockets on.
- Trailing leads should be made safe behind the equipment
- Liquids must not be taken near the computers
- Magnets must be kept away from all equipment
- Safety guidelines in relation to IWBs will be displayed in the classrooms
- E-safety guidelines will be set out in the E-Safety Policy and Acceptable User Policy (AUP)

Inclusion

At Orchard we plan to provide for all pupils to achieve, including boys and girls, higher achieving pupils, gifted and talented pupils, those with SEN, pupils with disabilities, pupils from all social and cultural backgrounds, children who are in care and those subject to safeguarding, pupils from different ethnic groups and those from diverse linguistic backgrounds.

Security

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

Cross Curricular Links

At Orchard, we are all aware that IT and computing capability should be achieved through core and foundation subjects. Where appropriate, IT and computing should be incorporated into schemes of work for all subjects. IT and computing should be used to support learning in other subjects as well as develop IT and computing skills.

Parental Involvement

Parents are encouraged to support the implementation of IT and computing where possible by encouraging use of IT and 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.

Computing Curriculum Statement

Intent – What we are trying to achieve?

- In line with the 2014 National Curriculum for Computing, our aim is to provide high-quality computing education which equips children with the skills, knowledge, computational thinking for an ever-changing digital world.
- By the time they leave Orchard Primary School, children will have gained key knowledge in both concepts and skills in the three main areas of the computing curriculum: computer science (programming and understanding how digital systems work), information technology (using computer systems to store, retrieve and send information) and digital literacy (evaluating digital content and using technology safely and respectfully).
- E-safety is at the heart of all computing lessons and children will be explicitly taught how to stay safe online and when using all kinds of technology.
- The objectives within each strand support the development of learning across the key stages, ensuring a solid grounding for future learning and beyond. These strands are revisited repeatedly through a range of themes during children's time in school to ensure the learning is embedded and skills are successfully developed.
- Our intention is that Computing also supports children's creativity and cross-curricular learning to engage children and enrich their experiences in school.

Implementation – How do we translate our vision into practice?

- At Orchard, computing is taught using a blocked curriculum approach, following the NCCE Teach Computing curriculum scheme. This ensures children are able to develop breadth and depth in their knowledge, through key concepts and skills development.
- Our Teach Computing scheme encompasses 12 key pedagogical principles:
 1. **Lead with concepts** – acquisition of knowledge, terms, vocabulary, shared understanding
 2. **Unplug, unpack, repack** – unpack complex terms/ideas, explore unfamiliar contexts, then repack original concept with new learning to secure understanding
 3. **Work together** – we encourage collaboration such as peer programming, instruction and tasks which stimulates classroom dialogue and articulation of concepts
 4. **Get hands on** – the use of physical computing/activities offers tactile and sensory experiences to enhance learning. Combining electronics with arts/crafts provides a creative and engaging context
 5. **Model everything** – scaffolding is key for effective teaching and learning (and can be gradually taken away)
 6. **Create projects** – rich opportunities to apply and consolidate learning; design, make, evaluate
 7. **Add variety** – lessons are adaptive, structured and provide exploratory tasks. Children develop independence.
 8. **Foster program comprehension** – regular comprehension activities secure understanding and build connections with new knowledge
 9. **Challenge misconceptions** – Formative questioning is a tool used to uncover misconceptions, which are identified as early as possible.
 10. **Make concrete** – abstract concepts are brought to life with real-world contextual examples; this is achieved by unplugged activities, proposing analogies, storytelling around concepts and links to concepts in pupils' lives
 11. **Read and explore code first** – code is taught by reading it first, before writing. Research shows that reading, tracing and explaining code augments pupils' ability to write code
 12. **Structure lessons** – supportive frameworks, such as PRIMM (predict, run, investigate, modify and make) and Use-Modify-Create, ensure differentiation is built in to suit the needs of all pupils.

- Objectives within each year group are linked one or more of the ten strands of the Teach Computing Content Taxonomy:
Networks, Creating Media, Data and Information, Design and Development, Computing Systems, Impact of Technology, Algorithms, Programming, Effective use of Tools, Safety and Security
- Concepts and skills are taught together within each topic and year group to ensure systematic progression.
- Formative and summative assessment tools (such as end of unit quizzes and rubrics) are used to gauge understanding, application of skills and vitally, next steps for learning.
- Employing cross-curricular links motivates pupils and supports them to make connections and remember the steps they have been taught.
- Children have access to the hardware that is needed to support the scheme of work including; laptops, iPads, chrome books, interactive white boards and remote-controlled devices.
- Teachers are trained regularly in latest technologies and relevant E-safety information
- Ensure teachers happy and confident in delivering all areas of curriculum and upskill where needed.
- Parents are regularly updated about the Computing curriculum and E-safety information via the school communications and events for parents run by the school.

Impact – What is the impact of our curriculum on the students?

- Our children are confident and independent learners, who are able to use a wide range of hardware and software.
- Pupils take online safety very seriously, they know how to keep themselves safe and respect others' privacy.
- Our approach to the creative curriculum results in a fun, engaging, and high-quality computing education (across discreet lessons and in all other areas of the curriculum).
- Pupils show an eagerness to learn, an increasing technical ability and creative flair across a range of digital tasks. They are continually recapping and building on concepts and skills learned which enables them to consolidate learning.
- Pupils can use technology to help them learn in a range of contexts and can display their learning using a wide range of digital formats.
- Proficient and supportive Digital Leaders are able to assist others within high quality Computing sessions.
- All of our subject-specific knowledge developed in our Computing lessons equips pupils with experiences which will benefit them in secondary school, further education and future workplaces.
- Our children will become more independent throughout their school-life and develop key life skills such as problem-solving, logical thinking and self-evaluation will become second nature.