Computing Policy

(See also eSafety, Acceptable Use and Anti-Bullying Policies)

This policy represents the agreed principles for the provision of Computing within Shepherd Primary School. This policy has been agreed by governors within the school and all teachers representing the Foundation Stage, Key Stage 1 and Key Stage 2.

School Aims:

Our school community (children, staff, parents and governors) aims to:

- Learn and grow together within the safe, caring and happy environment;
- Encourage achievement in all aspects of school life;
- Motivate all children with a broad and challenging curriculum;
- Treat everyone with honesty, respect and tolerance;
- Ensure opportunities for all.

Our Vision for Computing

Shepherd Primary School regards Computing as an essential life skill and a tool which enables our whole school community to become active and independent learners and communicators.

Our aims are to:

- Enable all of our staff, pupils, parents and governors to be confident, competent, safe and independent users of ICT.
- Promote the use of a wide range of up-to-date ICT resources to enhance and enrich teaching and learning in a way which motivates and enthuses our children.
- To provide an environment where access to ICT resources is natural and commonplace and is regarded as an integral part of our everyday practices and administration management.

This Vision Statement has been arrived at following consultation with our whole school community and will be reviewed in line with this policy.

1 Aims

1.1 Computing has become part of the way we all work and entertain ourselves. Almost everything we do at school now involves the use of ICT:

- online lesson research, teaching plans and resource materials;
- lesson delivery via either interactive whiteboard or laptop or visualiser;
- communication by e-mail, blogs, twitter and wikis;
- document distribution and storage;
- assessment information analysis;
- production and editing of reports.

1.2 Through teaching Computing, we equip children to participate in a world of rapidly-changing technology. We enable them to find, explore, analyse, exchange and present information. We also help them develop the necessary skills for using information in a discriminating and effective way and for staying safe when

communicating or researching. This is a major part of enabling children to be confident, creative and independent learners.

1.3 The objectives of teaching Computing are to enable children to:

- develop computing capability in finding, selecting and using information;
- use ICT for effective and appropriate communication;
- monitor and control events, both real and imaginary;
- apply their Computing skills and knowledge to their learning in other areas;
- explore their attitudes towards Computing and its value to them and society in general. For example, to learn about issues of security and personal safety, confidentiality and accuracy.

2 Teaching and learning style

2.1 As one objective of teaching Computing is to equip children with the technological skill to become independent learners, the teaching style that we adopt is as active and practical as possible. While we do give children direct instruction on how to use hardware or software, another emphasis of our teaching in Computing is for individuals or groups of children to use computers to help them progress in whatever they are studying. So, for example, children might research a history topic by using editing software that engages them in a highly visual way, or they might place themselves in a historical setting by manipulating a digital photograph, or they might investigate a particular issue on the Internet.

2.2 We recognise that all classes have children with a wide range of Computing abilities. This is especially true when many children have access to ICT 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:

- setting tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty (not all children complete all tasks);
- providing resources (including software) of different complexity that are matched to the ability of the child; this may even involve using different levels of the same software package;
- using teaching assistants to support the work of individual children or groups of children.

3 Computing curriculum planning

3.1 The school follows the Hertfordshire Primary ICT Scheme of Work (4.1), which is in line with the 2014 National Curriculum requirements. This scheme has been created to support the teaching and the development of Computing and computing capability as a tool for current and future learning. It is designed to evolve to embrace new technologies and practices and meets statutory changes to the national curriculum. It also includes a new EYFS section mapped to the Development Matters for Early Years (2012) and is aligned to the latest thinking related to fostering skills and understanding in computing and computer science.

Designed to offer the greatest flexibility to schools whilst ensuring progression, the scheme is organised into four age phases; EYFS, Key Stage 1, Lower Key Stage 2 and Upper Key Stage 2. The content is broken down into five strands and further organised into learning themes –

- **Create** .....creating, reviewing and sharing of any digital text (word-based, sound, still and moving image, animation etc)

- **Digital research** .....researching, locating and processing any form of digital information, on- and off-line, refining and editing it; respecting copyright and ownership
- **Info … info** .....collecting, organising and analysing data, through working with databases (branch and flat file), dataloggers and sensors, spreadsheets and any form of graph, chart, table or list (eg. pictograms, bar and pie charts, line graphs, Carroll and Venn diagrams etc)
- **Digital communication** .....understanding different types of digital communication, using them safely and appropriately to support learning in and beyond school
- **eWorlds** .....understanding that many devices respond to instructions and through this are programmed to perform specific tasks; such devices can be designed to respond to environmental and other conditions; using different command languages to understand instruction sequences and using some of these to program both physical and onscreen devices; developing an understanding of automated systems in the wider world; using, analysing and understanding the function of simple simulations and games

3.2 The scheme is designed to support pupils in both learning with technology and learning about it. Thus it builds the essential skills and understandings needed by pupils to use the technology around them effectively and appropriately. It is also constructed so as to introduce the essential aspects of computing and computer science in a way which blends with the ethos and learning approaches of the primary phase, whilst broadly falling in line with the Computing At School guidance. The *eWorlds* and *Info…info* strands particularly include aspects related to computing and computer science.

3.3 Objectives are provided along with a suggested independent task. An objective may be used for more than one session or, where appropriate, objectives may be grouped together within one teaching session. It is intended that discrete Computing is taught through weekly sessions, with pupils having additional opportunities to embed the Computing they have learnt in other curriculum contexts. (This would be in addition to the ad hoc use of ICT to support learning in other subjects). On-going objectives in a learning theme are shown in italics on the planning input. Each teacher will use the scheme of work to write medium-term plans. They identify the key learning objectives and expected outcomes for each unit of work. Cross curricular links are made wherever possible with the termly topics.

3.4 In line with the school's e-Safety policy, parents are required to give signed authorisation before their child can use the Internet, either in guided or in independent school work. The parents are however assured that their child's use of the Internet at school is always supervised. A record of those children who do not have permission to use the Internet at school is held by each class teacher and by the school office.

4 The Foundation Stage

4.1 We teach Computing in Nursery and Reception classes as an integral part of the topic work covered during the year and the ever changing learning environment. We relate the Computing aspects of the children's work to the objectives set out in Development Matters statements of the EYFS and the Early Learning Goals (ELGs) which underpin the curriculum planning for children aged three to five. The children

have the opportunity to use not only the computers but a range of 'small technologies' such as digital cameras, microphones and talking postcards. Then, during the year, they gain confidence and start using the computer to find out information and to communicate in a variety of ways.

5 Computing Provision

5.1 Currently all classes from Reception upwards are timetabled to receive at least one class lesson in the Computer suite. This lesson should focus on the delivery of Computing as a subject in itself and Computing core skills. The Computer suite is available and used frequently, as an opportunity for children to learn another subject using Computing as a cross-curricular tool.

5.2 All classes also have access to 45 laptops which are stored on 2 trolleys and can be used flexibly across the school. All classes are timetabled for at least one lesson per week using the laptops. The trolleys are equipped with wireless access points through which the laptops connect, but there are also 6 fixed wireless access points around the school which means small numbers of laptops can be used in any learning space, for example for intervention work.

5.3 All classes have at least one computer which can be used by teachers to support children's learning across the curriculum. The provision, configuration and quality of these is reviewed regularly by the Computing co-ordinator and ICT technician. There are additional computers around the school which may also be made accessible to children.

6 The contribution of Computing to teaching in other curriculum areas

6.1 The teaching of Computing contributes to teaching and learning in all curriculum areas. It also offers ways of impacting on learning which are not possible with conventional methods. Teachers use software to present information visually, dynamically and interactively, so that children understand concepts more quickly. For example, graphics work links in closely with work in art, and activities using databases supports work in mathematics, while role-play simulations and the Internet prove very useful for research in humanities subjects. Computing enables children to present their information and conclusions in the most appropriate way. We have a wide range of generic software which can be used in several curriculum areas.

6.2 English

Computing is a major contributor to the teaching of English. As the children 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 e-mail, and they are able to join in discussions with other children throughout the world through the medium of video conferencing. They also learn how to improve the presentation of their work by using desktop publishing software. There is in addition a variety of software which targets specific reading, grammar and spelling skills.

6.3 Mathematics

Children use Computing in Mathematics to collect data, make predictions, analyse results, and present information graphically. Screen and floor robots allow pupils to give exact instructions for a particular route, or use their knowledge of angles to draw a range of polygons.

6.4 Science

Software is used to animate and model scientific concepts, and to allow children to investigate processes which it would be impracticable to do directly in the classroom.

Data loggers, such as the weather station, are used to assist in the collection of data and in producing tables and graphs.

6.5 Personal, Social, Health and Citizenship Education (PSHCE)

Computing makes a contribution to the teaching of PSHCE as children learn to work together in a collaborative manner. They also develop a sense of global citizenship by using the Internet and e-mail. With reference to our e-Safety policy, through discussion of safety and other issues related to electronic communication, the children develop their own view about the use and misuse of ICT, and they also gain an insight into the interdependence of ICT users around the world.

7 Computing and Inclusion

7.1 At Shepherd Primary School we teach Computing to all children, whatever their ability and individual needs. 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 good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this. The school has a comprehensive Gifted and Talented Policy and a central register which is used to challenge those children who excel in certain subjects. For further details see the relevant policies.

7.2 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, differentiation – so that we can take additional or different action to enable the child to learn more effectively (for example, a lot of software can be differently configured for different ability ranges). Assessment against the National Curriculum allows us to consider each child's attainment and progress against age related expectations. This ensures that our teaching is matched to the child's needs.

Intervention through SEN Support will lead to the creation of an Individual Education Plan (IEP) for children with special educational needs. The IEP may include, as appropriate, specific targets relating to Computing. In some instances the use of ICT has a considerable impact on the quality of work that children produce, by increasing their confidence and motivation.

7.3 We enable pupils to have access to the full range of activities involved in learning Computing. We have a range of software which is designed to include all learners, for example 'Clicker'. Our hardware can accept a range of input devices catering for pupils with specific difficulties.

7.4 Where children are required to participate in activities outside of the classroom e.g. a visit to a Computing Exhibition, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

8 Assessment for learning

8.1 Due to the kinaesthetic and interactive nature of Computing, teachers will assess children's work in Computing by making informal judgements during lessons which can be noted on the medium term planning. Also, where relevant, on completion of a piece of work, the teacher can assess the work using the 'Student Work' link under 'Assistance for Teachers', and use this assessment to plan for future learning. Verbal feedback is given to the child to help guide his/her progress. All children are encouraged to make judgements about how they can improve their own work through

self-evaluation. Peer evaluation can be done in partners or by sharing work on the whiteboard, again using the 'Student Work' link.

8.2 At the end of each unit teachers will set an independent activity to assess children's progress over the unit. Teachers may also use the 2Assess software available to inform judgements or the Hertfordshire assessment examples. Each teacher records at the end of the unit: -working towards, working within or working above expectations for each pupil. This information and guidance from National Curriculum level descriptors is used at the end of the year to each pupil a level of attainment related to age related expectations.

8.3 Students should be reminded to save work regularly, as they are working on it, and at the end of each lesson. This work is kept in the Student Work area of the network in Year Groups (named for the cohort entry year). As we recognise that a printed piece of work will not, in all cases, demonstrate the achievement of all of the objectives. It is printed at the teacher's discretion and students have a limit to the number of printouts they can order themselves.

9 Health and Safety

9,1 Children are encouraged to close computers down and prepare them for use. They have chairs of the correct height, eyes level with the top of the monitor screen, and be encouraged to sit comfortably and use both hands for the keyboard. The school has an e-Safety policy to protect the staff, the pupils and the school.

10 Resources

10.1 Shepherd Primary School is committed to an ongoing programme of replacement and enhancement of ICT equipment and software to deliver the requirements of the National Curriculum to our pupils and to match the DFES guidelines for baseline provision of ICT resources. We have a very high computer-to-pupil ratio, and Internet access via a LAN and server based on RMs Community Connect 4 networking software. An ever-increasing range of software is installed on all PCs.

10.2 We subscribe to SITSS under a 'Gold' level contract which provides the school with weekly technical support to keep our equipment in good working order. Members of staff report faults via an ICT log book, which is monitored by the school Secretary who always prioritise repairs. Reporting to SITSS is via on online support tool or by telephone. The technician should also set up new equipment, and install software and peripherals.

10.3 In order to keep our school computers virus-free, all PCs, including Laptops have anti-virus software installed. The responsibility for keeping this up-to-date lies with SITSS.

10.4 Along with desktop and laptop computers, the school has the following:

Hardware includes, but is not limited to:-

- network, including switch, router and server PC;
- network shared resources, including printers;
- interactive whiteboard (Smart Boards and Clever Touches) and screen projection equipment;
- scanners, Visualisers, digital stills and video cameras;
- iPads, iPods and Kindles
- data loggers and sensors;
- lower-case keyboards;
- calculators;
- 'Qwizdom' hand-held voting system;

- Easy Speaks;
- Lego Wedo;
- headphones and microphones;
- USB drives for portable storage;

Software includes but is not limited to:-

- Microsoft Office applications;
- Smart Board & Clever Touch software and tools;
- Video editing and photo manipulation software;
- 2 simple range of software, including databases and music creation;
- control programs, models and simulations;
- Revelation Natural Art, Google Earth, Audacity;
- Clicker 5, Junior Librarian, My World; Handwriting for Windows;
- Connect 4 server with virus protection;

Online material

- The school blog and website
- online content subscriptions (Purple Mash):

11 Sustainability

Through our work towards the Sustainable Schools Award, Shepherd Primary School is committed to being environmentally sustainable and educating our children and wider school community about sustainability for the future.

In moving towards being sustainable, we are attempting to reduce our ecological footprint or to tread more lightly on the Earth. This equates to reducing the amount of resources we use and buy, the waste we produce and the emissions we produce.

Class teachers plan to teach children about sustainability issues, through the teaching of Computing, where appropriate and relevant.

12 Monitoring and review

12.1 The monitoring of the standards of the children's work and of the quality of teaching in Computing is the responsibility of the subject leader. The Computing subject leader is also responsible for supporting colleagues in their teaching of Computing, for keeping informed about current developments in the subject, and for providing a strategic lead and direction for Computing in the school. Each term the subject leader monitors the planning and assessment and carries out lesson observations once a year. The subject leader feeds back to the Head Teacher and evaluates the strengths and weaknesses in the subject, and indicates areas for further improvement. The subject leader should have specially-allocated time for carrying out the vital tasks of reviewing samples of the children's work, and of visiting classes to observe the teaching of Computing.

12.2 This policy will be reviewed every year, but the pace of technological advance is such that it may be amended between implementation and review.