



“Together in faith, working as one”

Computing Policy

Core Principles

At St. Paul's, our Computing curriculum 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.

Intent

We develop responsible, resilient, respectful pupils who value themselves, others and their learning.

We aim for our children to be happy, inquisitive, reflective and ambitious individuals who can become lifelong learners ready for the next stage of their 'journey'.

Our curriculum is **CLEAR**:-

- **Challenging** – lessons are stimulating and provide opportunities for children to 'grapple' with concepts, utilising opportunities for regular lesson enhancements.
- **Language rich**– staff promote, develop and encourage high quality talk for learning so that all pupils can express themselves and communicate clearly and effectively in a wide range of situations.

- Encouraging – staff promote resilience through the development of a growth mindset and ‘the power of yet’.
- Aspirational – staff have high expectations and the children dare to take risks and dream.
- Reflective – children are encouraged to consider their role in making our world a better place. **‘LIVE WISELY, THINK DEEPLY AND LOVE GENEROUSLY**
‘– (Pope Francis, *Laudato Si*)

Implementation

Teaching & Learning

Computing at St. Paul’s will be taught as a discrete subject following the Purple Mash Scheme. We have carefully selected this programme of work as we believe the program provides children with a variety of high quality hardware, software and unplugged resources. Each unit of work builds upon prior knowledge and allows children to use a range of resources to develop skills across the key stage, as outlined in our ‘Mapping of Skills and Knowledge’ document. This can be tracked on the ‘Computing – Progression of Skills and Knowledge’ document, where skills have been colour-coded to allow for easier tracking and monitoring.

Through these lessons, we intend to inspire pupils to develop a love of computing and see how it has shaped the technical world they live in.

Planning

St. Paul’s Catholic Primary School currently delivers a two-year cycle to allow for our mixed-age classes. Progression has been planned to be as sequentially as possible, for pupils to be ready for the next stage in their learning.

The Computing Subject Leader is responsible for mapping the topics, skills and knowledge for the whole school. Planning should be annotated as appropriate and evidenced in planning files.

Assessment

Teachers complete an assessment of the pupils at the end of each unit. See attached assessment document.

Resources

- A range of resources is available through Purple Mash, which successfully supports delivering the Computing curriculum and enables all learners to reach their full potential.
- Resources are suitably maintained and replenished when needed, which is overseen by the Computing Leader.
- An itemised list of all resources is shared with staff and kept up to date by the Computing Leader.
- The Computing Leader keeps up to date with the latest technology resources and will make informed decisions about possible procurement of them through their own research.
- Suggestions for getting the very best out of the resources are made available to teaching and support staff by the Computing Leader.
- The Computing Action Plan details foreseen future resource procurement which is shared with senior leaders before the budget setting period.
- Audits of school resources are conducted regularly by the Computing Leader, which informs bidding for budgets allocations.

Enrichment Opportunities

Each class will be expected to transfer their computing skills to other subjects or school activities to show the relevance and importance of computing in our modern lives. If possible, trips which include an insight to computing will be encouraged.

Links to our Curriculum Intent:

Challenging

Each lesson introduces a new skill through the use of different programs and tasks, which enable children to develop their understanding and confidence within computing.

In KS1 children will understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions. They will write and test 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.

In KS2 children will design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. 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. 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.

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.

Language rich

Language is explored and defined throughout the units and teachers each have a 'Key Vocabulary' document which provides definitions of certain techniques, styles and resources. Further vocabulary is highlighted in lesson plans and discussed accordingly with pupils during the appropriate lessons. Key Vocabulary is provided to pupils prior to the start of new topics via our home/school communication leaflet, so that both pupils and parents have made connections with the topics before we begin. Pupils are expected to use the correct vocabulary during sessions and teachers and teaching assistants correct errors and model accurate terminology as much as possible.

Encouraging

Motivation can be seen as a limiting factor for our children. With this in mind we have carefully selected our topics which will motivate, engage and inspire our pupils to become curious and inquisitive. All their research and produced work will be collected and celebrated through their individual computing journals and class/whole school displays.

Aspirational

Each topic develops a new set of skills and understanding of how computing has had a big impact in everyday life technology. With this in mind, children will be able to apply their skills and learning to create their own computing programs and become computing literate for our modern world.

Reflective

Our computing topics provide opportunities for pupils to self-evaluate their progress, performance and learning. They need only to compare their work to that they have done previously and consider how they have done their best.

Pupils are reminded to consider how their new learning can help to make their school, community and world a better place.

Impact

The impact of using the full range of resources, including display materials, will be seen across the school with an increase in the profile of computing. The learning environment across the school will be more consistent with computing technical vocabulary displayed, spoken and used by all learners. Whole-school and parental engagement will be improved through the use of computing-specific home learning tasks through Purple Mash and opportunities suggested in lessons and overviews for wider learning. We want to ensure that computing is loved by our pupils across school, therefore encouraging them to want to continue building on this wealth of computing knowledge and understanding, now and in the future. Impact can also be measured through key questioning skills built into lessons, child-led assessment such as success criteria grids, jigsaw targets and KWL grids and summative assessments aimed at targeting next steps in learning.

Links to KS1 from EYFS

Computing links directly to the 'Technology' Early Learning Goal. During their time in the Foundation Stage the children learn how to apply and use technology, particularly that an action will produce a reaction or an outcome. In FS the children use Beebots which allow the children to begin to develop algorithms and debug their programs in a logical way which is continued in KS1. The children take part in Safer Internet Day whilst they are in the Foundation Stage and the information that they are exposed to is built on and developed in KS1.

Appendices

Appendix 1: Whole school long term plan

Appendix 2: Map of skills and knowledge (KS1 & KS2)

Appendix 3: Progression of skills and knowledge – Cycle A

Appendix 4: Progression of skills and knowledge – Cycle B

Appendix 5: Why this topic? Why here?

Appendix 6: Key Vocabulary

Appendix 7: Example of Planning

Appendix 8: Assessment record sheet

Appendix 9: Resources