Garswood Primary School Computing Policy

In conjunction with....
Social Networking Policy,
E safety and GIST policy and Remote learning policy

**A Curriculum Policy
Statement for: Computing 2021**

Philosophy:

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.

Computing, previous known as ICT is a cross-curricular subject that has a critical role in enhancing the learning process at all levels of the curriculum and across a broad range of subjects and activities. Used correctly the subject prepares today's children for tomorrow's technological future. The advances made in the world of technology during recent years have had a significant impact on our everyday lives. Already, in today's world, computers and information technology form an essential part of everyday life. Now, with the growth of the Internet and the easy accessibility of home computers, it is vital that we encourage pupils to gain confidence and capability in the use of ICT to prepare them for adult life.

Our main aim is to make all children 'ICT literate', defined in the National Curriculum as "...characterised by an ability to effectively use ICT tools and information sources to analyse, process and present information in order to model, measure and control external events".

Curriculum - aims:

Computing will be delivered in accordance with the statutory entitlement as specified in the National Curriculum orders (September 2014). The national curriculum for computing aims to ensure that all 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 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 responsible, competent, confident and creative users of information and communication technology

Children will attain the necessary *breadth of study* by being given opportunities to work with a range of information, explore with a variety of tools and devices, and compare the different uses of ICT.

To ensure that the ICT programmes of study and attainment targets are translated into practical and manageable teaching plans, children will be taught in line with the agreed focus materials. The Computing long-term plan, in conjunction with 'Knowsley Scheme of Work' should be referred to in order to see which units of work should be taught when. This plan also specifies continuous work and cross curricular links with various aspects of the 2014 curriculum.

Key Stage 1 objectives:

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 objectives:

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

Challenge Curriculum:

Computing will also be embedded into the Challenge Curriculum which will give children the opportunity to use computing alongside other subjects working to their own specified requirements to research information. The Challenge Curriculum gives children the opportunity to...

- Build creativity opportunities into planning for the class based on skills-based objectives
- Devise activities that allow children to pursue their particular interests
- Plan learning opportunities with a cross-curricular approach
- Plan for a range of teaching and learning styles so children have the opportunity to show their creativity e.g. role play, hands on experimentation, problem solving, discussion, collaborative work

- 🌳 Give children clear but challenging and achievable goals
- 🌳 Share objectives with the children and give them opportunities to choose ways of working and how to shape the direction of work
- 🌳 Use stimulating starting points to capture interest and fire imagination
- 🌳 Actively encourage questioning

Teaching Approaches (Advisory):

At Garswood all teachers share responsibility for making their pupils computer literate. This means that all teachers themselves will need to become 'computing' literate to an appropriate level – acting as role models with their use of ICT. The ICT co-ordinator will provide support and assistance for this and is responsible for monitoring computing throughout the school.

Class teachers are responsible for their own class organisation and teaching style in relation to the teaching of computing, but at the same time must ensure these reflect the overall aims and philosophy of this policy. Due to the varied nature of computing, direct teaching will be carried out either to pairs, small groups or a whole class situation. Children will sometimes be grouped by ability (mixed or similar), age (in mixed age classes) or in mixed friendship groups. There may be occasions when software or a specific skill might need to be introduced to an individual child depending on the specific task. This will allow children to work on individually prepared tasks with work matched to each child's own development needs.

Pupils should experience the frequent use of computer technology, readily increasing their independence and ability to choose the appropriate software for a given curriculum activity. Computing should be embedded in all other subjects, with Interactive Whiteboards being used to enhance lessons in an exciting, *interactive*, stimulating way wherever appropriate. ICT should incorporate the multi-sensory approach to learning (VAK). Appropriate classroom strategies should be adopted to ensure equal access to all aspects of computing for all children. Teachers, above all, need to praise and value children's computing achievements, however big or small, in order to develop their confidence and self-esteem with regards to this challenging subject.

The range of software and planned activities should provide for the progression of skills and concepts, and the practical application of these. Where activities are lengthy, rotas may need to be used to record individual pupils' access to computers, using a flexible timetable where necessary.

Planning:

All teachers will plan for ICT and computing in accordance with their specified year group units taken from the ICT long-term plan and from the Knowsley Scheme of Work. In addition, computing will be planned for and taught within all curriculum subjects in Key Stage 2 and Key Stage 1. Hence not only teaching ICT and computing skills but using ICT across the curriculum in practical and creative ways to enhance the teaching of other subjects.

Wherever possible planning will be undertaken with other year group colleagues and the plans then shared with other teaching and non-teaching staff. Each member of staff will be responsible for planning computing work to meet the needs of the individuals in their class. Planning should also take into account the weekly time allocation for ICT as defined by the school computer suite timetable and in the programmes of study for September 2014.

Resources:

A variety of computing resources are available in the school. In the Foundation Stage there are two PC's, two ipads per setting (three in Nursery) and a Smart TV in Reception class and Interactive Whiteboard in Nursery setting. In Key Stage 1 each classroom has a PC all working at Windows 10 OS or above. There are Smart Tv's in every classroom and curriculum learning room across the school. Years 4, 5 and 6 there have shared access to bays of four computers outside their classrooms. All computers are networked to link up to the main server.

In addition to this we have a computer suite. This provides 18 networked computers, an Interactive Whiteboard, and a variety of software. All members of staff have signed a policy to indicate they will work on 'Forticlient' to work on the school network remotely via a proxy server from home.

There are also 15 ipads; two situated in the computer suite to aid with media creation and transition to high school as well as many apps that relate directly to the new computing curriculum. Focus on coding, multimedia and transitions.

In the Key Stage 1 classrooms the computers are located on a table or low trolley so that they are at an appropriate height for infant children. Other ICT equipment is kept in the ICT stock cupboard at the back of the computer suite. The development of central resources is the responsibility of the ICT co-ordinator. Maintenance of all resources is the responsibility of everyone. Teachers are responsible for the day to day care of their classroom computers and for the software that they use. Any problems must be logged on the St Helens team fault log as soon as the problem arises; indicating the problem, location and person it is connected to. The fault log can be found as an icon on every computer desktop. This will flag up a reactive call at St Helens Town Hall which can often be resolved within the week rather than on the half day visits. Computers are not to be moved about, disconnected, or exchanged unless prior agreement has been obtained from the Computing co-ordinator or the Head Teacher. Ipads and cameras, and any other mobile devices such as twitter phone, must be signed out using a book in the central office.

Teachers are also responsible for ensuring that all children know where resources are kept and the rules governing their access and use, particularly with regards to safety and privacy. The Computing co-ordinator, in consultation with the teachers, will review the allocation of hardware and software annually. Microsoft Office 10 and 10 OS will be used as the core software package. These include word processing, presentation, database and spreadsheet functionality. Other software packages will be used to support and extend the children's' computing capability. A list of current software will be maintained by the Computing co-ordinator. Over the course of their learning here at Garswood pupils will have an opportunity to use a range of ICT hardware and other peripherals.

These will include:
- PC's
- Interactive Whiteboards
- Smart TVs
- Network printer (Photocopier)
- Digital cameras and HD camcorders
- media centre editing equipment (IPads)
- Digital cameras and classroom cameras with recording functionality
- Microphones
- Control applications (including Bee Bots)
- IPads (with APPS changing regularly) for staff and pupil use

An audit of the software installed on the network will be held by the Computing co-ordinator. No software can be installed without the use of the administrator's password held by the St. Helens Team.

Assessment and reporting:

Given the rapid changes in the world of computing it will be necessary to annually monitor the effectiveness of this policy and make any amendments as necessary. Use of computers throughout the school is also monitored through observational reports in which the Computing coordinator focuses on a different aspect of ICT including planning, assessment, observation of teaching, standards etc...

This monitoring will take place through:
- Access to teachers' medium and short-term planning (offering help and support if necessary)
- Lesson observations
- Discussing with teachers the effectiveness of software and computing activities
- Looking at assessment checklists of knowledge and skills attained by the children
- Self Assessment by pupils
- Whole staff review of the ICT and Computing Development/Action plan

Children's work will be assessed, by either the class teacher or teaching assistant, during each major experience in line with the programmes of study. Assessment of computing as its own subject will follow the format given by the LA and should be completed for each unit as illustrated in the Knowsley Scheme of Work. Assessment should be built into computing lessons at the planning stage, e.g. teachers should have a clear idea of what and who (individuals, pairs or groups) they want to assess, and what their focus will be.

Computing should be assessed in a variety of ways:
- Observation of a child or group during a task
- Discussion with children about their activity
- Examination of saved work on the hard drive
- Examination of printouts
- Children's own evaluation of their work
- Highlighting of objectives through Optimum O track on a termly basis.

These assessments should then be used to inform future planning and provide information about individuals and groups, as well as provide information for parents. The assessments should be undertaken throughout the Key Stages and are the responsibility of the class teacher. Teachers should also carry out evaluations in order to form the basis for future planning, both long and short-term.

These evaluations should focus on:
- Children's progress and achievements
- Appropriate use of hardware and software
- Coverage of the National Curriculum

Teachers should record pupils' progress and achievements by keeping a checklist of the knowledge and skills attained by each child in their class as and when they are achieved. As part of the annual report to parents' comments should be made referring to a child's capability in computing.

Foundation Stage (Rec and Nursery):

Children will enter the early years setting with varying levels of experience of using computers. Some children will have considerable experience of the use of computers and remote-control type toys. However, there will still be a need to direct these skills into more focussed learning. In addition, there will be children who will be using the computer or other ICT equipment for the first time. ICT in the early years setting is much more than simple mouse control; it can be an exciting and motivating activity used to develop many important areas of learning.

Teachers who teach early years children need to ensure that the children are being given opportunities for the use of ICT in order to develop skills across the areas of learning. These ICT opportunities should be available freely on continuous provision. (Two networked PCs in Nursery and two in Reception and an interactive whiteboard in Nursery and a Smart TV in Reception are available during continuous provision within the Foundation Stage setting) Teachers need to encourage children to observe and talk about the use of computing in the environment and to encourage children to show each other how to use computer based equipment.

A permanent area for the computer is essential and this should be labelled clearly. This area should include a number of accessible computers and an Interactive Whiteboard. The monitor should be at eye-level and the seats at an appropriate height.

Related Issues:

Maintenance

In order to keep maintenance to a minimum any faults should be reported to the St Helens portal via the desktop icon (St Helens Team fault log) as soon as the problem arises to log a reactive call. All equipment should be shutdown and blinds on windows should be closed. Programmes should be closed down correctly and computers should be shutdown in a controlled manner.

Health and Safety

To minimise the likelihood of accidents the children will be advised on the correct use of computing equipment, such as:

- Pupils should not spend more than 40 minutes out of every hour in front of the screen
- Computers should be stored safely in the classrooms so that their cables are not easily accessible or hanging dangerously
- Children will not be allowed to use the main electrical socket connected to computers and Interactive Whiteboards
- Interactive Whiteboards should be placed at an appropriate height for the year/group using them, or where this is not the case a specially designed box/step should be used

Special Educational Needs / Gifted and Talented

All children should have access to a broad, balanced curriculum, which includes computing. Support for individual children will be provided whenever possible and is the responsibility of the class teacher, support staff or SEN / Gifted and Talented (G&T) co-ordinators as appropriate. Children will be encouraged to develop at their own pace and equipment will be provided at an appropriate level. Here at Garswood we recognise that computing can provide an important motivational tool for SEN / G&T pupils. With specialised software and small group work, learning opportunities for SEN / G&T children can be increased. Familiarity gives confidence and this breeds enjoyment and motivation. This has been demonstrated to be particularly evident for children with special educational needs.

Equal Opportunities

Every pupil regardless of gender, race, cultural background, ability, or any sensory or physical ability should receive equal access to develop their computing capability. Computing is an area of the curriculum where, because of its unique nature in requiring specific equipment, equal access needs to be planned and monitored very carefully. It is the responsibility of the individual teacher to plan their pairs and groupings so that this is achieved. Computers can play an important role in language development, topic work, problem solving and investigations. Therefore, it is important that we move away from the image of computers as complicated pieces of technology and look towards using them as a resource that is familiar to each and very child in the class.

Staff Development

Teachers need to become familiar with the educational uses of computing as well as the hardware and software that supports it. This will constantly change as teaching and learning methodologies evolve and technical developments allow computing to be used in curriculum applications. One of the greatest investments must be in the training and familiarisation of teachers and support staff. All teaching staff have had previous access to training and other software/hardware training opportunities through school staff meetings and outside agencies.

Future inset needs must be identified through:

- School development planning
- Curriculum review and evaluation
- Co-ordinator needs
- Individual needs

Garswood Primary School

Our Vision for
Computing Technology at Garswood

Our vision for computing at Garswood Primary School is that it should be used creatively with all areas of the curriculum to support teaching and learning and become a stimulating and enjoyable resource, which enables children to investigate and discover a medium for their own investigating skills. It should allow children to make excellent progress in skills that will be useful to them in 'real world' situations and give teachers the tools to teach more efficiently and effectively. ICT and computing should be an embedded tool in all subject areas to promote an interactive environment that children can utilise and adapt independently.

We are aware of the expanding world of information and communication technologies and aim to keep up to date with progress being made, especially with progress in technologies that children will be aware of in the home and office environment and give them the opportunity to explore these new technologies first hand were possible.

Staff should be supported by administrative ICT and receive regular updates to changes being made and new opportunities available to reduce workload and encourage the sharing of resources created and give more efficient access to a greater amount of data.

The school computer infrastructure should be robust and reliable ensuring efficiency and appropriate access. Computing should facilitate the networking of schools within the local authority through activity directory and virtual learning environment and expand these boundaries wherever possible with conferencing facilities.

Our local community and families of Garswood will use of our facilities outside school hours as part of our extended provision, to promote and extend the learning pathways of computing to those who feel less confident.

At Garswood we want to promote the accessibility and enjoyment ICT and computing can bring to all while demonstrating its potential in all areas of the curriculum that will benefit our families for many years to come.

Garswood Primary School – January 2021