William Shrewsbury Primary School

Policy and Guidelines for Computing

'to inspire a love of learning'

William Shrewsbury Primary School believes that Computing in the 21st Century has the power to make a significant contribution to teaching and learning across all subjects and ages, particularly as a means for creativity and collaboration. As a staff we feel a responsibility to prepare our children for future employment in jobs that are not yet thought of but are guaranteed to involve technology. The effective implementation of this policy seeks to support the School's Learning Development Plan.

This policy sets out the aims and strategies for implementing and developing Computing at our school. It is reviewed by the Computing co-ordinators annually.

Rationale/Philosophy

We see Computing as comprising of a variety of systems that handle electronically retrievable information. Computers and tablets are the most obvious of these but Computing also includes programmable robots, tape recorders, mp3 recorders, calculators, scanners, cameras and many more. We pride ourselves in our endeavours to keep ourselves abreast of current developments, the development of our website, Google Schools and our efforts to keep the school equipped with up to date hardware and software.

Aims, Objectives and Vision

Our aim is to become an "e-confident" school where Computing is integrated effectively in the planning, teaching, learning and assessment of all areas of the Curriculum. Our goal is to generate pupils who are independent, confident and responsible users of Computing in order to prepare them for life in an increasingly ICT rich world. We aim to further develop the potential Computing has upon teaching and learning, thus making a significant impact on both our pupils and staff.

To this end we undertake to:-

- Follow the National Curriculum guidelines ensuring that all children receive a minimum entitlement of Key experience regardless of gender or ability.
- Enable all children to enjoy Computing purposefully
- Encourage children to use ICT independently
- Foster children's awareness of Computing in the wider world
- Build on and develop existing knowledge through skills taught in each year group to   maintain continuity and progression

Computing is taught as a subject in its own right and is embedded into the curriculum as a means of effectively supporting both learning and teaching.

Early Years Unit and KS1 will focus on the children developing purpose and confidence through practice in a range of simple Computing skills and the use of a range of Computing resources. **KS2** will focus on children applying and extending their ICT experience, extending their awareness of its potential uses to make decisions about how and when to use ICT. Both key stages will be given many opportunities to use a wide range of resources and also to develop and use spaces of Google Schools.

The New Curriculum 2014 outlines that ICT be known as the 'Computing Curriculum' and focuses on 3 main areas:

- Computer science
- Information technology
- Digital literacy

KS1 to be taught:

- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions

- Write and test simple programs

- Use logical reasoning to predict the behaviour of simple programs

- Organise, store, manipulate and retrieve data in a range of digital formats

- Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

- Use the terms 'Annie Algorithm' and 'DeBug Danny'

KS2 to be taught to:

- Design and write 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; generate appropriate inputs and predicted outputs to test programs

- Use logical reasoning to explain how a simple algorithm works 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

- Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely

- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

- Use the terms 'Annie Algorithm' and 'DeBug Danny'

Guidelines for Curriculum Development and Organisation

1.   Criteria for good practice

Computing provision is good when children are:

- Encouraged to respond to new developments, facilitating effective use;
- Motivated to become confident, independent, selective users in individual & team   situations.
- Able to achieve higher order skills by using ICT to perform some of the routine &   repetitive tasks;
- Able to make judgements regarding their application of skills & technology to support their learning across the curriculum;
- Enjoy new technologies, using ICT as a tool for learning, reworking & extending ideas;
- Understand the capabilities, limitations, implications & consequences of its use.
- Encouraged and taught how to use the VLE (Launchpad365) both in school and out

Pride in ICT will be celebrated in demonstrations and display including:

- Displays of text, pictures, graphs and charts which have been produced by pupils using computers;
- Certificates produced to take home to parents.
- Celebrations in assemblies
- Work uploaded onto the website
- Cross curricular Computing work displayed around school
- Display work through Apple TV in classrooms

2.   Planning

The school framework focuses on the requirements of the NC Programmes of Study for Computing, predominantly through using the Rising Star scheme of work and www.code-it.co.uk which allows teachers to be more creative in computing.

It is the responsibility of the teaching staff to:

- Continually review and effectively implement planning, based on adapted units of work from Rising Stars which promote the use of sound and video recording.
- To plan for and deliver Computing as a subject and on a cross-curricular basis in a creative way where applicable.
- Provide opportunities for pupils to develop skills in each stated aspect of Computing aiming for them to begin to understand its applications and effects.
- Present a broad range of activities to all pupils with choices of which software best presents their work
- Clearly state the learning objectives of lessons so that all are aware of their focus.
- Set contexts which allow the learner to use Computing directly in:
  - the process of study
  - the content of study
  - the pace and style of learning
  - in all aspects of the curriculum.

The Scheme of Work

The Rising Stars creative Computing units, Espresso Coding, as well as other trusted sources, have been introduced and have been successful. We are confident that there is continuity and progression throughout the school with regard to Computing skills and knowledge. Each unit is planned with a balance of skills based activities and integrated tasks, wherever appropriate with cross curricular links. The use of a computer is provided and encouraged in all classes in the school. Laptops are available on a regular basis in both key stages, along with access to iPads and iPods.

A scheme of work is followed for both the delivery of Digital Literacy and Computing.

3.   Teaching and Learning Approaches

Teaching styles in Computing should involve whole class activities, individual and group work including the use of resources both on and away from the computer. Learning objectives should be shared at the beginning of the lesson and referred to during the plenary. Teachers are encouraged to make use of SMART notebooks to model and remind children of the steps to access their work, programs or websites.

Group dynamics

Equipment may be accessed in groups, pairs or by individuals depending on the activity. Careful consideration should be given to groupings and a maximum of 2 children per computer is recommended.
- Matched ability will encourage equal interaction.
- Mixed ability enables more competent children to assist those less able.
- Consider **gender issues** i.e. matched gender can avoid the commonly experienced marginalisation of girls as boys may monopolise the equipment.
- Class "experts" may be involved in teaching other pupils.
- Individual work ensures easier monitoring and assessment of skills and abilities.

Cross- curricular links

- Computing use should receive a specific mention in the policy documents for all subjects.
- Computing is an integral part of the topic work covered in the Early Years Unit and KS1 and is planned to support and extend all subjects in KS2.
- Computing Planning involves all teachers and makes close reference to the PoS and assessments.
- Subject planning (short term) includes proposals for integrated Computing use.
- Computing software and online resources have ensured pupils' experience of ICT is continuous and progressive, as well as current.

4. Professional Development

The school is committed to training staff in the use and application of Computing and this is predominantly in house. Computing skills are audited by the Digital Leads (Subject Leaders). County course attendance involves consultation with the Computing Leads & Leadership. INSET is delivered by the Computing Leads alongside 'expert' colleagues.
- INSET is planned to support the School and Staff development plans.

Support staff are trained and, where appropriate, work with Computing Leads. They may be involved in:
- The development and modification of resources to support lessons when covering PPA
- Data entry for information processing work
- Problem solving work with beebots, robots and control technology
- Microsoft Office activities.
- Guidance with graphic packages
- As support to the teacher and pupils within the ICT suite.
- Teaching and learning with iPads
- Support work on Goggle Schools
- Taking small groups to use computing resources
- Delivery of intervention courses on programmes such as LEXIA

5.   Resources and the Learning Environment

The schools financial commitment to Computing ensures sustainability of resources. Our core computers Stone and Toshiba with the Microsoft Network. All classes and the laptop trolley are networked. The school also has 8 SEN mini iPads, 16 mini iPads in a secure trolley, 28 iPad 2s kept in clusters around the school, 15 Chromebooks as well as a set of 32 iPods in KS2 and an iPod within Reception for assessment purposes. All classes and teaching spaces have a SMART board. All teachers have iPads and Apple TV to use and enhance learning. All teaching staff have a laptop. A C-Touch board is also available for use across school.

We have a range of extra-curricular Computing clubs available to the children.

The Computing budget is negotiated and agreed by the governing body annually. This pays for running costs and is spent at the discretion of the Computing team and Technician to ensure consumables are well stocked.

We are committed to replacing computers and laptops over 5 years old. Any additional funding required will hopefully come from the school budget and some perhaps from the support of our PTA. We lease as a way of maximising our budget options.

Strategies for the use of resources
Technical problems
Problems with hardware, software or peripherals should be reported to the Technician and Digital leads. This aids efficient prioritising and resolution of issues arising.

Classroom resources in Computing include:
- At least one networked computer with an interactive whiteboard.
- Personal headphones with microphone inbuilt (for all pupils)
- Negotiated access to programmable robots for each class as and when needed
- Resources such as digital video cameras, MP3 recorders, CD players and Alphasmart keyboards.
- Access to iPads and iPods.
- Chromebooks
- Apple TV

- Class iPad
- Google Schools
- Raspberry Pi's and Raspberry Pi laptops.
- OSMO coding equipment.

Central resources for Computing are stored in the ICT suite and in the Technician's room.

Software

Pupils use a core of open software and Apple apps which allows them to progress to their appropriate level through more demanding tasks. They also use specific software or apps to support and extend a range of subjects and purposes.

6.   Provision for Inclusion

One of our school aims is that 'we will have high expectations and encourage everyone to achieve the highest standards consistent with their potential.'

We aim to enable children with Special Educational Needs, including the gifted and talented to achieve their full potential in Computing, using various technologies to support them.

Alphasmart keyboards or iPads are used by some children in order to improve their access to a range of curricular areas. More able children are encouraged to take on the role of 'experts' in order to share their skills with others. Extra curricular clubs are held where children of all abilities are welcomed. Improved access is also ensured through a range of specific resources for sight or hearing impaired children. (See also school SEND policy).

We acknowledge that for all pupils (and specifically those with specific learning difficulties SpLD) their needs are best met by providing a multi-sensory curriculum delivered through a variety of teaching and learning styles. We aim to ensure that the teaching and learning in Computing is planned and delivered to meet these specific needs.

For specific curriculum areas (particularly academic ones) certain strategies should be considered and implemented:

- A buddy system
- Allowances for homework – amount / time spent /type of expected outcome etc
- Teacher / support / buddy to log homework tasks for the child
- Consideration of recording methods in class / outcomes (e.g. less writing / technology based / pictorial / taped / partner work)
- Clear organisation of resources
- Assisting pupils with personal organisation of resources where memory skills might be a problem, at home and at school
- Consideration of pupil's difficulties when marking work
- Providing advice for parents to support pupils at home
- Appropriate differentiation of task

7.   Marking, Assessment and Record Keeping

Wherever possible children should be involved in recording their own Computing experiences, and progress in the assessment process. All children have a Computing curriculum folder to store their hardcopies of work and when relevant their recordings of their experiences in computing.

Staff and children should assess the progression of skills and knowledge gradually during the year using the agreed **skills assessment grids** matched to the focused skills taught. The results of these should be mapped onto the levels sheets and these, alongside teacher knowledge and evidence of work should be used to allocate a level at the end of a year group. These levels should be passed to the Digital Leads and the next teacher.

End of Unit assessment

On completion of each unit staff should complete the 'End of Unit Assessment' sheets, via Google Drive which can be accessed by Computing Leads so that any planning & training needs can be identified and acted upon promptly and for analysis Computing data. A copy of each of these should be forwarded to the next year group teacher at the end of the academic year.

As each unit is delivered samples of children's work showing progression (including drafts) of skills for a range of abilities should be saved on their drives. Evidence of the integrated tasks will also be stored electronically.

ICT Targets

Targets set for the whole school and for each year group should be displayed in the classroom and Computing suite and be referred to regularly. These are updated annually in light of teaching changes.

8.   Homework and parental involvement

Homework in Computing will vary according to the age of the pupil. However, engagement with Computing should be encouraged for all ages/families through collaboration (discussions and blogs) and the sharing of images/web links. Many programmes are available for children to engage in at home (TTRockstars, Lexia, Bug Club and Google Schools)

9.   Basic Skills Statement

The school is committed to improving the children's basic skills in English and Maths. We aim to maintain consistently high expectations where children are required to apply these skills in the context of other curriculum areas.

10. Health and Safety

As a school we will operate all Computing equipment in compliance with Health & Safety requirements. Staff are responsible for the health and safety of all pupils in their care whilst involved in organised work activities both on site and off site. Class teachers should be aware of the school's Health and Safety policy and the following arrangements which apply to this subject:
- Children should be taught how to care for their workstations and to respect equipment.
- Care in sitting is crucial. Please avoid close proximity to external doors and to blackboards.
- Computers should be logged off properly at the end of each day.

- Correct procedures for laptop trolleys must be adhered to (see notes on each trolley).
- Children should be taught appropriate posture.
- Children should not be allowed to touch the back of any Computing equipment.

Computer Room Rules are on display with specific rules for the use of Internet and E-mail. The school also has a 'Responsible Use of The Internet Policy' document. Staff and pupils agree and sign responsible use of the Internet/Internet permission annually. We are developing materials to work with parents on Internet safety.

The school has an alarm system installed throughout. Each computer system has individual security against access to the management system. The files and network systems are backed up regularly. The virus checker is updated regularly.

11. Appropriate legislation, including copyright and data protection
All software loaded on school computer systems must have been agreed with the System Administrator.
All our software is used in strict accordance with the licence agreement.

12. Entitlement Equal opportunities
We fully believe that all children are entitled to have every opportunity to achieve their full potential in Computing irrespective of gender, race, class or disability. To do this, planning should reflect the diverse needs of all children in order to incorporate the principle of equality of opportunity and promote positive attitudes to diversity.

Certain applications of Computing are used for pupils:
- with learning difficulties, who need to be motivated to practice basic skills regularly;
- who will benefit from "Notepad" computers and Spellmasters to support their language work;
- of high ability who may be extended through the use of specific programs.

13. Monitoring and Evaluation
The Computing team monitors the subject in a number of ways:
- Reviewing planning;
- Discussion with individual year groups, staff and pupils about their work;
- Lesson observations;
- Observing displays
- Monitoring samples of work and skills covered in year group planning folders.
- Looking at results
- Talking with children about aspects of their Computing use

The monitoring of Computing at William Shrewsbury will seek to:
- Ensure that each year group is teaching Computing as a subject as well as a cross   curricular tool;
- There is a progression of Computing skills and capability.
- Encourage continuity of approach and delivery towards the teaching of Computing

- Ensure that there is a match between policy and practice.
- Identify the support needed for improvement in practice.

Reporting to Parents

This is done in the autumn term through an informal parent's evening, on an individual basis during a more formal evening in the Spring term and annually through a written report. Reporting on Computing use will focus on each child's ability to use a range of technologies with confidence and competence across a variety of applications.

14. Roles and responsibilities

Leadership and Management

The overall responsibility for Computing rests with the leadership and management of the 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 2 Digital Leads.
- Communicates with the Governing body regarding Computing development within the school.

Computing Team

There are two designated Digital Leads who oversee the planning and delivery of Computing within the school.

The Computing team is 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
- raising the profile of the Website
- working with the Burton Co-Operative Trust group to move Computing in our community forward.
- incorporating Google Education Packages into our school

ICT Technician

There is a designated full time Computing Technician in the school who oversees the technical aspects of the schools Computing resources. For full responsibilities see Technicians job description.

The Digital Leads

There is a clear distinction between teaching and learning in Computing and teaching and learning with Computing. Digital Leads should identify where Computing should be used in their subject schemes of

work. Subject Leaders work in partnership with the Digital Leads to ensure all National Curriculum statutory requirements are being met with regard to the use of Computing within curriculum subjects.

The Classroom Teacher
It remains the responsibility of each teacher to plan and teach appropriate Computing activities and assist the Digital Leads in the monitoring and recording of pupil progress in Computing.

15. Extra curricular learning
William Shrewsbury encourages children to become involved in out of school learning through access to Computing. They are encouraged to complete homework using Computing for example, by researching the internet and word processing.

They are encouraged to make informed choices about how they develop their work and to involve their family wherever possible. Homework assignments are set in Y5 specifically directing children to the use of email and web page development. KS2 will develop the use of Google Schools for homework purposes.

Extra curricular clubs are also very popular at William Shrewsbury. Currently there are clubs during most lunch times.

Extra curricular work, discussions, quizzes, videos and children's work are all available on our VLE to access out of school. Links for websites can be followed through the VLE or the school website.

16. Home school links
Children are given the option to complete some homework tasks, when appropriate, using Computing out of school. Teachers are sensitive to the fact that children may not have access to Computing or may not wish to use it to complete tasks outside of school.

The school website promotes the school's achievements as well as providing information and communication between the school, parents and the local community.
Our school website is fully up to date for parents to access most of the information they need.

17. School liaison, transfer and transition
The school is connected to the Staffordshire intranet which enables the transfer of information electronically. SIMS now makes this easier. Email is used to liaise with the governing body, teaching & non teaching staff, other schools and, where possible, parents.
Data to aid transfer and transition is transferred electronically between Key Stages within the school and between schools.
The VLE and the website has improved liaisons and transfer of information, it is now available to parents/carers in many ways.

18. Management Information Systems (MIS)
Computing enables efficient and effective access to and storage of data for the school's management team, teachers and administrative staff. The school complies with LA requirements for the management of information in schools. We currently use SIMs which operates on the school's administrative network

and is supported by the LA Schools' ICT Services (SLT). The school's finances are managed through the SAP system. Staffordshire schools are making use of Policy Central Enterprise PCE monitoring system to monitor security/usage. PCE detects potentially inappropriate content and conduct as soon as it appears on the screen, is typed in by the user or received by the user. A screen capture is taken on every incident detailing the time and date of capture, machine name, user name and reason for capture. A weekly headline summary is produced from the system detailing captures of particular interests to alert the person monitoring the system (H. Brampton and B. Hunter). These particular violations will be investigated in accordance with the AUP, Behaviour Policy and other relevant school policies.

All teaching staff have read-only access to Assessment Manager and the SENCO module. Only trained & designated members of staff have authority and access rights to input or amend the data.
The school has defined roles & responsibilities to ensure data is well maintained, secure and that appropriate access is properly managed with appropriate training provided.

19.   Monitoring and Review of the policy
William Shrewsbury are totally committed to the improvement of ICT and will modify the policy and guidelines following the results of continuous monitoring and evaluation. The policy will be reviewed on a two yearly cycle by the subject leader or when key development requires modifications to ensure improvement and development.

Reviewed September 2019