Pray, Learn, Achieve and Celebrate Together

Computing Policy

"For I know the plans I have for you," says the Lord...
"plans to give you Hope and a Future."
Jeremiah 29:11

Written: October 2022

Review Date: July 2024

Computing Policy

School Mission Statement:

"Pray, learn, achieve and celebrate together"

Curriculum Intent:

At St Gabriel's we

Computing Aims and Objectives:

The National Curriculum for Computing has four main aims to ensure that all pupils:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- 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.

Computing National Curriculum Aims:

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 precise and unambiguous instructions.
- Create and debug simple programs.
- Use logical reasoning to predict the behaviour of simple programs.
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
- Recognise common uses of information technology beyond school.
- Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Key stage 2 Pupils should be taught to:

- Design, write and debug 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
- Use logical reasoning to explain how some simple algorithms work 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.
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
- Select, use and combine a variety of software (including internet services) on a range of♣ digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Computing Curriculum Planning:

Computing is a key part of the new National Curriculum 2014. The school uses Teach Computing scheme, designed by the NCCE, which is supported through the use of a variety of different programs. Each class has access to a minimum of 45 minutes computing per week, using either laptops or iPads. The curriculum is split into four separate areas: Computing Systemsn and Networks, Creating Media, Programming and Data and Information.

We carry out the curriculum planning in Computing in phases. The long-term plan maps the computing skills and knowledge that the children study in each term during each key stage. The computing subject leader devises this in conjunction with teaching colleagues in each year group, and the children often apply computing skills as part of their work in other subject areas. Our long-term computing plan shows how teaching units are distributed across the year groups, and how these fit together to ensure progression within the curriculum plan.

Our medium-term plans, which we have adapted from the Teach Computing Curriculum, identify the key learning objectives and what children should be able to complete by the end of the unit. The Computing subject leader is responsible for keeping and reviewing these plans. In this way, we ensure that we cover the National Curriculum without repeating topics.

The topics studied in Computing are planned to build on prior learning. While we offer opportunities for children of all abilities to develop their skills and knowledge in each

unit, we also plan progression into the scheme of work, so that the children are increasingly challenged as they move up through the school.

Parents and carers are required to give signed authorisation before their child can use the Internet, either in guided or in independent school work. Parents and carers are, however, assured that their child's use of the Internet at school is always supervised. A record of those children who do not have permission to use the Internet at school is held by each class teacher and by the school office.

Computing in Foundation Stage:

We teach Computing in reception classes as an integral part of the topic work covered during the year. As the reception class is part of the Foundation Stage of the National Curriculum, we relate the Computing aspects of the children's work to the objectives set out in the Early Learning Goals (ELGs) which underpin the curriculum planning for children aged three to five. The children have the opportunity to use the laptops, a digital cameras and floor robots and iPads. Then, during the year, they gain confidence and start using the technology to find out information and to communicate in a variety of ways.

Teaching Styles in Computing:

As an objective of teaching of 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. While, at times, we do give children direct instruction on how to use hardware or software, the main emphasis of our teaching in Computing is for individuals or groups of children to use the technology available to help them to progress in whatever they are studying. So, for example, children might research a history topic by using role-play software that engages them in a highly visual way, or they might place themselves in a historical setting by manipulating a digital photograph, or they might investigate a particular issue on the Internet.

We recognise that all classes have children with a wide range of Computing abilities. This is especially true when some children have access to IT 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.

The Wider Curriculum and Computing:

The teaching of Computing contributes to teaching and learning in all curriculum areas. It also offers ways of impacting on learning which are not possible with conventional methods. Teachers use software to present information visually, dynamically and interactively, so that children understand concepts more quickly. For example, graphics work links in closely with work in art, and work using databases supports work in mathematics, while role-play simulations and the Internet prove very useful for research in humanities subjects. Computing enables children to present their information and conclusions in the most appropriate way. Much of the software we use is generic and can therefore be used in several curriculum areas.

English

Computing is a major contributor to the teaching of English. Children's reading development is supported through talking stories. As the children develop trackpad and keyboard skills, they learn how to edit and revise text on a laptop. They have the opportunity to develop their writing skills by communicating with people via e-mail. They also learn how to improve the presentation of their work by using desktop publishing software. There is in addition a variety of software which targets specific reading, grammar and spelling skills. We also use a range of English apps on the iPads to support phonetic knowledge, handwriting and sentence construction.

Mathematics

Children use Computing in mathematics to collect data, make predictions, analyse results, and present information graphically. Screen robots allow pupils to give exact instructions for a particular route, or to use their knowledge of angles to draw a range of polygons.

Science

Software is used to animate and model scientific concepts, and to allow children to investigate processes which it would be impracticable to do directly in the classroom.

Personal, social and health education (PSHE) and citizenship

Computing makes a contribution to the teaching of PSHE and citizenship in that children in Computing classes learn to work together in a collaborative manner. They also develop a sense of global citizenship by using the Internet and e-mail. Teachers also deliver the internet safety aspect of the course with the support of CEOP and think you know websites and lesson plans. The staff and children also work in line with the acceptable use policy which encourages them to be respectful of all users and to use the equipment in an appropriate manner.

E-Safety

- There is a separate e-Safety policy in addition to this computing policy. E-safety encompasses all three strands and all areas of the curriculum. E-Safety has its own curriculum which is taught in each class throughout the year, as well as an e-safety awareness week.

Inclusion in Computing:

At St Gabriel's, we teach computing to all children, whatever their ability and individual needs. This is in line with the school's curriculum policy of providing 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 to meet the needs of all pupils, including those 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.

We enable pupils to have access to the full range of activities involved in learning Computing. To do this we ensure: routines for using resources are embedded so as not to become a barrier to learning, steps are broken down into small achievable steps, screens are lowered to reduce distractions during teaching, we aim to pre-empt misconceptions and we strive to ensure presentation is clear and adapted so that it is suitable for all learners.

We have a range of software which is designed to include all learners. Our hardware can accept a range of input devices catering to pupils with specific difficulties.

Assessment in Computing:

Teachers will assess children's work in Computing by making informal judgements during lessons. On completion of a piece of work, the teacher assesses the work, and uses this assessment to plan for future learning. Verbal feedback is given to the child to help guide his/her progress. Older children are encouraged to make judgements about how they can improve their own work.

Teachers will record when pupils have achieved the assessment opportunities identified in the medium term planning. This will be done on a half termly basis. The subject leader will monitor these on a half termly basis.

This method is utilized to showcase the standard level of accomplishment in Computing for each age bracket within the school.

In Key Stage One, teachers maintain an in-class collection to the children's work, including samples attached to their planning and then submitted to the Computing lead. In Key Stage Two, class teachers use an online portfolio tool called Book Creator to monitor and evaluate children's work. This is then all used to demonstrate if a child has met the expected level of achievement in Computing for each age group in the school.

Staff Roles and Responsibilities in Computing

Teachers Role:

Teachers will:

- Plan and deliver the requirements of the KS1 and KS2 computing programmes of study to the best of their abilities.
- Set high expectations for all their pupils, including pupils with special educational needs and/or disabilities (SEND), pupils from various social, cultural and linguistic backgrounds, and academically more able pupils.
- Encourage pupils to apply their knowledge, skills and understanding of computers and ICT across the curriculum.
- Maintain up-to-date records of both formative and summative assessment.
- Tailor lesson delivery according to pupils' respective abilities.

Subject Leaders Role:

The coordination and planning of the Computing curriculum are the responsibility of the subject leader, who also:

- supports colleagues in their teaching, by keeping informed about current developments in Computing and by providing a strategic lead and direction for this subject;
- writes an annual summary report in which s/he evaluates the strengths and weaknesses in Computing and indicates areas for further improvement;
- uses specially allocated regular management time to review evidence of the children's work, and to observe Computing lessons across the school.

The quality of teaching and learning in Computing is monitored and evaluated by the headteacher as part of the school's agreed cycle of lesson observations.

Our school has the appropriate computer-to-pupil ratio, and Internet access. Most software is already installed on PCs. Some software is installed only on the class PC.

We employ a technician to keep our equipment in good working order. Members of staff report faults in the Computing fault log. The technician will also set up new equipment, and install software and peripherals.

Every teacher has been provided with a laptop and iPad.

In order to keep our school computers virus-free, no software from home will be installed on school computers. Pupils bringing in work on portable storage disks must first have it scanned, but it is easier if the work is e-mailed to the teacher concerned. Where teachers are transferring files between their home and school, they must have up-to-date virus protection software on their home computers. External hard drives and memory sticks must be encrypted.

SLT Role:

The role of SLT in Computing is to:

- Monitor of portfolios/files,
- Monitor pupil voice
- Support Computing Coordinator with planning scrutiny.

Governors Role:

The role of the Governors in Computing is to:

- Take a special interest in ICT across the school.
- Ensure that ICT issues remain high on the school's agenda.
- Attend in-school training where possible
- Meet with the co-ordinator / head of subject
- Be involved in the school's attempts to inform and involve parents in their child's learning
- Ask about resourcing of ICT and whether it is being used to improve learning

Computing Technician's Role:

We employ an ICT technician responsible for maintenance, repair and professional advice. The technician is allocated to us for half a day a week. The technician will be responsible for:

- supporting the computing coordinator with hardware issues.
- checking and keeping up to date with computer related problems written down in the "issues" book.
- liasing with the computing coordinator and staff on general maintenance issues.
- installing new software onto the server and computers.
- sourcing parts required for hardware issues
- installing and updating of the school virus software provided by LEA.
- backing up data from the schools server.
- keeping a database of school hardware up to date.
- overseeing with the computing coordinator the disposal of decommissioned hardware.

Monitoring of Computing:

Throughout the year the Computing Coordinator will:

- Learning Walks to take place as set in the monitoring calendar
- Track the use of assessment and timetables
- Ensure the use of folders (both online and paper)/portfolios for all pupils and teachers to save evidence into.
- Monitor Computing Displays in school
- Monitoring of books/files, pupil voice and planning with SMT.