Willoughby Primary School

'Learning for Life'

Computing Policy

1. Purpose of study & aims

1.1 Computing is changing the lives of everyone. Following the disapplication of the Information & Communication Technology (ICT) curriculum, we have revisited our policy and produced a new Computing Policy.

Through teaching computing education, we equip 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 coding. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content that make computers do what we want them to do beyond the use of standard applications. 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.

1.2 The Computing Curriculum aims to ensure all 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 safe, responsible, competent, confident and creative users of information and communication technology (see eSafety Policy).

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

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.

2. Teaching and learning style

2.1 As the aims of computing are to equip children with the skills necessary to use technology to become independent learners, the teaching style that we adopt is as active and practical as possible. We give children direct instruction on how to use hardware or software in 'skills' lessons and we also use computer capabilities to support teaching across the curriculum. So, for example, children might research or investigate a particular issue on the internet. We encourage the children to explore ways in which the use of a computer can improve their results, for example, how a piece of writing can be edited or how the presentation of a piece of work can be improved by moving text, adding illustrations, etc.

2.2 We recognise that classes have children with widely differing computer literacy. This is especially true when some children have access to 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, by:

- setting common 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 Teaching Assistants to support the work of individual children or groups of children.

3. Computer curriculum planning

3.1 The school uses the National Curriculum for Computing as the basis for its curriculum planning.

3.2 We carry out the curriculum planning in Computing in three phases (long-term, medium-term and short-term). The long-term plan maps the Computing topics that the children study in each term during each key stage. Children often study Computing as part of their work in other subject areas.

3.3 Our medium-term planning focuses on details of each unit of work for each term. We make use of Discovery Education's 'Coding' support package. The key learning objectives are identified for each unit of work.

3.4 A short-term plan is available for each lesson and can be adapted by the teacher as appropriate. Children are made aware of the specific learning objectives of each lesson.

3.5 While we offer opportunities for children of all abilities to develop their skills and knowledge in each unit, we also build planned progression into the work, so that the children are increasingly challenged as they move up through the school.

4. Foundation Stage

4.1 We teach Computing to the reception group as an integral part of the topic work covered during the year. As the reception group is part of the Foundation Stage of the National Curriculum, we relate the Computing aspects of the children's work to the EYFS. The children have the opportunity to use the computers and a digital camera. During the year they gain confidence and start using the computer to find information and use it to communicate in a variety of ways.

5. The contribution of Computing to teaching in other curriculum areas

5.1 Computing contributes to teaching and learning in all curriculum areas. For example, graphics work links in closely with work in art, and work using databases supports work in mathematics, while the Internet proves very useful for research in humanities subjects. Computing enables children to present their information and conclusions in the most appropriate way.

5.2 English

Computing skills are a major contributor to the teaching of English. Through the development of keyboard skills and the use of computers, children learn how to edit and revise text. They have the opportunity to develop their writing skills by communicating with others. They learn how to improve the presentation of their work.

5.3 Mathematics

Many Computing activities build upon the mathematical skills of the children. Children use computers in mathematics to collect data, make predictions, analyse results, and present information graphically. They also use a number of programmes to reinforce learning (e.g. Discovery Education maths and activities on the Woodlands Junior Site.)

5.4 Personal, social and health education (PSHE) and citizenship

Computing makes a contribution to the teaching of PSHE and citizenship as children learn to work together in a collaborative manner. Through the discussion of moral issues related to electronic communication, children develop a view about the use and misuse of computers, and they also gain a knowledge and understanding of the interdependence of people around the world.

6. Teaching Computing to children with special needs

6.1 At our school, we teach computing to all children, whatever their ability. Computing forms part of our school aim to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. In some instances the use of computing has a considerable impact on the quality of work that children produce; it increases their confidence and motivation. When planning work in computing, we can take into account the targets in

the children's Extra Support plans (ESPs). The use of computing can help children in achieving their targets and progressing in their learning (e.g. helps those with weak motor skills who find presentation and handwriting difficult.)

7. Assessment and recording

7.1 Teachers assess children's work in Computing by making informal judgements as they observe them during lessons. When required, pupils print out work and this is kept in their appropriate books or displayed. Children can also save their work into their own files. Every child in KS1 and KS2 has a folder on the server which allows them to keep evidence of some of their work in Computing. This is designed to give children more ownership of their learning.

8. Resources

8.1 Every classroom has an interactive board, with access to the internet. The Computer suite contains eleven personal computers. There are also lap tops available. Every computer in the school is linked to the internet and also has Sophos protection. We keep software for computers in the school office. We buy back, via Services for Schools, support visits from ICT Services.

9. Monitoring and review

9.1 We have a named teacher as Computing coordinator and a named Link Governor. Governors will visit to observe the teaching and learning of Computing in line with the schedule of Governors' visits. As we are a small school every teacher wears many hats, so we have a team approach to responsibility for the standard of children's work and the quality of the teaching.

This policy will be reviewed every 3 years

-------------------------------------- Head Teacher

--------------------------------- Chair of Governors

 Adopted 27/4/16