



## **Gedney Church End and Lutton St Nicholas Federated Primary Schools**

### **Computing Policy**

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## **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 Gedney Church End & Lutton St Nicholas 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 federation intends to make this provision.

## **Aims**

- Provide a relevant, challenging and enjoyable curriculum for ICT and computing for all pupils.
- Meet the requirements of the national curriculum programmes of study for ICT and computing.
- 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 enhance learning in other areas of the curriculum using ICT and computing.
- 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.

## **Rationale**

The federation believes that ICT and Computing:

- are essential life skills necessary to fully participate in the modern digital world.
- allows children to become creators of digital content rather than simply consumers of it.
- provides access to a rich and varied source of information and content.
- communicates and presents information in new ways, which helps pupils

- understand, access and use it more readily.
- can motivate and enthuse pupils.
- offers opportunities for communication and collaboration through group working both inside and outside of school.
- 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 ICT in a range of contexts, including outdoor play. ICT 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 gain confidence, control and 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.

### *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 federation 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 ICT and computing across the federation. Teachers are required to inform the ICT and computing leader of any faults as soon as they are noticed (On Tuesday we have Ark, our ICT support in to fix these issues). ICT and computing network infrastructure and equipment has been sited so that:

- Every classroom has at least 1 laptop connected to the federation network and an interactive whiteboard with sound and internet facilities
- There are 2 laptop trolleys in each school, which are readily available for classroom use. There are two Pad Sync & Charge cabinets in each school with 5 iPads per classroom being allocated
- Each class has an allocated slot across the week for teaching of specific ICT and computing skills
- The laptops are available for use throughout the day so can they can be used in any lesson
- Pupils may use ICT and computing independently, in pairs, alongside a TA or in a group with a teacher.
- A governor with a particular interest in ICT and computing has been identified

## **Planning**

As the federation develops its resources and expertise to deliver the ICT and 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 by teachers as part of their class recording system. Staff will follow medium term plans with objectives set out in the national curriculum and use the same format for their weekly planning sheet.

## **Assessment**

Teachers regularly assess progress through observations and evidence. Key objectives to be assessed are taken from the National Curriculum to assess computing each term. Assessing computing is an integral part of teaching & learning and key to good practice. Assessment should be process orientated - reviewing the way that techniques and skills are applied purposefully by pupils to demonstrate their understanding of

computing concepts. As assessment is part of the learning process, it is essential that pupils are closely involved. Assessment can be broken down into;

- Formative assessments are 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 assessment should review pupils' ability and provide a best fit 'level'. Independent tasks provide a number of opportunities and scope for pupils to demonstrate their capability throughout the term. There should be an opportunity for pupil review and identification of next steps. Summative assessment should be recorded for all pupils – showing whether the pupils have met, exceeded or not achieved the learning objectives.

We assess the children's work in computing by making informal judgments as we observe the children during lessons. Once the children complete a unit of work, we make a summary judgment of the work for each pupil as to whether they have yet to obtain, obtained or exceeded the expectations of the unit. We record the results in our assessment files and we use these to plan future work, provide the basis for progress and to communicate with the pupil's future class teacher(s). The children's work is saved on the federation network. Other work may be printed and filed within the subject from which the task was set.

### **Monitoring & Evaluation**

The subject leader is responsible for monitoring the standard of the children's work and the quality of teaching in line with the federation's monitoring cycle. This may be through lesson observations, pupil discussion and evaluating pupil work. We allocate time for the vital task of reviewing samples of children's work and for visiting classes to observe teaching in the subject.

### **Inclusion**

At Gedney Church End & Luton St Nicholas 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 computing curriculum for some pupils. We teach IT and 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 opportunities that enable all pupils to make progress. We do this by setting suitable challenges and responding to each child's individual needs. Where appropriate IT can be used to support SEN children on a one to one basis where children receive additional support.

### **The Contribution of Computing to the Development of Unique British Values**

In our federation, we recognise the duty placed on all schools to promote what are now known as Unique British Values. All subjects within the National Curriculum

have the capacity to make a direct contribution to developing our pupils' understanding of what it means to be British in the 21<sup>st</sup> Century.

The Department for Education defines Unique British Values as follows:

1. Democracy: respect for democracy and support for participation in the democratic process
2. The Rule of Law: respect for the basis on which the law is made and applies in England
3. Individual Liberty: support and respect for the liberties of all within the law
4. Mutual Respect and Tolerance: support for equality of opportunity for all and respect and tolerance of different faiths, religious and other beliefs

The subject of Computing can contribute to the development of these values in the following ways:

- Focusing on the lives of significant British people from who have contributed to the development of computing including Sir Tim Berners-Lee
- Understanding how Britain has been influenced the technological revolution and the leading part that UK industry has played in global development
- Promoting tolerance and understanding of different cultures through open, two-way online communication
- The exploration of sensitive issues whilst maintaining tolerance and respect for the views and beliefs of others
- Visits to places of significance including the Centre for Computing History in Cambridge, seats of democracy that use ICT to articulate the democratic process and industry, where applicable
- Helping pupils to understand the history of British culture and the important contribution made by different cultural groups both now and in the past
- Working co-operatively with others, sharing ideas and resources, peer assessment and encouraging support for each other
- Exploring controversial issues including censorship, propaganda, radicalisation, copyright, accuracy of content, online bullying, inappropriate or harmful content, malware, online security and confidentiality
- How computing communities can promote a sense of belonging and shared identity within the local, regional, national, continental and international community

## **Health and safety**

The federation is aware of the health and safety issues involved in children's use of ICT and computing. All electrical appliances at both schools are tested accordingly. 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. 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 ICT technician, bursar or head teacher who

will arrange for repair or disposal. Children, staff and parents are regularly informed of E-safety guidelines.

### **Security**

- Ark, the ICT support company will be responsible for regularly updating anti-virus software
- Use of ICT and computing will be in line with the federation's 'acceptable use policy'. All staff, volunteers and parents 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 federation rules for responsible use of ICT and computing and the internet and will understand the consequence of any misuse
- The agreed rules for safe and responsible use of ICT and computing and the internet will be displayed in all ICT and computing areas

### **The role of the Subject Leader**

The role of the subject leader who is responsible for the implementation of computing policy across the federation is to:

- offer help and support to all members of staff (including teaching assistants) in their teaching, planning and assessment of computing
- provide colleagues opportunities to observe good practice in the teaching of computing
- maintain resources and advise staff on the use of digital tools, technologies and resources
- monitor classroom teaching or planning following the federation's monitoring programme
- monitor the children's progression in computing, looking at examples of work of different abilities
- manage the computing budget
- keep up-to-date with new technological developments and communicate information and developments with colleagues
- lead staff training on new initiatives
- attend appropriate in-service training
- have enthusiasm for computing and encourage staff to share this enthusiasm
- keep parents and governors informed on the implementation of computing across the federation
- liaise with all members of staff on how to reach and improve on agreed targets
- help staff to use assessment to inform future planning

### **The role of the Class Teacher**

Class teachers will be responsible for ensuring that pupils in their classes have opportunities for learning computing and using their knowledge, skills and understanding of computing across the curriculum.

They will plan and deliver the requirements of the National Curriculum for Computing to the best of their ability. We set high expectations for our pupils and provide opportunities for all to achieve, including girls and boys, pupils with educational special needs, pupils with disabilities pupils from all social and cultural backgrounds, and those from diverse linguistic backgrounds.

The class teacher's role is a vital role in the development of computing throughout the federation and will ensure continued progression in learning and understanding, and create effective learning environments.

The class teacher will also:

- secure pupil motivation and engagement
- provide equality of opportunity using a range of teaching approaches and techniques
- use appropriate assessment techniques and approaches
- set suitable targets for learning as outlined in the inclusion policy.
- maintain up to date assessment records (see policy document).

**Signed by Head Teacher:**

**Ratified by Governors:**      October 2012

**Updated:**                              December 2015