Holy Cross Primary
Catholic Voluntary Academy

Loved, Valued, Challenged

OUR LADY OF LOURDES
CATHOLIC MULTI-ACADEMY TRUST

COMPUTING

POLICY

Signed: Tammie McNamara (Headteacher) Date: Nov 2021

Signed: Maria Williams (Chair of Governors) Date: Nov 2021

November 2021

Date of next review: November 2022

HOLY CROSS PRIMARY CVA

COMPUTING POLICY

Our Mission Statement

Loved
We love one another as Jesus taught us - our friends, our families and those who we may never meet.
Valued
We value everyone - everyone is important; pupils, staff, parents, governors and members of the community– no matter their race, religion ability or need. We try to live like Jesus taught us.
Challenged
We challenge each other - not only with our learning but challenge each other to be more merciful to others, have a little more understanding of others' needs and challenge each other to be better people.

Introduction

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. (National Curriculum 2014).
Our aim is for children to become confident users of technology and to develop the skills and knowledge relating to Computer Science, Digital Literacy and Information Technology. Computing education is an integral part of preparing children to live in a world where technology is continuously evolving. Work and social activities are being increasingly transformed by access to varied and developing technology. We endeavour to ensure that our children fully grasp the relevance of and the possibilities of emerging technologies so that they can play an active, yet safe part in this rapidly changing landscape.

Intent, Implementation, Impact

Intent

To build upon children's knowledge and understanding from Foundation to Year 6 following the expectations of the National Curriculum 2014 and Development Matters 2021.
To enable children to build and apply a repertoire of knowledge and skills linked to the three strands of the national curriculum: computer science, digital literacy and information technology.
Build knowledge of principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.
Become digitally literate – able to use, express themselves and develop ideas through information and communication technology.
To encourage children to become confident, creative and independent learners, able to solve problems using computational thinking.
To make high quality cross-curricular links whilst maintaining the distinctive nature of the subject.

To ensure children recognise the opportunities and threats that exist from the use of technology and understand how to access technology safely.

Implementation

The school uses the DfE approved National Centre for Computing Education's Teach Computing resources as a basis for providing a clear and comprehensive scheme of work in line with the National Curriculum in KS1 and 2 according to the recommended schedule (which will be reviewed prior to the onset of academic year 2022-2023.)

	Advent term		Lent term		Pentecost term	
	Computing Systems and Networks	Data and Information	Programming A	Programming B	Creating Media	Creating Media
Year 1	Technology Around Us	Grouping Data	Moving a Robot	Introduction to animation	Digital Painting	Digital Writing
Year 2	Information Technology Around Us	Pictograms	Robot algorithms	Quizzes	Digital Photographs	Making Music
Year 3	Connecting Computers	Branching Databases	Sequence in music	Events and actions	Desktop Publishing	Stop Frame Animation
Year 4	The Internet	Data Logging	Repetition in shapes	Repetition in games	Audio Editing	Photo Editing
Year 5	Sharing Information	Flat-file Databases	Selection in physical computing	Chatbot selection	Vector Drawing	Video Editing
Year 6	Communication	Spreadsheets	Variables in games	Sensing	3D Modelling	Web Page Design

In EYFS, guidance/resources from Development Matters 2021 and Barefoot Computing are used to incorporate aspects of computing throughout the EYFS curriculum. The most relevant statements for computing are taken from the following areas of learning:

- Personal, Social and Emotional Development;
- Physical Development;
- Understanding the World;
- Expressive Arts and Design.

Computing			
Three and Four-Year-Olds	Personal, Social and Emotional Development		• Remember rules without needing an adult to remind them.
	Physical Development		• Match their developing physical skills to tasks and activities in the setting.
	Understanding the World		• Explore how things work.
Reception	Personal, Social and Emotional Development		• Show resilience and perseverance in the face of a challenge. • Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'.
	Physical Development		• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
	Expressive Arts and Design		• Explore, use and refine a variety of artistic effects to express their ideas and feelings.
ELG	Personal, Social and Emotional Development	Managing Self	• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. • Explain the reasons for rules, know right from wrong and try to behave accordingly.
	Expressive Arts and Design	Creating with Materials	• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

E-safety is developed both through the NCCE resources, and through PSHE lessons and activities undertaken in our Trust-wide Internet Safety Day.

Children in all year groups are exposed to a range of topics which encourage progression across the key strands of computer science, digital literacy and information technology.

All children have access to the hardware and software needed to develop knowledge and skills of digital systems and their applications.
Children have the opportunity to explore and respond to key issues such as digital communication, cyberbullying, online safety, security, plagiarism and social media.
The importance of online safety is continuously reinforced and shown through contributions to our 'Keeping Safe' display. Parents are informed when issues relating to online safety arise and further information/support is provided if required.
Progress is assessed on an on-going basis using the NCCE in-built quizzes or assessment rubrics for each unit of learning. This ensures teachers are aware of individual pupil's progress in computer science, information technology and digital literacy.

Impact

Most children reach the end of year expectations in terms of attainment and progress.
Children will be confident users of technology, able to use it to accomplish a wide variety of goals, both at home and in school.
Children will have a secure and comprehensive knowledge of the implications of technology and digital systems. This is important in a society where technologies and trends are rapidly evolving.
Children are able to recognise the dangers that exist from the use of technology and understand how to access online systems safely.

Our Curriculum

Long-term planning

The National Curriculum for Computing 2014, Development Matters and the Early Learning Goals provide the long-term planning for computing taught in school. The school uses and adapts the National Centre for Computing Education scheme of work and long-term planning outlines which topic will be covered by which year group and at what time of year. Long-term planning ensures knowledge and skills progression in computer science, digital literacy and information technology.

Medium-term planning

These schemes provide teachers with examples for computing objectives and include the technical knowledge to be delivered and skills to be developed across all phase groups.

Years Y1-6 use the National Centre for Computing Education schemes of learning as their medium-term planning documents.
EYFS plan directly from Development Matters.

Short-term planning

The above scheme of learning supports individual lesson planning.
Teachers plan lessons to achieve specific lesson objectives, incorporating teaching methods outlined below.
Teachers of EYFS ensure the children learn through a mixture of adult led activities and continuous provision both inside and outside of the classroom.

Teaching Methods

The emphasis in lessons is to develop an understanding of how computers work, how they can be used as effective tools and how to keep safe whilst using computing technology. Children have the opportunity to work both individually and collaboratively to learn and develop their skills in programming, digital resource creation, electronic communication, research, control and

information handling. They will also develop an increasingly broad understanding of technology including hardware, network and the Internet. All work conducted online will be delivered in the context of how to stay safe whilst accessing the world wide web.
Within lessons, new subject specific vocabulary is introduced and used consistently and accurately. Each lesson provides opportunities for children to build on prior knowledge and learning. A cross-curricular approach is used wherever possible, linking learning to pupils' interests and establishing real-life contexts for their work.
In KS1 and KS2, the following activities are delivered in sequence to enable creativity based on increasing confidence and competence within IT and Computer Science and Digital Literacy:

- Creation of digital media projects,
- Effective communication using computing technology,
- Conducting research projects,
- Handling information,
- Programming and control,
- Understanding technologies.

In EYFS, children work on 'Technology' objectives and towards achieving the Early Learning Goal under the umbrella of 'Understanding the world.' The Early Learning Goal for Technology states that 'Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.' At Holy Cross, our children develop computing skills through both adult focussed activities and within the daily continuous provision. Children have access to games and programmes on the Interactive Whiteboards, iPads for individual use of games and painting programmes, and we have a bank of programmable toys (bee-bots) for independent exploration into learning about coding. We also have CD players, cameras and desktop computers for the children to use in their free time. Adults staffing our Continuous Provision show children how to use the resources effectively and encourage them to further increase their knowledge and skills. We also demonstrate how technology is used by encouraging the use of search engines to find out answers to their questions and to watch videos and play music.

Assessment

Children in the Foundation Stage are assessed in accordance with the EYFS curriculum.
In years 1-6, class teachers collect data, assessing if children are working below, at or above the expected levels in the three key strands: Computer Science, Digital Literacy and Information Technology using a combination of work in children's books, understanding evidenced in end of unit assessments and observations to inform end of unit rubric criteria.
As appropriate, teachers provide support and identify specific next steps in learning for target individuals or groups of learners.
Marking and responding to feedback– see whole school marking policy.

Monitoring

The Curriculum leader, alongside SLT, is responsible for monitoring and evaluating curriculum progress. This is done through work scrutiny, planning scrutiny, resource audits and learning walks which involve lesson observation drop-ins, pupil interviews and subject-specific conversations with staff.