**Elworth C of E Primary School**



**Computing/ IT Policy**

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| Date: | December 2022 |
| Review Cycle: | 2 Yearly |
| Reviewed By: | Mr S. Rogers |
| Approved By: | Mrs S. Buckley |
| Next review date: | December 2024 |
| Nominated Governor: | Mr M. Moulding |

**Mission Statement**

At Elworth CE Primary school we believe in the Church of England's vision for education which is 'Deeply Christian, Serving the Common Good.' Education should enable children to flourish and reach their full God given potential. To do this fully we need to develop children's characters so that they not only succeed academically but flourish in life skills. This is the basis of Character education; a concept of lifelong learning where pupils live out the virtues they encounter and learn to take their place as active global citizens. Our hope is that every child will become courageous advocates for change. We aspire that all our children are a blessing beyond the school walls, beyond their families, beyond their local community, as global citizens. To achieve this the children and adults at Elworth embark on an exciting and adventurous journey together joining in with God's redemptive work in the world and learn to be advocates for change.

At Elworth we create a stimulating and caring environment, grounded in Christian belief and practice, so that all members of our school community can flourish. We therefore aim to provide an education that provides pupils with opportunities to explore and develop their own values and beliefs, spiritual awareness, high standards of personal behaviour, a positive caring attitude towards other people, an understanding of their social and cultural traditions and an appreciation of diversity within modern Britain. We maintain that learning should be a rewarding experience for everyone; it should be enjoyable. Through our teaching we equip children with the skills, knowledge and understanding necessary to be able to make informed choices about the important things in their lives.

**Introduction (Intent)**

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 and other digital devices are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At Elworth CE 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 aim of this document is to provide an overview to the Computing Curriculum across the Key Stages.

**Aims (Intent & Implementation)**

The school’s aims are to:

* Provide a relevant, challenging and enjoyable computing curriculum for all pupils.
* Meet the requirements of the National Curriculum programmes of study for Computing.
* Use digital skills & computing as a tool to enhance teaching and learning throughout the curriculum.
* To respond to new developments in technology.
* To equip pupils with the confidence and capability to use digital skills and computing throughout their later life.
* To enhance learning in other areas of the curriculum using digital skills & computing.
* To develop the understanding of how to use digital devices 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 (Impact)**

We believe that Computing is a necessary subject which prepares children to live in a world where technology is moving at a rapid pace. So much so that children are being prepared to work with technology that doesn’t yet exist. For this reason, it is important that children are able to participate in the creation of these new technologies – placing greater emphasis on children as coders. Computing, in the National Curriculum, is split into three strands (Computer Science, Digital Literacy and Information Technology). It is important that children recognise the difference between what makes each one relevant to their future, as well as their everyday lives.

This will require high quality teaching of Computing, from EYFS to Year Six, that utilises a combination of unplugged (non-digital) and digital lessons using the school’s breadth of digital resources e.g. Chromebooks & Virtual Reality. Thus, the Computer Science strand should prepare children to understand what Computer Science is, as well as, complex computing concepts such as algorithms and binary code. At Key Stage Two, this knowledge should be taught at a deeper level encouraging children to learn about decomposition, debugging, variables and controlling physical systems.

The Digital Literacy strand should prepare children to use the internet safely by giving them the knowledge and understanding to deal with any inappropriate content and behaviours. This is echoed in the teaching and learning of positive and appropriate online behaviour. What is more, children will be taught how to safeguard personal information, the differences between viruses and malware, and how to identify trustable sources.

The Information Technology strand should prepare children to work with computers and other devices (such as tablets, mobiles). This should enable them to understand how technology is developing and how it has progressed. This will require children to be taught about computer networks, how data is stored and the development of their digital skills through the usage of Google Workspace.

**Programme of Study (Implementation)**

By the end of each Key Stage, pupils are expected to know, apply and understand the matters, skills and processes outlined in the relevant programme of study.

**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 environments should 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 drive a remote-controlled toy. Outdoor exploration is an important aspect, supported by digital toys such as metal detectors, controllable traffic lights and walkie-talkie sets. Recording devices can support children to develop their communication skills. This is particularly useful with children who have English as an additional language.

**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.
* Use technology safely and respectfully, keeping personal information private; know where to go for help and support when they have concerns about material on the internet.

**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.

**Management and Organisation (Implementation)**

The role of the Computing Lead is for them to be responsible for the development of Computing at Elworth CE Primary School.

The role of Computing Lead involves:

* Raising standards in computing as a National Curriculum subject.
* Aiding the implementation of the new Computing curriculum by providing training and support to all staff, when necessary.
* Offering help and support to all members of staff (including support staff) in their teaching, planning and assessment of Computing.
* Monitoring the delivery of the computing curriculum and reporting to the SLT and the Head teacher on the current status of the subject.
* Ensure the development of Computing through the construction and analysis of annual action plans.
* Liaising with other services, such as MGL, Google, Teach Computing.com and other professionals, for technical and curriculum support.
* Ensuring their own knowledge and understanding of computing is kept up-to-date by attending courses and sharing new knowledge with staff.
* Discussing financial decisions with the Head Teacher and Business Manager.
* Promoting the use of computing resources across school, working with the Head Teacher and Business Manager to ensure resources are current and up-to-date.

**Staffing and Staff Development (Implementation)**

* The Computing Lead will assess and address staff training needs as part of their Instructional Coach role and in response to individual needs and requests throughout the year. They will also have regular access to support and training
* Using training resources such as Google Workspace Skills, teachers should attempt to continually develop their own skills and knowledge, identify their own needs and notify the Computing Lead
* Teachers are responsible for the planning and teaching of the Computing curriculum (in line with the Teach Computing curriculum) within their classrooms and ensuring that pupils in their classes have opportunities for learning computing and digital skills and using them across the curriculum.

**Resources and Access (Implementation)**

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible digital system by investing in resources that will effectively deliver the strands of the National Curriculum and support the use of computing across the school. Teachers are required to inform the Computing Lead of any faults as soon as they are noticed, who will record them using MGL Fresh Desk.

A service level agreement with MGL is currently in place to help support the Computing Lead to fulfil this role both in hardware & software. The digital and computing network infrastructure and equipment has been sited so that:

* Every classroom from EYFS to Y6 has a laptop connected to the school network and an interactive touch screen device with multimedia capabilities.
* All teaching and support staff (including Admin) have their own laptop device.
* There are currently 79 Chromebook devices available for staff to book and use within their classroom.
* ***\*From January 2023 this will increase to 1-2-1 devices for all children/classes in school. Each class will have their own laptop charging trolley and enough Chrome OS Flex devices for each child in the class.***
* There are 50 mini-iPads available for pupil use.
* The school has a 15 user Virtual Reality kit for use in KS2
* Pupils may use computing devices independently, in pairs, alongside a TA or in a group with a teacher.
* The school has an IT technician who is in school one morning every week (currently Tuesday)
* A governor has specific responsibility for overseeing the implementation of the computing curriculum in the school.

**Planning (Implementation)**

As the school develops its resources and expertise to deliver the computing curriculum, modules will be planned in line with the National Curriculum and will allow for clear progression. Modules will be designed to enable pupils to achieve stated objectives. Pupil progress towards these objectives will be recorded using the foundation subject assessment system. Staff will follow the Teach Computing scheme of work with objectives set out as in the National Curriculum.

As a staff we are all aware that digital skills and computing capability should be achieved through core and foundation subjects. Where appropriate, digital skills and computing should be incorporated into schemes of work for all subjects. Where possible, digital skills and computing should be used to support engagement and enhance learning in other subjects.

**Assessment and Record Keeping (Implementation)**

Teachers regularly assess capability through observations and looking at completed work. Key objectives to be assessed are taken from the National Curriculum to assess key computing skills each term. Assessing computing work is an integral part of teaching and learning and central to good practice. It should be process orientated - reviewing the way that techniques and skills are applied purposefully by pupils to demonstrate their understanding of the concepts of computing. As assessment is part of the learning process it is essential that pupils are closely involved. Assessment can be broken down into:

∙ Formative assessments: - carried out during and following short focused tasks and activities. They provide pupils and teaching staff the opportunity to reflect on their learning in the context of the agreed success criteria. This feeds into planning for the next lesson or activity.

∙ Summative assessments: - review pupils' capability and provide a best fit level. Use of independent open ended tasks, provide opportunities for pupils to demonstrate capability in relation to a computing unit’s work. Summative assessment is recorded for all pupils – showing whether the pupils have met, exceeded or not achieved the learning objectives.

We mainly assess the children’s work in computing through summative assessment tasks at the end of every unit. An assessment task can consist of an open-ended focus task, a Google Form assessment or a direct instruction task. As per our foundation subject assessment system, we record the outcomes for each pupil using a RAG rating (Red, Amber, Green). All computing work is auto-saved on our Google Workspace domain. In KS2, pupils also record their computing work through the use of a Google SIte Digital Portfolio.

**Monitoring and Evaluation (Implementation)**

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/reviews, ‘evidence trawl’ -looking at children’s work saved on Google Workspace/Digital Portfolios 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. Through an Instructional Coach approach, we regularly review and assess staff confidence and competence in delivering the Computing curriculum and provide appropriate support and training.

**Inclusion (Intent)**

We believe that all children have the right to access computing and digital devices. 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 computing curriculum for some pupils. We teach computing to all children, whatever their ability. Computing forms part of the National Curriculum to provide a broad and balanced education for all children. Through the teaching of 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, computing can be used to support SEN children on a one to one basis where children receive additional support. Additionally, as part of our Autism & Dyslexic friendly approach to teaching and learning, we will use adapted resources wherever possible such as dyslexic friendly fonts, visual timetables, different coloured backgrounds and screen printouts. Moreover, Accessibility options on Chrome OS Flex devices will be specifically enabled, where necessary, to support SEN children’s access to computing and digital skill resources.

**Equal Opportunities (Intent)**

Elworth CE 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 computing and digital devices and all staff members follow the equal opportunities policy.

**Health and Safety (Implementation)**

The school is aware of the health and safety issues involved in children’s use of digital devices and computing.

All fixed electrical appliances in school are tested by an 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 into 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 into 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 senior site 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

**Security (Implementation)**

* The computing technician with the assistance of MGL will be responsible for regularly updating anti-virus software and other associated security software/applications.
* Use of digital devices and computing will be in line with the school’s ‘Acceptable Use Policy’.
* Parents will be made aware of the ‘Acceptable Use Policy’ at school entry and KS2.
* All pupils and parents will be aware of the school rules for responsible use of digital devices and the internet and will understand the consequence of any misuse.
* The agreed rules for safe and responsible use of digital devices and the internet will be displayed in all classrooms and computing areas.