



***"Each of you should use whatever gift you have received to serve others, as faithful stewards of God's grace in its various forms." 1 Peter 4:10***

## 1. Introduction

The 2014 National Curriculum introduces a new subject, Computing, which replaces ICT. This represents continuity and change, challenge and opportunity. It gives schools the chance to review and enhance current approaches in order to provide an even more exciting and rigorous curriculum that addresses the challenges and opportunities offered by the technologically rich world in which we live. Computing is concerned with how computers and computer systems work, and how they are designed and programmed. Pupils studying Computing will gain an understanding of computational systems of all kinds, whether or not they include computers. Computational thinking provides insights into many areas of the curriculum, and influences work at the cutting edge of a wide range of disciplines. The COMPUTING policy and the E safety policy should also be read in conjunction with this policy.

The new National Curriculum presents the subject as one lens through which pupils can understand the world. There is a focus on computational thinking and creativity, as well as opportunities for creative work in programming and digital media. The introduction makes clear the three aspects of the Computing curriculum: computer science (CS), information technology (IT) and digital literacy (DL). 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.

The new National Curriculum states that pupils should be taught to:

- Key Stage 1/ Key Stage 2 - Computer Science
  - 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 behavior of simple programs Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.
  - Solve problems by decomposing them into small 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 Appreciate how (search) results are selected and ranked.

- Key stage 1/ Key stage 2 - Information Technology
  - Use technology purposefully to create, organise, store, manipulate and retrieve digital content
  - 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, evaluating and presenting data and information
  
- Key Stage 1 / Key stage 2 - Digital Literacy
  - 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 the internet or other online technologies
  - Understand the opportunities (networks) offer for communication and collaboration Be discerning in evaluating digital content Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behavior; identify a range of ways to report concerns about content and contact

In the Foundation Stage, the Information Communication Technology requirements stated in the Understanding the World element of the Foundation Stage Curriculum, are covered in continuous units.

### 1.1 Aim:

- To enable children to become autonomous, independent users of Computing, gaining confidence and enjoyment from their activities
- To develop a whole school approach to Computing ensuring continuity and progression in all strands of the Computing National Curriculum
- To use Computing as a tool to support teaching, learning and management across all areas of the curriculum
- To provide children with opportunities to develop their Computing capabilities in all areas specified by the Curriculum.
- To ensure COMPUTING is used, when appropriate, to improve access to learning for pupils with a diverse range of individual needs, including those with SEN and disabilities
- To maximise the use of Computing in developing and maintaining links between other schools, the local community including parents and other agencies.

## 1.2 : Objective

In order to fulfil the above aims it is necessary for us to ensure:

- A continuity of experience throughout the school both within and among year groups
- The systematic progression through key stages 1 & 2
- That the National Curriculum programmes of study and their associated strands, level descriptions and attainment target are given appropriate.
- That all children have access to a range of COMPUTING resources.
- That Computing experiences are focused to enhance learning.
- That cross curricular links are exploited where appropriate.
- That children's experiences are monitored and evaluated.
- That resources are used to their full extent.
- That resources and equipment are kept up to date as much as possible.
- That staff skills and knowledge are kept up to date.

## 2. Curriculum Development and Organisation

The national curriculum for Computing 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.

Switched on Computing is to be used to form the medium term plan and short term plans for Computing on which are: Learning objectives, activities (differentiated), vocabulary and assessment. Adaptations are made to ensure the plan is progressive in developing pupil capability. These are used as working documents to identify time markers, additional resource needs and to indicate whether optional activities have been undertaken. Each class is allocated a time in the COMPUTING suite to help aid follow this scheme of work. Each class is also allocated additional time to apply the use of Computing to other subject areas.

## 2.1 : Teaching & Learning

Teacher's planning is differentiated to meet the range of needs in any class including those children who may need extra support, those who are in line with average expectations and those working above average expectations for children of their age.

A wide range of styles are employed to ensure all children are sufficiently challenged:

- Children may be required to work individually, in pairs or in small groups according to the nature or activity of the task.
- Different pace of working
- Different groupings of children - groupings may be based on ability either same ability or mixed ability.
- Different levels of input and support
- Different outcomes expected

The Computing coordinator will review teachers' COMPUTING plans to ensure a range of teaching styles are employed to cater for all needs and promote the successful development of Computing.

## 2.2 : Equal Opportunities

It is our policy will ensure to meet equal opportunities by:

- Ensuring all children follow the scheme of work for Computing
- Keeping a record of children's work to ensure equal access and fairness of distribution of COMPUTING resources
- Providing curriculum materials and software which are in no way class, gender or racially prejudice or biased
- Monitoring the level of access to computers in the home environment to ensure no pupils are unduly disadvantaged.

We are currently investigating ways in which parents can be supported in developing their knowledge of curriculum requirements for Computing and how they can support their children.

## **3. Internet Safety**

Please See St George's E-Safety Policy.

## **4. Assessment**

Computing is assessed both formatively and summatively. Formative assessment occurs

on a lesson by lesson basis based on the lesson objectives and outcomes in the scheme of work. These are conducted informally by the class teacher and are tracked on our assessment system 'Insight' and are used to inform future planning.

Activities are planned at the end of a unit of work which enable summative assessments to take place where children's COMPUTING capability is assessed. This work is accompanied by a description of the context in which pupils completed the task and how it was undertaken.

## **5. Inclusion**

We recognise Computing offers particular opportunities for pupils with special educational needs and gifted and/or talented children and /or children with English as an additional language for example. Computing can cater for the variety of learning styles which a class of children may possess.

Using Computing can:

- Increase access to the curriculum
- Raise levels of motivation and self esteem
- Improve the accuracy and presentation of work
- Address individual needs

We aim to maximise the use and benefits of COMPUTING as one of many resources to enable all pupils to achieve their full potential. If the situation arises, the school will endeavor to provide appropriate resources to suit the specific needs of individual or groups of children.

## **6. Roles & responsibilities**

### **6.1 Senior Management**

The overall responsibility for the use of COMPUTING rests with the senior management of a school. The Head, in consultation with staff:

- Determines the ways Computing should support, enrich and extend the curriculum;
- Decides the provision and allocation of resources;
- Decides ways in which developments can be assessed, and records maintained;
- Ensures that COMPUTING is used in a way to achieve the aims and objectives of the school;
- Ensures that there is a Computing policy, and identifies a Computing co-ordinator.

### **6.2 Computing Coordinator**

There is a designated Computing Co-ordinator to oversee the planning and delivery of Computing within the school. The coordinator will be responsible for

- Raising standards in Computing as a national curriculum subject
- Facilitating the use of COMPUTING across the curriculum in collaboration with all subject coordinators
- Providing or organising training to keep staff skills and knowledge up to date
- Advising colleagues about effective teaching strategies, managing equipment and purchasing resources
- Monitoring the delivery of the Computing curriculum and reporting to the

Headteacher on the current status of the subject.

There is a clear distinction between teaching and learning in Computing and teaching and learning with Computing. Subject coordinators should identify where COMPUTING should be used in their subject schemes of work. This might involve the use of short dedicated programs that support specific learning objectives or involve children using a specific application which they have been taught how to use as part of their Computing study and are applying those skills within the context of another curriculum subject. Subject coordinators work in partnership with the Computing coordinator to ensure all National Curriculum statutory requirements are being met with regard to the use of COMPUTING within curriculum subjects.

### 6.3 The Classroom Teacher

Even though whole school co-ordination and support is essential to the development of Computing capability, it remains the responsibility of the teacher to plan and teach appropriate COMPUTING activities and assist the co-ordinator in the monitoring and recording of pupil progress in Computing.

### 6.4 Monitoring

Monitoring Computing will enable the coordinator to gain a good overview of the teaching and learning throughout the school. This will assist the school in the self-evaluation process identifying areas of strength as well as those for development.

In monitoring of the quality of Computing teaching and learning the coordinator will:

- Scrutinise plans to ensure full coverage of the Computing curriculum requirements
- Analyse children's work
- Observe Computing teaching and learning in the classroom
- Hold discussions with teachers
- Analyse assessment data

There is an annual review of this policy by the Computing coordinator. A major review involving all staff will take place every three years.

## **7. Health & Safety**

We will operate all COMPUTING equipment in compliance with Health & Safety requirements. Children will also be made aware of the correct way to sit when using the computer and the need to take regular breaks if they are to spend any length of time on computers. Computer Room Rules are also on display within the COMPUTING room for reference along with specific rules for the use of Internet and E-mail. The school also has a 'Responsible Use of The Internet Policy' document. The Health and Safety at Work Act (1 January 1993), European Directive deals with requirements for computer positioning and quality of screen. This directive is followed for all administration staff. Whilst this legislation only applies to people at work we seek to provide conditions for all children which meet these requirements. The school has an alarm system installed throughout. Each computer system has individual security against access to the management system. The files and network system are backed up regularly. The virus checker is updated regularly.

## **8. Appropriate legislation, including copyright and data protection**

All software loaded on school computer systems must have been agreed with the designated person in the school. All our software is used in strict accordance with the license agreement. We don't allow personal software to be loaded onto school computers.

## **9. Effective and efficient deployment of COMPUTING resources**

COMPUTING resources are deployed throughout the school to maximise access, to enhance teaching & learning and to raise attainment. To enable regular and whole class teaching of Computing the school has an COMPUTING suite which all classes in key stages 1 & 2 use for approximately 1 hour per week to develop their COMPUTING skills. Children also have access to class sets of Ipads, tablet computers and laptops which are available for staff to book out. All classrooms, including the COMPUTING room, have interactive whiteboards available at all times. A consistent interface is provided on all machines to enable familiarity and continuity with generic 'toolkit' software licensed and available on all curriculum computers in school. A curriculum 'peer to peer' network enables internet access on all machines as well as storage and access to shared files.