St. Bernadette's Catholic Primary School

Growing Together in Faith, Love and Learning.

'Whether you want to uncover the secrets if the universe, or you want to pursue a career in the 21st century, basic computer programming is an essential skill to learn'
Stephen Hawking

Welcome to our Computing Curriculum school page. At St. Bernadette's we believe that Computing is essential part of the National Curriculum, as it is an integral part of modern-day life, which has become even more prominent since the Covid-19 pandemic.

'A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world'. (DfE National Curriculum 2013)

Through studying Computing at St. Bernadette's, children develop a range of fundamental and transferable skills, knowledge and understanding, that they will continue to build upon into their Secondary Education and beyond. Technology is essential to our daily lives, therefore 'computational thinking', informational technology & digital literacy (creativity) skills enable children to become active participants in a digital world.

At St. Bernadette's our vision (Intent) for Computing is to:

Create and develop responsible, competent, confident, and creative 'thinkers of the future', as our children become Digital Citizens, Investigators, Communicators & Creators. Thus, developing these skills over the course of their Primary education from the Early Years to Year 6 through a modern, ambitious, and relevant education in Computing.

Offer and provide the opportunities for a high-quality computing curriculum which engages and motivates pupils to develop their computing knowledge, understanding and skills, whilst using a range of technologies. Thus, enabling our pupils to:

- Use computational thinking and creativity, to understand and change the world.
- Make deep links with mathematics, science and design and technology.
- Understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.

Monitor and assess to inform future planning ensuring that all children make progress in their Computing Learning Journey:

- Progress is assessed on an on-going basis using our Long Term Planner statements for each thread of Computing. This ensures teachers are aware of individual pupil's progress in computer science, information technology and digital literacy.
- Formative assessment is used by the class teacher and teaching assistant during whole class or group teaching. Children's confidence and difficulties are observed and use to inform future planning.
- Each class teacher maintains a record, indicating pupils that are working beyond or below age-expected attainment.
- Open questions are used to challenge children's thinking and learning.
- Children are encouraged to evaluate their own and others' work in a positive and supportive environment, including peer assessment.
- Teacher's judgments are supported through an electronic portfolio of evidence which provides examples of age-expected attainment.
- Information is shared with the school community through the school website, display, celebration events, newsletters, and end of year reports.

Prepare and challenge our children to participate effectively in the future workplace, enabling them to have the ability to adapt to an ever changing and developing 21st century digital world. Ensuring that the children do not become part of the digital divide is central this. Hence, providing the children with as many technological experiences over their Primary education, enabling them to present themselves and work using a range of technologies. Beyond teaching computing discreetly, we give pupils the opportunity to apply and develop what they have learnt across wider learning in the curriculum.

Utilise and access the most effective expertise from the' Computing At School' Community (CAS) and Barefoot; developing and boosting our Teachers subject knowledge through workshops, online guides, lesson plans. Working closely with our Primary CAS Hub leader and CAS Secondary Hub leader and Master Teacher. So, making Computing 'easy to teach and fun to learn with or without a computer' (Barefoot 2021)

Teach a robust computing curriculum where children become independent learners. They develop key skills, motivational skills, problem solving and logical thinking becomes second nature. This is underpinned by a robust progression of skills across Digital Literacy, Computer Sciences, Information Technology and Online Safety where learning is embedded, and skills are developed year on year.

Inspire and motivate the pupils to:

- Communicate and collaborate to develop an understanding of the purposes for using technology and how these are used to bring together home and school learning experiences.
- Use technology imaginatively, engaging all learners and widening their learning opportunities.
- Access to a variety of devices and resources and reflect on the choices they make to use them.

Nurture and 'Teach pupils about the underpinning knowledge and behaviours that can help them to navigate the online world safely and confidently regardless of the device, platform or app'. Teaching Online Safety in Schools 2019 Thus, endeavouring to support children to live knowledgeably, responsibly and safely in a digital world'. Education for a Connected World 2018

At St. Bernadette's e-safety requirements are a whole school responsibility & are taught across the curriculum, becoming part of the life of St Bernadette's – they are not just something for computing lessons! Online safety underpins our Computing Curriculum, as we teach our children to how to be safe and how to be good digital citizens (being digitally aware, digitally resilient, whilst creating a good digital footprint and reputation). It is important that the children understand how to use the ever-changing technology to express themselves, as tools for learning and as means to drive their generation forward in the future. Whilst ensuring that they understand the advantages and disadvantages with online experiences, we want children to develop as respectful and confident users of technology, who are aware of the measures that can be taken to keep themselves and other safe online.

Grow together in our learning journey, as a high-quality enriched computing education enhances and extends the children's learning across the wider curriculum. Our aim is to provide a Computing curriculum that is designed to balance acquiring a broad and deep knowledge alongside opportunities to apply skills in various digital contexts. Thus, applying and developing what they have learnt, whilst making meaningful links across subjects.

Implementation

Early Years
Although, there is no longer a Technology Early Learning Goal with in the EYFS, we have chosen to deliver our Computing Curriculum within the EYFS for several reasons. Technology is a huge part of children's' lives even before they start school and by teaching Computing in the EYFS it allows us to have an impact on all children's learning from their starting (entry) points. It also builds basic skills, knowledge and understanding in Computing ensuring all children regardless of their previous access to technology is prepared to access the National Curriculum on entry to Year 1.

We are developing our EYFS planning through using the expertise of our close links with our CAS primary leader and Master Computing Teacher.

Our scheme of work for Computing is adapted from the 'Teach Computing' Curriculum and 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 curriculum can be broken down into 3 strands, with the aims of the curriculum reflecting this distinction:

- Computer Science
- Information Technology and
- Digital Literacy.

The National Curriculum for computing aims to ensure all pupils:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation (Computer science)
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems (Computer science)
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems (Information technology)

- Are responsible, competent, confident and creative users of information and communication technology. (Digital literacy)

Computing is used to enhance other areas of the curriculum through cross curricular topics. This could be the use of research as Historians in History, presenting data in Maths and Science or exploring images in Art through digital Media.

E-Safety and Digital Citizenship

A key part of implementing our computing curriculum was to ensure that safety of our pupils is paramount. We take online safety very seriously and we aim to give children the necessary skills to keep themselves safe online. Children have a right to enjoy childhood online, to access safe online spaces and to benefit from all the opportunities that a connected world can bring them, appropriate to their age and stage.

We have designed our Computing Curriculum to teach Online Safety unit at the start of each academic year and this also weaves though all the lessons that we teach within Computing but also PSHE and other curriculum areas.

Our approach to online safety is primarily guided by the UK Council for Child Internet Safety's framework for online safety… Education in a Connected World. The themes which can be seen below.

We will:

- Provide a well-resourced, weekly computing session to all children from Year 1.
- Provide clear unit planning that shows a variety of computing skills being taught throughout the year.
- Plan lessons that show clear progression of computing skills and knowledge, as children go through the key stages.
- Take the time to model and educate children on how to stay safe online.
- Provide opportunities for computing skills to be used in other subjects, to demonstrate children's learning.
- Where appropriate, allow children to independently choose which computing technology method they think will best meet their learning objective.

Impact

We measure the impact of our curriculum through the following methods:

- Assessment takes place throught the acedmic year. This is then analysed on a termly basis to infrom and address any trends or gaps in attainment.
- Our new Basic Skills Assessment grids to 'catch up' Computing skills since the Covid-19 pandaemic.
- Termly monitoring by the Subject Leader measures the impact of the curriculum through work scrutiny, learning walks to observe Computing lessons and through converstaions with pupils.
- Termly reporting of standards across the Curriculum Subject.
- Termly metings with our Computing Link Governor to discuss prioriies and standards in Computing.

After the implementation of the Curriculum, pupils should leave our school equipped with a range of skills to enable them to succedd in their secondary education and to be active participants in the ever-increasing digital world.

The impact of the Computing Curriuculum is that the children:

- Are excited about exploring new computing programmes and technology.
- Are critical thinkers and are able to understand how to make informed and appropriate digital choices in the future.
- Discuss, reflect, and appreciate the impact computing has on their learning, development, and wellbeing.
- Understand the importance that Computing will have going forward in both their educational and working life and their social and personal futures.

- Be aware of online safety issues and protocols and be able to deal with any problems in a responsible and appropriate manner.
- Understand how to balance the time spent on technology and time spent away from it in a healthy and appropriate manner.
- Are confident enough to ask 'why' and 'how' when involved in computing lessons.
- Understand that technology helps to showcase their ideas and creativity. They will know that different types of software and hardware can help them achieve a broad variety of artistic and practical aims.
- Have an awareness of developments in technology and have an idea of how current technologies work and relate to one another.
- Be able to use technology both individually and as part of a collaborative team.
- Showcase, share, celebrate and publish their work to show their understanding.
- Confidently answer key assessment questions at the end of a unit of work, to demonstrate what they have learnt.
- Meet the end of Key Stage expectations as outlined in the National Curriculum for Computing.