St. Joseph's Catholic Primary School.

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Computing
Intent, Implementation and Impact
Policy

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Mission Statement
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How do we teach computing?

Intent

At St. Joseph's, we believe that a high-quality computing education will provide children with the foundations of modern-day computational thinking in order to prepare them for the wider world. The use of technology is becoming increasingly essential and will therefore play a crucial role in our pupils' lives now and, in the years to come. As a result, it is our intent to enable them to understand this ever-changing technology and to use computational thinking to allow them to be actively engaged in the digital world. We aim to provide all our pupils with the skills and knowledge required to help them to be confident, creative and responsible users of information and communication technology, regardless of their backgrounds and learning abilities.

The aims of teaching computing in our school are thus:

- To educate our pupils to use technology positively and safely by ensuring that they understand the advantages and disadvantages associated with online experiences and know how to protect themselves. They will thus become respectful, confident and responsible users of technology.
- To ensure that our pupils understand and can apply the fundamental principles and concepts of computer science
- To enable children to recognise and analyse problems in computational terms
- To give children practical experience of writing computer programs in order to solve such problems
- To promote a sense of awe and wonder about the subject
- To provide pupils with transferable skills that they can use across all subject areas

Implementation

Computing is taught through the scheme 'Teach Computing' which covers all aspects of the National Curriculum. This scheme was chosen as it has been created by subject experts and based on the latest pedagogical research. It provides an innovative progression framework where computing content (concepts, knowledge, skills and objectives) has been organised into interconnected networks called learning graphs.

The curriculum aims to equip young people with the knowledge, skills and understanding they need to thrive in the digital world of today and the future.

The computing curriculum can be broken down into 3 strands: computer science, information technology and digital literacy:

Digital Literacy– As part of digital literacy, children acquire the practical skills and learn the safe use of ICT, along with the knowledge of how to apply these skills when solving related problems such as understanding how to use the internet, networks and emails safely..

Computer Science– We teach the fundamental principles of understanding and applying concepts of computer science through logic, algorithms and data representation. Children learn to investigate problems in computational terms and have practical experiences of writing computer programs in order to solve such problems.

Information Technology– Children are taught to develop their ideas and express themselves through ICT, for example by writing and presenting as well as using multimedia to explore art and design.

Our computing curriculum includes the teaching of key computing skills which are progressive and age appropriate. The 'Teach Computing' curriculum is a spiral curriculum ensuring skills are reviewed and practised throughout KS1 and 2. This

ensures our children build on those skills previously acquired to maximise their learning potential and enable them to make links as they progress through the various units.

Where needed, there will be a carousel style of activities whereby children may be working as a focus group with a teacher around the LO of the lesson. Another group may be completing an unplugged activity linked to this, and another group might be completing general skills which will help them further to become independent users. This style of teaching will utilise the resources available and the content that the children are receiving.

Children access a wide range of resources and opportunities to apply their computing knowledge and skills through cross curricular activities where they link their learning in other subjects.

In Key Stage 1, Bee Bots are used to help children to understand the language and concepts linked to computer programming.

In Key Stage 2, programs such as Scratch are used to help children with their computer programming knowledge and understanding. Microbits are also available to develop this.

In a typical computing lesson, our pupils are provided with time to:

- review and consolidate previous knowledge
- discuss objectives, key vocabulary and success criteria
- identify and develop (build on) their computing knowledge and key skills
- experience an appropriate level of challenge according to their ability
- take part in independent as well as collaborative tasks
- self-evaluate and review their learning and that of others

To help with our implementation of the computing curriculum we have a variety of hardware available to all teachers, including:

- A class set of laptops (1 between 2)
- 30 iPads
- Microbits
- Bee-bots

E-Safety and Digital Citizenship

In addition to the 'Teach Computing curriculum, extra lessons of E-Safety are incorporated throughout the year, (in addition to our RSE curriculum where aspects of staying safe are also discussed). This is a crucial factor in teaching our children to be safe, responsible users of the web.

The safety of our children is paramount and of high importance. At St Joseph's online safety is taken very seriously, therefore children are given the necessary skills to ensure they remain safe online. Children will be able to enjoy and learn from content online, whilst being taught to be vigilant and remain safe online, ways to do this, and what to do when we don't feel safe. This will be taught age appropriately and it is understood that extra lessons may be taught if there are issues concerning E-Safety as a reminder of staying safe online.

E-Safety is mainly taught using the 'Project Evolve – Education for a Connected World' framework. There will be a specific focus each half term covering relevant strands from the Project Evolve website.

Impact

Teachers measure the impact of their teaching on the pupils' learning by noticing:

- How children can apply their skills in computing and when using technology
- How easily children can switch between different applications and programs
- The creativity and skills acquired when using digital media
- How children are able to use information technology to communicate safely and effectively

A pupil who has excelled within computing and has acquired 'greater depth' can show it in multiple ways, using computational language to explain their ideas and can independently apply their skills to new problems in unfamiliar situations.

When pupils struggle or fail to meet learning outcomes, teachers:

- Adapt and change lessons to close gaps or address misconceptions
- Provide verbal feedback on the spot to the pupil ('live marking') to ensure the issue has been immediately addressed
- Give pupils opportunities to consolidate their learning
- Target their teaching and questioning during lessons

Teachers continue to evaluate pupils' knowledge and understanding within lessons. As a result of this, short term plans and activities are adjusted accordingly to meet the needs of all pupils. Having this approach not only enables our children to learn, know and remember more but also helps them to prepare for the curriculum at Key Stage 3 and for life as an adult in the modern world.

Review date: