WHITCHURCH PRIMARY SCHOOL

Computer Science Policy

1. Definition

1.1 A high-quality Computer Science education equips pupils to use computational thinking and creativity to understand and change the world. Computer Science 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.

1.2 Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computer Science 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.

National Curriculum 2014

2. Aims

2.1 Whitchurch Primary School aims to ensure that all our 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 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

3. Roles of the Coordinator

3.1 The coordinator is responsible for the monitoring and development of the subject as set out in her/his job description. The coordinator will write an action plan when this subject is identified as a priority, within the School Development Plan and Strategic Plan. The coordinator is also the IT Manager for the school and manages the network and hardware provision across the school.

3.2 The Head teacher is responsible for monitoring the teaching of Computer Science and the Online Safety provision in the school. (See Online safety policy).

3.3 The Computer Science Coordinator is a specialist who is responsible for teaching and planning Computer Science for year 1-6. The coordinator advises colleagues on managing equipment and software in the classrooms. A central resource area will be maintained and reviewed annually along with other resources for computing. The coordinator is also the webmaster, and manages all aspects of the schools online presence.

3.4 The Coordinator monitors the curriculum. A new bespoke programme of study has been written to support the delivery of the new curriculum for 2015. The program of study is a live document that is ever changing to reflect the advancement of the IT industry.

3.5 All teachers are responsible for monitoring and responding to issues of e-safety and cyber bullying, making necessary referrals the Computer Science Coordinator or the Head teacher. Parents will be made aware of any issues arising and any sanctions which may be imposed.

4. Special Needs & Equal Opportunities

4.1 Whitchurch Primary School seeks to ensure that no member of the school community is disadvantaged in their access to the use of computing technologies, This covers race, colour, nationality, ethnic or national origin, religion or belief, gender, marital status, responsibility for children or other dependents, disability, sexual orientation, gender reassignment, age, trade union or political activities, socio-economic background, where the person lives, or, spent convictions.

4.2 Where use of a school computer proves difficult for a child because of a disability, the school will endeavour to provide specialist equipment and software to enable access. Children with learning difficulties can also be given greater access to the whole curriculum through the use of these technologies. Their motivation can be heightened and they are able to improve the accuracy and presentation of their work. This in turn can raise self-esteem. (See Equality policy)

4.3 Planning for Computer Science in the early years needs to be considered carefully if children are to begin to gain confidence in the use of a variety of technologies as soon as they start attending school. A range of appropriate hardware, software and activities have been put in place to facilitate this outcome.

5. General

5.1 Computer Science is taught both as a discrete subject and integrated into all other curriculum areas. Computer Science is used as a tool to improve learning. Links are made to other subjects where computing skills can be developed.

5.2 We aim to provide a broad and balanced curriculum through our long term Computer Science plans and schemes of work. These ensure our pupils are taught a range of skills and techniques in Computer Science as a discrete subject and as part of work in other curriculum areas.

5.3 Pupils have access to a range of technology which uses different hardware and operating systems. Our curriculum aims to develop transferrable skills that can be

used across different software. All the software used in school is monitored to ensure that its use is non-discriminatory and, where relevant, represents cultural diversity.

6. Teaching and learning

6.1 Our planning operates on three levels to meet the range of our pupils' needs

6.2 Planning ensures that a wide range of strategies are employed in order to differentiate Computer Science tasks. Examples of these are:

- Same activity but different outcome
- Same theme but different levels of input
- Different pace of working
- Different groupings of pupils
- Developing different modules of work, at different times of the year, for different abilities

6.3 To ensure full coverage of the scheme of work, plans employ a range of teaching styles to develop pupils' Computer Science capability. Planning may also include opportunities for work away from the computers intended to compliment the Computer Science activities.

7. Assessment

7.1 Pupils' will be assessed on a regular basis against the National Curriculum Programmes of Study / statements of attainment.

7.2 Assessment of Computing will take place within our online package (Insight).

7.3 Computing skills capability should be monitored regularly in relation to the Computing curriculum as outlined in the 'The National Curriculum' for England 2014. Teachers should assess module requirements with reference to children's knowledge, understanding and skills. Other opportunities for assessment will arise from cross-curricular work.

7.4 Children's work is password protected and stored in their home folders on the Learning Platform. (G-Suite for Education)

7.5 A portfolio of lessons and work is built through using the #wpscomputing on the school twitter account.

7.6 For Reception it may not always be practical to keep samples of work, but observations and discussions could be recorded.

8. Reporting & Recording

8.1 Parents receive an annual written report on their child's progress in Computer Science.

9. Monitoring, Evaluation and Review

9.1 The Coordinator monitors Computer Science in line with the school's monitoring policy. This ensures the scheme of work is implemented and all strands are planned for.

9.2 The Governors are kept informed of the Co-ordinator's work through feedback reports in the curriculum committee, links with subject governors and annual Online Safety report which summarises topics taught. This may be modified each year to respond to current issues or incidents that may arise in school.

9.3 The scheme of work is reviewed annually to ensure it reflects good practice and current initiatives. The scheme of work provides sufficient detail to ensure all pupils receive a consistent experience in Computer Science.

10. Resource Management - Hardware

10.1 The school has a range of hardware available to be used in discrete lessons and for cross curricular use. Pupil access is timetabled on a weekly basis for discrete lessons. There are Interactive Whiteboards and visualisers set up for teaching in all classrooms. All members of the teaching staff have a laptop for use at home and school.

10.2 Obsolete equipment is disposed of in accordance with County guidelines.

10.3 All computers are password protected for staff. Children have User names and profiles and these are allocated to users in readiness for the beginning of term.

10.4 Teachers must not leave laptops or any other portable ICT equipment unattended in classrooms overnight, cars or any other place where the equipment could be stolen. Laptops purchased by the school belong to the school and teachers to whom they have been allocated must not allow them to be used by any unauthorised individual, including family members.

10.5 Our staff sign a declaration on school letter-headed paper declaring that any computer equipment provided by the school for their use at home during tax year **** has been and will be used only for business purposes, and that any private use will be insignificant and incidental.

11. Resource Management - Software

11.1 The IT Manager is responsible for ensuring that the updating of anti-virus software is operating efficiently.

11.2 Licences are kept together in the office.

11.3 Staff and pupils are not permitted to use software from external sources without authorisation.

12. Security

12.1 The school has an alarm system installed throughout. The computer trolleys are made secure at night as part of the locking up daily routine.

12.2 Computers, televisions and videos are all security marked with the school postcode.

13. Health and Safety

13.1 Staff should ensure that the children are seated at the computers comfortably and be aware of the dangers of continuous use (e.g. eye/wrist strain etc.).

13.2 When using the Computer technology all staff will make a visual check of equipment specifically to ensure that:

- A fire extinguisher suitable for electrical fires is in place and undamaged
- There are no trailing cables or leads which could constitute a health hazard
- There are no daisy-chained multiblock electrical sockets in use
- There are no damaged chairs or other faulty and/or potentially hazardous equipment

13.3 Lessons involving the use of Computers should be structured to ensure that there are periodic breaks where pupils' attention is directed away from the monitor to a distant object such as the teacher or interactive whiteboard.

13.4 All equipment is checked annually under the Electricity at Work Regulation 1989. A detailed inventory is kept up to date by the bursar who ensures all equipment is checked. New equipment is added to the inventory on arrival.

13.5 Regular Risk Assessment surveys are conducted by the designated H&S representative, faults are logged and appropriate action taken.

13.6 The Health and Safety at Work Act (1 January 1993), European Directive deals with requirements for computer positioning and quality of screens. This directive is followed for all administration staff. Whilst this legislation only applies to people at work we seek to provide conditions which meet these requirements for all users.

13.7 Food and drink should not be consumed near computing equipment.

13.8 It is the responsibility of staff to ensure that classroom computing equipment is stored securely, cleaned regularly and that their class or themselves leave the equipment clean, tidy and on charge after use.

13.9 An adult should always supervise children when they are accessing information via the Internet. The network filtering software provided by a company called Securly, filters information but staff are advised to take great care on the content accessed by children and ultimately responsible for information accessed by pupils.

14. Management Information Systems

14.1 By developing its use of electronic Management Information Systems(MIS), Integris, the school saves teachers' time, whilst providing effective electronic availability of individual pupil data, both within school and at transfer at the end of Key Stage.

14.2 MIS also enables us to track and transfer records for "nomadic" pupils with greater ease. The Pupil Administrator and Pupil Manager update the MIS .

14.3 The office network is supported by the IT Manager and RM integris team.

15. Staff training

15.1 Needs will be met by:

- Auditing staff skills and confidence in the use of information technologies regularly;
- Arranging training for individuals as required, using National Online Safety Courses.
- The Computing Co-ordinator should attend courses and support and train staff as far as possible.
- Annual e-safety training must be arranged and completed by all staff working with children
- All staff must be trained on professional conduct and safer working practices regarding technologies such as Twitter, Facebook, Blogging etc.

16. Links to Spiritual, Moral, Social, Cultural

Spiritual

- Explore creativity and imagination in the design and construction of digital products
- Promote self-esteem through the presentation of your work to others
- Explore how ideas in computing have inspired others.
- Create digital products which incorporate your beliefs.

Moral

- Encourage good etiquette when using digital technology including mobile devices and with due regard to e-safety.
- Encourage respect for other people's views and opinions.
- Encourage respect for the computer room and the equipment you use and how this affects others

- Encourage respect in the use of digital equipment and its impact on the environment – for example, ink and paper wastage.
- Explore moral issues around the around the use of digital technology - For example, copyright and plagiarism.
- Explore the promotion of moral issues through your digital products.

Social

- Encourage students to assist one another in problem solving.
- Encourage appropriate social behaviours in the classroom including listening whilst others are talking and generally interacting as caring a community.
- Encourage good practice and respect in the use of social networking.

Cultural

- Encourage the sensible use of digital technology in the classroom and homework situations given that you are currently living in a digitally cultural environment.
- Encourage an awareness and appreciation of the digital divide and to be aware of differing cultural and spiritual or religious views towards the use of digital technology.
- Empowering pupils to apply their Digital Literacy and Computer Science skills and knowledge to the wider curriculum and acknowledge links between subjects. Co-ordinates in programming and their connections with Maths and Geography, for example.

Status of this Policy: DRAFT

Date approved by Governing Body:

Lead contributions from:

Staff: Michelle Manning

Governors:

Appendix A

National curriculum in England
Computing – key stages 1 and 2 2

Subject content

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.