

ST. LUKE'S CHURCH OF ENGLAND PRIMARY SCHOOL



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St Luke's is built on a core set of Christian values, where children feel happy and cared for. Here they find, love, joy, hope and peace.

John 13: 34-35 says: 'Love one another. As I have loved you... By this everyone will know that you are my disciples.'

'Following in God's way, Learning day by day, Working with one another, Caring for each other'

COMPUTING POLICY

Date of Policy: 2021

Review Date: 2024

A high-quality computing education equips pupils to use **computational thinking and creativity** to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The **core of computing is computer science**, in which pupils are taught the principles of information and computation, how digital systems work and **how to put this knowledge to use through programming**. Building on this knowledge and understanding, pupils are equipped to **use information technology to create programs**, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Computing (principally but not exclusively computers) is used in many ways for the presentation, analysis and storage of information, but also to model, measure and control external events, to solve problems and to support learning in a variety of contexts, not least through the use of the Internet, across the whole curriculum. The term Computing is understood to incorporate IT.

Computing is an important and in many ways an essential feature of modern everyday life. Children will already be familiar with it in the home and in the environment.

New technology is continually developing and increasingly affects their lives. They need the confidence and capability to use it.

As our school's statement of philosophy states -

"We will design a curriculum within which our children will be entitled to develop the knowledge, skills and concepts necessary for life in a modern, technological society."

This policy has been drawn up by the Computing Subject Leader.

1 Aims and Objectives

At St Luke's, we aim to prepare our children for a future in an environment which is shaped by technology. The content taught at St Luke's allows for a broad, deep understanding of computing and how it links to children's lives. It offers a range of opportunities for consolidation, challenge and variety. This allows children to apply the fundamental principles and concepts of computer science. They develop analytical problem-solving skills and learn to evaluate and apply information technology. It also enables them to become responsible, competent, confident and creative users of information technology.

1.2 The intentions of our Computing teaching are that children:

- 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
- Keyboard/mouse dexterity
- Flexibility of thought
- Adaptability (using various computer systems, control tools, etc)
- Understanding of the effects of the use of Computing
- Responsibility for own learning
- Sensible use of computer - as a tool, not a game
- Confidence
- Perseverance
- Ability to communicate confidently with others

Through the use of Computing children will develop skills in other areas, e.g. redrafting, design, problem solving, etc.

Through the use of Computing the children will develop their knowledge over a wide range of subjects.

The children will appreciate the effectiveness of the Internet as a communication & research tool

2 Teaching and Learning Styles

2.1 At St Luke's, Computing is taught using a blocked curriculum approach. This ensures children are able to develop depth in their knowledge and skills over the duration of each of their computing topics. Teachers use the 'Twinkl - PlanIt' scheme as a starting point for the planning of their computing lessons, which are often richly linked to engaging contexts in other subjects and topics. Each lesson contains revision, analysis and problem-solving. The lesson plans and resources help children to build on prior knowledge at the same time as introducing new skills and challenges.

In KS1, the focus is on developing the use of algorithms, programming and how technology can be used safely and purposefully. In KS2, lessons still focus on algorithms, programming and coding but in a more complex way and for different purposes. Children also develop their knowledge of computer networks, internet services and the safe and purposeful use of the internet and technology. Data Handling is featured more heavily in UKS2. Skills learnt through KS1 and LKS2 are used to support data presentation. Adult guides are offered, as well as end-of-unit assessments, enabling staff to feel confident in the progression of skills and knowledge and that outcomes have been met. Teachers are provided with a specific sequence of lessons for their year group, offering structure and narrative. These are not to be used exclusively but will support teachers' planning.

Teaching groupings:

Whole-class teaching of Computing skills takes place in the Computing suite or using mobile devices (iPads/chromebooks), which can be used in classroom settings.

In the classrooms of the younger children, it is sometimes found that some programs are more suitable for small group work, e.g. adventure programs, and pair work is often useful to transfer the skills involved in a new program from one child to the next.

Whenever possible, especially in the Foundation Stage and in Key Stage 1, an adult such as a learning support assistant, a student or a parent will sit with the children to guide and monitor their work.

All children are taught the basic mechanics of how to use devices sensibly & safely and care is taken to give all equal access.

3 Computing Curriculum Planning:

3.1 The Computing curriculum at St Luke's C.E. Primary School is based upon the 2014 Primary National Curriculum in England, which provides a broad framework and outlines the knowledge and skills taught in each Key Stage. Progression is planned to ensure that there are opportunities for all children to build on their current Computing knowledge and skills as they move through each year group.

3.2 A curriculum overview maps the Computing topics studied in each year group. The Computing co-ordinator works this out together with teaching staff in each year group.

3.3 Our plans follow the 2014 National Curriculum and give details of each unit of work for each term. The plans are reviewed regularly by the Computing leader to ensure complete coverage of the National Curriculum in each year group.

3.4 We have planned themes in Research Projects to build on children's prior learning. Within each topic, we ensure that there are opportunities for children of all abilities to develop their skills and knowledge. Children also have opportunities to challenge themselves to deepen their own understanding of unit aspects, by comparing features of current and past topics.

3.5 At St.Luke's, computing is arranged into 3 strands, the first dealing with computer science, the second dealing with information technology and the third dealing with digital literacy.

First Strand – Computer Science

KEY STAGE 1

- 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

KEY STAGE 2

- 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 variable and various forms of input and output
- Use logical reasoning to explain how simple algorithms work and to detect and collect errors in algorithms and programs
- Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web
- Appreciate how [search] results are selected and ranked.

Second Strand – Information Technology

KEY STAGE 1

- Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

KEY STAGE 2

- Use search technologies effectively
- 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, evaluation and presenting data and information.

Third Strand – Digital Literacy

KEY STAGE 1

- 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

- Understand the opportunities [networks] offer for communication and collaboration.
- Be discerning in evaluating digital content
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

4 Early Years Foundation Stage

- 4.1** In the reception class there are dedicated iPads available and in use from the children's first day in school. In this way, they view electronic devices as an important but pleasant aspect of their learning and as an integral part of modern life. They are given the same opportunities in the classroom as the other children and are timetabled in the Computing suite but their full use of this facility is built up slowly.

As the children use the mouse and the keyboard, they learn manual dexterity and the use of the individual keys introduces them to both capital and lower-case lettering. They learn how to print their work or how to save it to finish or to print later. During this year they also begin to appreciate the Multimedia aspect of computers. They experiment with the control of robot-like toys, e.g. Beebots, remote control cars, etc.

5 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.**
- **At St Luke's we follow use blocked planning from Year 1 to 6, with an e-safety block being taught to each year group. We supplement this with other resources, such as 'Be Internet Legneds' from Google and from SCARF PSHE planning. Each class teaches these designated lessons as well as embedding e-safety skills into their everyday computing lessons.**

6 Computing and Inclusion

- 6.1** At St. Luke's we provide equality of opportunity. Similarities and differences between people and cultures are explored sensitively. Equal treatment is given to boys and girls, and non-stereotypical behaviour / views are positively encouraged. All children will have equal opportunity to reach their full potential regardless of their race, gender, cultural background, ability or any physical or sensory disability. Children with special needs are given extra support to allow them to access the full curriculum. We aim to overcome any barriers to

learning, e.g. dyslexia, dyspraxia and dyscalculia, which can hinder children's learning, by following specific programmes to cater for their individual needs.

6.2 At our school we teach Computing to all children, whatever their ability. 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 progress. We do this by setting suitable learning challenges and responding to each child's different needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels.

6.3 When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, and differentiation – to allow us to take some additional or different action to enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs.

7 Assessment for Learning

7.1 We assess children's work in Computing by making informal, formative judgements as we observe them during each Computing lesson. On completion of a piece of work, the teacher marks the work and comments as necessary. At the end of each year, the teacher makes a summary judgement about the work of each pupil, which is reported to parents. We then pass this information on to the next teacher at the end of the year, to allow them to plan and differentiate according to each child's differing needs.

8 Resources

8.1 We have a fully operational computer suite with 33 Multimedia computers, all of which can access the Internet. This ensures that classes of up to 32 children can be accommodated with individual children at each computer.

In addition, we have 15 iPads stored in a mobile charging trolley in the Computing suite for use in classrooms with children to enhance teaching and learning. The iPads connect to the internet and Teachers can also request apps to be purchased and installed on the iPads. Each teacher has use of an iPad for management and administration with access to the schools shared calendars and e-mail.

We also have 30 Chromebook laptops which can be available for teachers to use with children in their class.

Each class has, in addition, a fixed interactive whiteboard and each class has a computer for use with the above (and for their own preparation & research). In addition, the EYFS classroom has a three iPads for the children to access as part of their learning.

All the school computers, including laptops, are connected to the Internet via a network link so that up-to-date material can be accessed and used in an imaginative way.

The library multimedia computer is linked to the Internet & also has the Junior Librarian bar-coding system installed. The older children learn how to operate this system and the intention for the future is for them to use the book & borrowing data for their research skills.

8.2 Non-computer items:

- Electronic keyboards (Multimedia computers incorporate musical software.)
- A fax machine in the school office.
- Control equipment – Remote controlled toys, Roamers (robots), control Lego, Beebots
- Calculators available for use in every classroom.

9 Health and Safety

- 9.1 As electricity is integral to the use of Computing, we observe strict safety rules in its use. Care is taken over the length of cable and the use of adapters. All portable equipment is tested for electrical safety annually. Only equipment labelled with a test certificate dated within 12 months will be used by the school. In KS1 the teacher controls the electrical output and, under supervision, the children learn to operate the switches. In KS2 the children are trained in its safe use. The younger children are under close adult supervision in the Computing suite, as are the older children when accessing the Internet. A password must be used to access Computing accounts which then access the Internet, we have a separate acceptable use policy.

10 Monitoring and review

- 10.1 The Computing subject leader is responsible for monitoring the quality of the teaching of Computing throughout the school, as well as the standards of the children's work. The Computing subject leader also supports colleagues in their teaching, by ensuring their own knowledge is up-to-date, through attending training sessions, and reading about current developments in the subject. In line with the school assessment calendar, the Subject Leader and Curriculum Leader will carry out termly book sampling, learning walks and pupil discussions. Findings will be collated and priorities shared with staff. Twice a year the Computing subject leader gives the Headteacher a report in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement.
- 9.2 Staff are frequently consulted about their perceived level of Computing skill and their need for further training. As each new piece of hardware (and some new items of software) is acquired, training and sharing-skills sessions are planned into the time allocated for INSET.



INVESTOR IN PEOPLE

