Greenvale Primary School
Computing Policy

RATIONALE:

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.

AIMS OF THE POLICY:

- To develop a whole school approach to Computing, ensuring continuity and progression for all pupils.
- Provide a relevant, challenging and enjoyable curriculum for Computing for all pupils.
- Meet the requirements of the National Curriculum programmes of study for Computing.
- Use Computing as a tool to enhance learning throughout the curriculum.
- To respond to new developments in technology and ensure children are provided with the opportunity to gain knowledge of a variety of computing tools and equipment as well as developing logical thinking and problem solving.
- To develop pupils' awareness of the use of computers not only in the classroom but also in everyday life.
- To develop the understanding of how to use computers safely and responsibly.

POLICY AND PROCEDURES:

Teaching and Learning:

Pupils, whether working at Foundation Level, Key Stage 1 or Key Stage 2, in the core and foundation subjects will be encouraged to develop their computing capability with the appropriate hardware, software and Internet access. The pupils will be encouraged to develop their knowledge, skills and understanding in the different areas shown in the objectives below:

<u>Early Years</u>

It is

important in the foundation stage to give children a broad, play-based experience of ICT in a range of contexts, including outdoor play. ICT is not just about computers. Early years learning environments should feature ICT scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to 'paint' on the whiteboard or drive a remote-controlled toy. Outdoor exploration is an important aspect, supported by ICT toys such as metal detectors, controllable traffic lights and walkie-talkie sets. Recording devices can support children to develop their communication skills. This is particularly useful with children who have English as an additional language.

By the end of 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

By the end of 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

Planning:

As the school develops its resources and expertise to deliver the Computing curriculum, modules will be planned in line with the National Curriculum and will allow for clear progression. Modules will be designed to enable pupils to achieve the stated objectives for Key Stage 1 and Key stage 2. Pupil progress towards these objectives will be recorded by teachers as part of the whole school assessment.

When planning teachers are to consider:

- The development of knowledge, skills and understanding.
- Using Computing to enrich and extend pupils' understanding of all areas of the curriculum.
- Developing or using existing Computing skills whilst working in a different curriculum context (e.g. reinforcing directional and instruction language when working in maths).
- Matching the task to the ability of each child in the class.

Computing Topic Overview

Year									
EYFS	Use ICT hardware to interact with age appropriate computer software			Being to explore how to complete a simple program on a computer (2paint, 2simple, 2create a story, word, coding, begin to use internet)			Completes a simple program on a computer Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.		
1	1.1 Online Safety & Exploring Purple Mash 4	1.2 Grouping & Sorting 2	1.3 Pictograms 3	1.4 Lego Builders 3	1.5 Maze Explorers 3	1.6 Animated Story Books 5	1.7 Coding 6	1.8 Spreadsheets 3	1.9 Technology Outside School 2
2	2.1 Coding 6	2.2 Online Safety 3	2.3 Spreadsheets 4	2.4 Questioning 5	2.5 Effective Searching 3	2.6 Creating PIctures 5	2.7 Making Music 3	2.8 Presenting Ideas 4	
3	3.1 Coding 6	3.2 Online Safety 3	3.3 Spreadsheets 3	3.4 Touch Typing 4	3.5 Emails (incl email safety) 6	3.6 Branching Databases 4	3.7 Simulations 3	3.8 Graphing 3	3.9 Presenting 5/6
4	4.1 Coding 6	4.2 Online Safety 4	4.3 Spreadsheets 6	4.4 Writing for different audiences 5	4.5 Logo 4	4.6 Animation 3	4.7 Effective Searching 3	4.8 Hardware investigators 2	4.9 Making Music 4
5	5.1 Coding 6	5.2 Online Safety 3	5.3 Spreadsheets 6	5.4 Databases 4	5.5 Game Creator 5	5.6 3D Modelling 4	5.7 Concept Maps 4	5.8 Word Processing 8	
6	6.1 Coding 6	6.2 Online Safety 2	6.3 Spreadsheets 5	6.4 Blogging 4	6.5 Text Adventures 5	6.6 Networks 3	6.7 Quizzing 6	6.8 Understanding Binary 4	6.9 Spreadsheets 8

Predominant area of Computing*

	Computer Science		Information Technology		Digital Literacy

*Most units will include aspects of all strands.

Assessment, Recording and Reporting:

Teachers assess children's work in Computing by making informal judgements as they observe them during lessons. Teachers assess the children's learning at the end of each unit of study and this is shared with parents at the end of each academic year in the annual report sent to them. Children are also encouraged to evaluate their own work and learning. A record of assessment is kept on the whole school assessment form for each class and for each unit.

The contribution of Computing to teaching in other areas of the curriculum:

English: Computing is a major contributor to the teaching of English, for example pupils' reading development is supported through talking stories. As the pupils develop mouse and keyboard skills, they learn how to edit and revise text on a computer. They have the opportunity to develop their writing skills by communicating with people via email, blogs, discussion boards etc. They also learn how to improve the presentation of their work by using desktop publishing software. There is also a variety of software that targets specific reading, grammar and spelling skills.

Maths: Pupils 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. Microsoft Excel is used to support data handling. Staff and pupils make use of a variety of software that supports learning.

Science: Software is used to animate and model scientific concepts and to allow pupils to investigate processes that it would be impracticable to do directly in the classroom.

DT: Computing contributes to the programming of products and toys that are made in DT. Children are able to research and collect ideas about existing products in order to plan and design their own. They are also able to use the debugging skills that are being developed in programming to evaluate ideas and products. They may also design their product on a computer programme.

Resources and access:

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible PC system by investing in resources that will effectively deliver the strands of the National Curriculum and support the use of ICT and computing across the school.

- Every classroom from Reception to Y6 has a laptop connected to the school network and an interactive whiteboard with sound and DVD facilities.
- There is a computing suite of 16 desktops.
- We have a trolley of 16 iPads which are used by all classes within the school.
- We have a trolley of Chromebooks which are used by all classes within the school.
- Each teacher has an iPad on which they are able to take class videos and photos.

Health and Safety:

It is imperative that all electrical equipment is kept in good working order. To ensure the health and safety of pupils and staff the following guidelines must be adhered to:

- Pupils are not allowed to switch the power on at the mains.
- Equipment is to be situated away from water.
- Pupils must always be supervised when using electrical equipment. All plugs, leads and equipment are checked regularly and tested for electrical safety in accordance with LA guidelines.
- Pupils will not be allowed to carry heavy equipment.
- Seating and work stations should ensure safe and comfortable conditions for pupils using computers.
- Adequate levels of lighting and ventilation should be ensured at all times.

Internet Security:

The School is very committed to ensuring e-safety at all levels. The school has a pupil E-Safety policy to protect the pupils which contains an 'Acceptable Use of the Internet' acceptance form. This is to be signed (electronically or via paper) by all children. It is shared via email with all parents.

The pupil signed forms are kept in the pupil's record folder.

Inclusion:

We recognise the fact that there are children with different computing abilities in all classes and we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this by:

- setting common tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty, some children not completing all tasks;
- providing resources of different complexity according to the ability of the child;
- Where possible, using classroom assistants to support the work of individual children or groups of children.

Where particular pupils have learning and assessment requirements which go beyond the provision described above, and which must be addressed in order to overcome barriers to learning, for example as a result of a special educational need, disability, or linked to the pupils' progress in learning English as an additional language, teachers will take account of these requirements by;

- Making provision where necessary to support individuals or groups of pupils to enable them to participate effectively in the curriculum and assessment. Where, because of visual or multi-sensory impairment or mobility difficulties, pupils are unable to gain incidental learning of the wider world, teachers will help pupils to gain understanding of the use of the computing in the curriculum, using specialised technology where appropriate.
- Taking account of the type and extent of the difficulty experienced by the pupil. In many cases the action necessary to respond to an individual's requirements for curriculum access will be met through greater differentiation of tasks and materials, consistent with school-based intervention as

set out in the SEN Code of Practice. Where pupils need access to specialist equipment or adapted activities teachers will refer to and implement the pupils' statement of special educational needs and work closely with representatives of other agencies who may be supporting the pupil. Teachers will also help pupils to manage their behaviour and help individuals to manage their emotions so that they can take part in learning Computing effectively and safely.

IMPLEMENTING THE POLICY:

The policy will be implemented through:

- The guidelines and the Scheme of Work.
- The School's Curriculum monitoring.
- INSET, staff meetings and informal discussions to share ideas, disseminate good practice, review progress and highlight areas for development.
- Review of teachers' plans and topics to ensure continuity and progression.

The policy will be monitored through:

- The Subject Leader & Headteacher monitoring planning files to ensure coverage of the Programmes of Study and adherence to the agreed guidelines.
- Classroom observations may be made by the Headteacher or subject leader of a particular aspect of the Computing curriculum, agreed beforehand with the class teacher.
- Observation of children's work, displays and through discussion with the children.

MONITORING THE POLICY

- Through the school's Curriculum Topic Plans and schemes of work.
- Through INSET, staff meetings and informal discussions to share ideas, disseminate good practice, review progress and highlight areas for development.
- Through enabling teachers to have access to each teacher's planning so that staff can see what other year groups are doing and what their class has done in previous years.
- Through Headteacher and Subject Leader monitoring planning files to ensure coverage of the programmes of study, the teaching of computing skills and adherence to the agreed guidelines.
- Through informal discussions between the computing subject leader and staff to exchange opinions and ascertain needs.
- Through observation of children's work and display and through discussion with the children.

EVALUATING THE IMPACT OF THE POLICY

●From teacher

assessment where appropriate.

- By examining samples of children's work
- Through talking informally to children to gain their view of their progress.
- By talking informally to teachers.
- Through observation of the children's learning by the class teacher, the Headteacher or subject leader.
- Through LA inspectors' reports, OFSTED inspectors' reports and the reports/comments of other visitors. (Governors, visiting teachers, advisers, etc.)
- Through auditing resources and examining classroom organisation and use of resources.

Reviewing the Policy

This policy will be reviewed every two years, unless changes to the local syllabus, national curriculum, methods of assessment change or for other educational reasons, make this necessary within that two year period.