

Computing Curriculum Intent, Implementation and Impact 2022-2023



Intent

The intent is to create a curriculum that is based on real life experiences encouraging children to ask big questions about their world. That they learn to grow as artists, historians, musicians, designers, coders, scientists, writers, readers, mathematicians...and flourish as lifelong creative thinkers. The curriculum serves the needs of the children, building courage, compassion and independence to be a champion for what they believe in. They are courageous advocates for themselves and others in the local and global community. At Canon Pyon Primary School we believe that Computing and the use of ICT is central to the education of all children. We aim to give each pupil the opportunity to apply and develop their technological understanding and skills across a wide range of situations and tasks. Pupils are encouraged to develop a confident and safe approach to Computing and the use of ICT, with the understanding of the capabilities and flexibility of their resources. With the knowledge that Computing and ICT will undoubtedly continue to form a major part in the children's life at home, in further education and places of work, we ensure the Computing and ICT experiences and abilities that the children are equipped with at Canon Pyon, are effective and transferrable life skills.

What computing looks like in our School:

- Inspiring and challenging lessons
- Children working independently and in groups
- Children who are responsible, competent, confident and creative users of information and communication technology
- Opportunities for critical thinking and discussion
- Exciting and creative lessons linked to our Big Question topics
- Cross curricular and discrete lessons
- Creative work, exploring ideas and recording experiences
- Children who know how to keep themselves safe online
- Children who can solve problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Children who can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems

The curriculum for computing aims to ensure that all pupils:

By the end of EYFS pupils will:

- Know how to operate simple equipment, e.g. turn on a CD player and use a remote control.
- Show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones.
- Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.

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- Know that information can be retrieved from computers
- Complete a simple program on a computer.
- Use ICT hardware to interact with age-appropriate computer software.
- Recognise that a range of technology is used in places such as homes and schools.
- Select and use technology for particular purposes.

By the end of Key Stage 1:

- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content
- Recognise common uses of information technology beyond school
- Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

By the end of lower Key Stage 2:

- Design, write and debug 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
- Use logical reasoning to explain how some simple algorithms work 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 search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

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Implementation

This is how it works:

- Lesson provided through cross curricular or discrete lessons
- Clear progression of skills developed throughout school
- Progression of knowledge developed each year
- Children will have had the opportunity to use a range of good quality tools and resources and develop competency in using them safely
- Workshops and computing days that bring topics to life

This is what adults do:

- Teachers and phase teams work collaboratively to support each other in the teaching of computing, understanding and applying current developments in the subject, and providing direction for the subject in the school.
- Teachers who show enthusiasm for the subject regardless of personal capabilities
- Curriculum leader evaluates the strengths and weaknesses in the subject and indicate areas for further improvement.
- Create a positive learning environment to encourage discussion and personal opinion
- Ensure a safe working environment
- Look for opportunities to use specialists and outside providers when necessary

This is how we support, challenge and ensure all children can access the curriculum:

Our Christian vision challenges all subject leaders to reflect on ensuring that the English curriculum helps all pupils to belong and access learning, appropriate to their needs and abilities. Inclusion and *belonging* is a thread that runs through every area of the school enhanced by collaboration between senior leaders, subject leaders, the SENCO, class teachers, support staff, external agencies, parents and most importantly, the child. At Canon Pyon Church of England Academy, every teacher is a teacher of SEND and every leader is a leader of SEND.

Special Educational Needs and Disability (SEND)- Including the Lowest 20% of Learners

We firmly believe that *Quality First Teaching* is the solid foundation on which effective SEND provision is built. The first step to children having access to a broad and balanced English curriculum is through appropriate differentiation by skilled and nurturing teaching staff, who have ambitious expectations of their own teaching and students' learning. Differentiation is not a simply case of providing different worksheets, for example. Differentiation is adapting the work, success criteria or support given to help children achieve or make progress.

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Differentiation- or adaptations- may include:

- Alternative tasks
- Different objectives or goals within a task
- Resources or learning aids
- Amount of adult support within a task
- Frequency of monitoring within a session
- Time given to complete tasks
- Style of language used
- Style of questioning used
- Use of peer support
- Classroom organisation and grouping
- Level or style of feedback given

Differentiation takes many forms to help learners to *belong* within lessons, *believe* in their ability and *behave* in a way that applies their skills. Further support to help inclusion and overall pupil progress in this subject area may include:

- Targeted intervention programmes, which have a proven and measurable impact on progress.
- Have specific 1:1 or small group intervention, including support from Learning Mentor
- Celebration of achievement, as well as attainment
- Time given, as appropriate, to any emotional or behavioural support that may-in turn- be barriers to learning in this subject area
- Monitor pupil attitudes to subject and using pupil voice to ensure that learners have ownership of subject area/tasks
- Specific enrichment activities, visits or events planned/attended in order to suit the needs and interests of specific groups of learners
- Pupil progress meetings, involving the pupil(s) and any relevant adults
- Data analysis, whether this is quantitative performance data from tests, for example, or qualitative data from questionnaires or monitoring observations
- The provision of good quality and relevant training for all staff members.

Other Pupil Groups- Including More Able and Talented (MAT) and the Highest 20% of Learners

We believe that all children have individual gifts, interests and talents. Some children may exhibit a skill that is advanced in comparison to their peers. As a result, such pupils will require a higher level of challenge in order for them to *belong*, be included within English sessions and have their needs met. More able and talented pupils (MAT) will also receive differentiation and support appropriate to their needs.

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Adapting tasks and providing opportunities to help all children to achieve well will also depend on the diversity of the groups of learners that are represented at Canon Pyon Church of England Academy.

Groupings of learners that could identify trends, spikes or dips in overall progress may include:

- Forces children
- Gender
- Behavioural needs
- Children with emotional needs
- EAL children
- Age (i.e summer born)
- Attendance
- Family support
- LAC
- Ethnicity
- Those experiencing tragedy or loss
- Low self-esteem

This list is not exhaustive and neither are the methods mentioned in how learners can be catered for in this subject area. We are a listening school and are constantly reflecting on feedback from adults and children, with the constant goal of helping all learners.

Impact

This is what you might typically see:

- Happy and engaged learners
- Children demonstrating transferable skills, knowledge and expertise
- Lessons which are, creative and fun fostering a love of learning
- Children demonstrating a rich vocabulary
- Curious children who ask questions and take part in discussions
- Children who understand the importance of making mistakes and persevering to work through problems
- Confident children who are willing to persevere

This is how we know how well our children are doing:

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- Informal judgements based on observation during lessons.
- End of term assessments
- Annual assessments in line with the National Curriculum in England 2014
- Summative assessment discussed during transition meeting with next teacher



This is how computing contributes to the spiritual, moral, social and cultural development of the child:

Within computing lessons children are given the opportunity to work collaboratively and communicate effectively with each other. We encourage children to reflect on evaluate their ability to work together and to discuss how their communication had an effect on their learning. The cultural and social impact of computing and digital technology are made clear in the ability to share, add to and create content in a connected way with others. Children have regular online safety lessons and workshops and are aware of how their actions on line might affect their peers. In a small rural community computing is used to create link with people and communities that are different

Cultural Capital:

Through our teaching of Computing children are able to use their skills to access a wide range of experiences otherwise unavailable to them. At Canon Pyon we have virtual visits with different communities, visit galleries and museums and make use of access to rich opportunities to enhance music and the arts. Augmented Reality workshops bring topic lessons to life. The children enjoy video calls with poets and writers and this fosters a belief that they too can share their talent through the use of technology.

Impact of the teaching:

At Canon Pyon the children will refer to themselves as computer scientists. You will see children who confidently use technology to help them gain access to all areas of the curriculum and in different contexts. The children will be able to articulate how technology helps them on a daily basis and how it may be a part of their lives in the future. They will be able to use technology to enable them to take responsibility for their own learning at home when they need to use a blended learning approach. The children at Canon Pyon talk articulately about the dangers associated with the internet in and out of school and can explain what to do when they are faced with difficult situations. They demonstrate responsibility, respect and resilience both on and offline