

## Computing and ICT 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."

The National Curriculum in England 2013

### **Aims**

At Holy Family Catholic Primary, we aim to:

- Provide a relevant, challenging and enjoyable Computing curriculum for all pupils.
- Meet the requirements of the national curriculum programmes of study for Computing.
- Use ICT and computing as a tool to enhance learning throughout the curriculum.
- To respond to new developments in technology.
- Enable staff and children to gain confidence in, and enjoyment from, the use of ICT.
- To equip pupils with the confidence and capability to use Computing throughout their later life.
- Provide children with opportunities to develop specific ICT skills.
- To enhance learning in other areas of the curriculum using ICT and Computing.
- To develop the staff and pupils' knowledge and understanding of how to use ICT and Computing safely and responsibly.
- To educate staff and pupils about emerging technologies and the dangers posed by the internet (Staying safe on the internet) in line with the school E-Safety and Safeguarding policies.
- Allow children to develop specific Computing skills.

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The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles of computer science, including logic, algorithms,
- data representation, and communication
- 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.

At Holy Family Catholic Primary, we believe that IT and computing:

- Gives pupils immediate access to a rich source of materials.
- Can present information in new ways which help pupils understand access and use it more readily.
- Can motivate and enthuse pupils.
- Can help pupils focus and concentrate.
- Offers potential for effective group working.
- Has the flexibility to meet the individual needs and abilities of each pupil.

### **Attainment Targets**

Early years (see also early year's policy)

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. IT is not just about computers. Early years learning environments should feature IT 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 IT 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.

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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.

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.

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## **Principles for the teaching and learning of ICT**

With portable devices located around school, it is essential that the organisation of those resources be such that there is a demonstrable equality of access. This is achieved by adopting the following organisational and pedagogical strategies as appropriate to the activity being taught:

- Planning activities that allow sufficient time for all individuals to take part;
- Effective teaching input (whole class, group or individual) to allow completion of task without further teacher intervention;
- Planning short, time limited, skills-focused activities, differentiated to the needs of the child;
- Identify clear learning objectives in planning and teacher input;
- Working individually, in pairs, or in small groups;
- Splitting larger projects into clearly defined pieces with different groups or individuals taking on responsibility for specific parts;
- Clear instructions in the event of being "stuck" or equipment failure (e.g. use of class "Digital Leaders");
- Allow opportunities for Digital Leaders to be trained and to share their knowledge with other pupils.
- Allow opportunities for work to be printed for display, evidence, publishing on the school web site etc.;

## **SMSC**

At Holy Family Catholic Primary, we deliver the following aspects of SMSC through Computing:

### Spiritual

We:

- Explore creativity and imagination in the design and construction of digital products
- Promote self-esteem through the presentation of your work to others
- Explore how ideas in computing have inspired others.
- Create digital products which incorporate your beliefs.

### Moral

We:

- Encourage good etiquette when using digital technology including mobile devices and with due regard to e-safety.
- Encourage respect for other people's views and opinions.
- Encourage respect for the computer room and the equipment you use and how this affects others.
- Encourage respect in the use of digital equipment and its impact on the environment - for example, ink and paper wastage.
- Explore moral issues around the use of digital technology - e.g., copyright and plagiarism.
- Explore the promotion of moral issues through your digital products.

### Social

We:

- Encourage students to assist one another in problem solving.
- Encourage appropriate social behaviours in the classroom including listening whilst others are talking and generally interacting as a caring community.
- Encourage good practice and respect in the use of social networking.

Cultural

We:

- Encourage the sensible use of digital technology in the classroom and homework situations given that you are currently living in a digitally cultural environment.
- Encourage an awareness and appreciation of the digital divide and to be aware of differing cultural and spiritual or religious views towards the use of digital technology.
- Empowering pupils to apply their ICT and computing skills and knowledge to the wider curriculum and acknowledge links between subjects.

### **The role of the Computing Co-ordinator**

- The Coordinator is responsible for producing a Computing action plan.
- The Coordinator is responsible for the implementation of the IT and computing policy across the school.
- To offer help and support to all members of staff (including teaching assistants) in their teaching, planning and assessment of computing.
- To maintain resources and advise staff on the use of materials and equipment.
- To monitor classroom teaching or planning following the schools rolling programme of monitoring.
- To monitor the children's computing work, looking at samples of work from a range of pupils.
- To manage the ICT budget.
- To lead staff training on new initiatives.
- To attend appropriate in-service training and keep staff up to date with relevant information and developments.
- To have enthusiasm for Computing and encourage staff to share this enthusiasm.
- To keep parents and governors informed on the implementation of Computing in the school.
- to liaise with all members of staff on how to reach and improve on agreed targets
- To help staff to use assessment to inform future planning, resources and access
- To evaluate the Computing Progression Maps at the end of each term, identifying areas for development.

### **Resources**

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.

- Teachers are required to inform the computing coordinator or IT apprentice of any faults as soon as they are noticed.
- A service level agreement with LDL is currently in place to help support the coordinator to fulfil this role both in hardware & audio visual.
- ICT and computing network infrastructure and equipment has been sited so that:

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- Every classroom from nursery to y6 has a computer connected to the school network and an interactive whiteboard with sound and DVD facilities.
- There are 29 iPads for use by EYFS, KS1 and LRB.
- Each KS1 class has access to 5 iPads for morning sessions.
- There are 30 mini iPads for use by KS2.
- Each KS1 class has access to 5 iPads for morning sessions.
- There are 2 laptop trolleys in school, each containing 30 netbooks with internet access available to use in classrooms via a 'booking system'
- Each class from y1 - y6 has an allocated afternoon slot for the specific teaching of computing skills.
- Year 5 and Year 5 have the use of 3 sets of 30 Promethean voting panels.
- Holy Family use Smoothwall web filtering and threat management system alongside BT internet.

### **Planning**

Medium Term Planning follows Computing Progression Maps (see attached Appendix).

Lesson planning follows Holy Family Catholic Primary's daily session planning and evaluation sheets.

## **Assessment**

At Holy Family Catholic Primary, teachers regularly assess capability through observations and looking at completed work. Key objectives to be assessed are taken from the national curriculum for computing.

At Holy Family Catholic Primary, assessment is an integral part of the teaching process. Assessment is used to inform planning and to facilitate differentiation. The assessment of children's work is ongoing to insure that understanding is being achieved and that progress is being made. Feedback is given to children as soon as possible and any marking of work will be done in line with our School Marking Policy.

Our Computing assessment is broken down into formative and summative assessment ;

- Formative assessments are carried out during and following short focused tasks and activities. They provide pupils and teaching staff the opportunity to reflect on their learning in the context of the agreed success criteria. This feeds into planning for the next lesson or activity.
- Summative assessment which reviews pupils' capability and provides a best fit level. Use of independent open-ended tasks, provide opportunities for pupils to demonstrate capability in relation to the term's work. There should be an opportunity for pupil review and identification of next steps. Summative assessment should be recorded for all pupils - showing whether the pupils have met, exceeded or not achieved the learning objectives.

IT and computing work is saved on the school network (Globalshare). Other work may be printed and filed within the subject within which the task was set.

## **Monitoring**

The subject leader is responsible for monitoring the standard of the children's work and the quality of teaching in-line with the schools monitoring cycle. This may be through lesson observations and scrutiny of work.

## **Inclusion**

### **The digital divide**

At Holy Family Catholic Primary, we recognise that it is important to help pupils realise that access to technology can bring benefits and power, but that not everyone has easy access. Lack of access to technology can disadvantage particular groups or individuals within society. We think carefully about whether any groups of pupils may be excluded from, or disadvantaged by, activities which we plan and offer alternative provision for those pupils.

### **Gender and inclusion**

We recognise that it is important to counter the stereotypes often associated with information technology and computing (e.g. that it is a male-only field). We ensure that both genders are offered opportunities to become Digital Leaders within school.

### **Assistive technology**

As with other areas of the curriculum, computing can be made more accessible to pupils with special educational needs or disabilities through the use of assistive technology - from adapted mice or keyboards, to screen readers and Braille displays. Within the curriculum, pupils are encouraged to evaluate whether software and digital content, including those they create themselves, are accessible to users with special needs.

### **English as an additional language**

At Holy Family Catholic Primary, we recognise that technology can also facilitate the inclusion of pupils learning English as an additional language. The user interface of the operating system or application software can be set to languages other than English. EG Scratch and Snap! Programs can be written in a variety of languages. We also understand and apply the use of machine translation where appropriate.

### **Equal opportunities (see also equal opportunities policy)**

Holy Family Catholic Primary School will ensure that all children are provided with the same learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. As a result we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to ICT and computing and all

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staff members follow the equal opportunities policy. Resources for SEN children and gifted & talented are made available to support and challenge appropriately.