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Computing Policy

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by: Kelly Barlow

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Computing Policy

Mission Statement

St. Oswald's is proud to be a Roman Catholic School where every person is helped to do their best to succeed in a place of love, peace and safety, following the teachings of Jesus. In our school family, we are keen learners and teachers.

Nihil Satis Nisi Optimum

Our Aims

In our school family we will:

- Thank God for our talents and celebrate achievements earned through hard work and aiming high.
- Follow the example of Jesus by loving, respecting and accepting one another
- Give children as well as adults the chance to have a voice in the future plans of our school
- Say sorry truthfully and bravely, be ready to forgive others as Jesus taught us
- Show kindness by trying to think of the needs of others before our own
- Be warm and welcoming towards others in our school, our parish and our community
- Find love and goodness here and when we leave take lasting friendships and happy memories with us.

'A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.'

Computing programme of Study, DfE, 2013

Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. 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.

At St Oswald's R.C Primary, we believe that Computing is an integral part of preparing children to live in a world where technology is continuously and rapidly evolving, so much so that children are being prepared to work with technology that doesn't even exist yet. For this reason, we feel that it is important that children are able to participate in the creation of these new tools to fully grasp the relevance of and the possibilities of emerging technologies thus preparing them for the world of work. The use of computing is an integral part of the national curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At St Oswald's RC Primary School, we recognise that pupils are entitled to quality hardware and software and a structured and progressive approach to the learning of the skills needed to enable them to use it effectively. The purpose of this policy is to state how the school intends to make this provision.

Rationale

Why should our pupils use ICT and Computing?

- ICT and Computing can enhance the learning process across all areas of the curriculum.
- ICT and Computing enables pupils to undertake activities, which would be difficult to pursue in any other way.
- ICT and Computing takes the laborious routine out of some text and information tasks giving greater scope for pupils' creativity.
- ICT and Computing can motivate pupils.
- In the information society in which we live, pupils need to develop computing skills in order to access relevant information.
- ICT and Computing gives pupils immediate access to richer source materials.

- ICT and Computing has the flexibility to meet the individual needs and abilities of each pupil catering for both weak and high achievers.
- ICT and Computing promotes access for pupils with learning difficulties.
- ICT and Computing offers potential for effective group work and collaborative learning.
- ICT and Computing supports different types of learners – audio, visual and kinesthetic.

Intent

At St Oswald's, we aim to prepare our learners for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever changing digital world. Knowledge and understanding of Computing is of increasing importance for our children's future both at home and for employment.

Our Computing curriculum focuses on a progression of skills in digital literacy, computer science, information technology and online safety to ensure that children become competent in safely using, as well as understanding, technology. These strands are revisited repeatedly during the children's time in school to ensure the learning is embedded and skills are successfully developed.

Our intention is that Computing also supports children's creativity and cross-curricular learning to engage children and enrich their experiences in school. Children will also be very aware of the importance of staying safe online. We want to model how to use technology responsibly and safely. Children will know some possible dangers that could occur online, how they can prevent them from happening and what to do if they find their online safety is or has been compromised.

Implementation

Teaching and Learning

At St Oswald's we follow the purple mash scheme of work for computing. This covers the range of knowledge and skills that pupils need to know, have and gives them access to a range of software to help practice and acquire the skills needed to become competent users of computers in their various forms.

The three areas of computing that are taught in each year group through the units covered are: Computer Science, Information Technology and Digital Literacy, which by the end of KS2 will have met the aims of the national curriculum.

Computer Science

- To enable children to become confident coders on a range of devices.
- To create opportunities for collaborative and independent learning.
- To develop children's understanding of technology and how it is constantly evolving.

Digital Literacy

- To enable a safe computing environment through appropriate computing behaviours.
- To allow children to explore a range of digital devices.
- To promote pupils' spiritual, moral, social and cultural development.

Information Technology

- To develop Computing as a cross-curricular tool for learning and progression.
- To promote learning through the development of thinking skills.
- To enable children to understand and appreciate their place in the modern world.

Children will predominantly use iPads during computing sessions to practice and apply their knowledge and skills but will also have access to laptops as well. Through purple mash children are exposed to a range of software for creating written documents, databases, spreadsheets, pictures, music, diagrams and their own games as well as others.

Progression of Skills

Computing topics are planned so that they build upon the children's prior learning. There are opportunities for children of all abilities to develop their own skills and knowledge within each topic.

Planning

St Oswald's adopts a skills based approach to planning the curriculum. We teach using skills based curriculum based on the aims and objectives set out in the National Curriculum. This ensures that the children have a full coverage of each program of study from the National Curriculum and receive a broad range of skills. These skills are taught discretely, where the child is taught how to do something, for example make a database. Then they will be taught how to apply this skill across the curriculum, for example making a database of different rivers in Geography. This is done from Year's 1 to 6 on a two year rolling program, ensuring all children are taught each topic thoroughly, at different levels throughout their time at St Oswald's.

We carry out the curriculum planning in Computing in three phases (long-term, medium-term and short-term). The long-term planning maps the Computing topics that the children study in each term during each key stage. The Computing subject leader works this out in conjunction with teaching colleagues in each year group, and the children often study Computing as part of their work in other subject areas. Our long-term Computing plan shows how teaching units are distributed across the year groups, and how these fit together to ensure progression within the curriculum. When the opportunities arise, staff may move unit's forwards or teach them later in the year to fit in with other curriculum areas.

Our medium-term plans identify the programs of study and key skills for each topic taught. The subject leader is responsible for keeping and reviewing these plans, ensuring discussion with colleagues on any topics of work that they feel are not suitable or need changing.

The class teacher is then responsible for producing Knowledge gained grids showing objectives and clear progression of knowledge gained within each lesson taught. These are collected by the subject co-ordinator in order to monitor progression of knowledge and skills gained.

British Values within Computing

Children at St Oswald's R.C. Primary School demonstrate the following values whilst learning about Computing:

Democracy

Listening to everyone's ideas in order to form a majority.

Working as part of a team and collaborating to use computing devices effectively.

Rule of Law

Developing knowledge of lawful computing behaviours.

Demonstrating respect for computing laws.

Understanding the risks in having a 'digital footprint.'

Individual Liberty

Taking responsibility for our own computing behaviours.

Challenging stereotypes and bias.

Exercising rights and personal freedoms safely through knowledge of E-safety.

Respect and Tolerance

Showing respect for other cultures when undertaking research using computing devices.

Providing opportunities for pupils of all backgrounds to achieve in computing.

Equal Opportunities, Inclusion, Special Educational Needs and Disabilities (SEND)

It is our policy to ensure that all children, regardless of race, class or gender, should have the opportunity to develop their computing capability. We aim to respond to children needs and overcome potential barriers for individuals and groups of children by:

Ensuring that all children follow the scheme of learning for Computing.

Providing curriculum materials and programs, which are in no way class, gender or racially prejudice or biased.

Providing opportunities for our children who do not have access at home to use the school computers/Internet to develop independent learning.

Providing suitable challenges for more able children, as well as support for those who have emerging needs.

Responding to the diversity of children's social, cultural and ethnographical backgrounds.

Overcoming barriers to learning through the use of assessment and additional support.

Communication or language difficulties by developing computing skills through the use of all their individual senses and strengths.

Movement or physical difficulties by developing computing skills through utilising their individual strengths.

Behavioural or emotional difficulties (including stress and trauma) by developing the understanding and management of their own learning behaviours.

Monitoring

Monitoring enables the subject leader to gain an overview of Computing teaching and learning throughout the school. This will assist the school in the self-evaluation process, identifying areas of strength as well as those for development.

The subject leader will monitor through a number of different pathways including:

- Observing teaching in the classroom
- Hold discussions with pupils and staff
- Analyse children's work
- Assess the effectiveness of teaching materials
- Review the cycles of learning each year
- Analyse data at the end of each year for all pupils and specific groups

Impact

Foundation Stage

We teach Computing and ICT in the Foundation Stage classes as an integral part of the topic work covered during the year. 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 particular useful with children who have English as an additional language.

Key Stage One

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 a sequence of instructions
- write and test simple programs
- use logical reasoning to predict and computing 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.

Key Stage Two

By the end of key stage 2 pupils should 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.

Assessment

As in all other subjects, children should be assessed and appraised of their progress in their understanding and applying of computing skills. Teacher assessments of computing capability will be formally recorded at the end of Autumn and Summer Term and reported to parents at the end of each academic year. Formative assessment occurs on a lesson-by-lesson basis determined by the aims/objectives. Evidence of computing sessions can be found in each pupil's computing file which follows them through the school.

Resources

St Oswald's school is equipped with an Interactive White Board in every classroom, including the nursery department. All members of staff are confident with using the interactive boards in a range of ways throughout their lessons. In our Nursery department, there is a C-Touch Interactive Whiteboard. All class teachers have a personal laptop, which is linked up to their Interactive White Board and networked to the other computers in the school, to the main school printer and to the Internet. These laptops can be unplugged from the white boards and moved around and out of the classroom. The Nursery and Foundation Stage classrooms have at least one desktop computer each, that the children are allowed to use throughout the day.

The school has a computer suite of 9 desktop computers that are networked, linked up to the Internet and the printer. The school also has a set of 40 I-Pads, a class set and I-Pads available for the staff to use. The school also has a visualizer specifically used for one of children who has visual impairments.

The school also has a range of hardware and software. All teachers are made aware of where any new resources that come into school and are given sufficient training on how to use them. The school has an ICT and computing technician who is available to the school as and when required. Our school has a nominated governor, who receives updates and meets with the co-ordinator to discuss the progression of the subject within the school.

Along with the notebooks, laptops and I-Pads, the school has the following:

Hardware

- colour printers
- listening centres
- calculators
- robots
- electronic toys
- bee-bot
- digital audio recording equipment
- metal detectors
- interactive whiteboards
- Data logger
- hand-held digital microscopes

- hand-held voting buttons
- Micro-bits
- Chromebooks

Software

- a music composition package (Garage Band)
- Purple Mash
- Internet access
- Microsoft package on all notebooks and laptops
- Times Tables Rockstars

Internet

The school has Internet access in every classroom, in the computer suite, on Chromebooks and on I-Pads. Any use of the Internet will be strictly in accordance with the school's Internet Policy, which has been communicated to staff, pupils, governors and parents. The school also has an ICT security Policy, in accordance with Lancashire County Council guidelines. Around the school and in each classroom there are Internet safety rules for the school that all children and parents have agreed to. The parents are also given a guidance sheet based on computer safety at the start of each school year.

Building Cultural Capital through Computing

Our Computing curriculum at St Oswald's is designed to help children achieve goals, stay safe online and become successful with the knowledge accumulated. The children's experiences will help to educate the whole child both spiritually, morally, socially and culturally.

- **Personal Development** – Provide online safety knowledge throughout school. Gives children the knowledge to keep safe and report online issues to a responsible adult. Explain the reasons for rules. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.
- **Social Development** – Children learn to use programs that will be important socially, for high school, for future employment and running a home.
- **Physical Development** – advice and guidance given to students and parents showing them how to use computing safely e.g. sensible amounts of screen time
- **Spiritual development** – supports the spiritual work we do and teaches children to use all aspects of computing respectfully and responsibly.
- **Moral development** – learning to use computing responsibly.
- **Cultural development** – computing supports the work of citizenship education and provides access to a wealth of information about the arts, languages and cultures of other countries.

Governor Involvement

It is the role of the computing subject leader to:

Liaise with the computing Governor, about latest developments in computing at school, such as the curriculum and assessment and progress of children.

Invite them into school for monitoring activities such as lesson observations, file looks and pupil interviews.

To provide a clear computing action plan for the upcoming academic year.

To present governors with a report at the end of the academic year detailing achievements and next steps.

To meet with the nominated computing governor at least once a year, allowing the governor to submit a report to the full governing body.

Signed: *Kelly Barlow*