St. Mary's
Catholic Federation

St Mary's Catholic Federation, Carshalton

Learning, playing and growing together in the love of Jesus

Computing Policy
(Curriculum)
(Bi-Annual)

This policy is to be read in conjunction with the following policies: Curriculum Overview Statement, Assessment, Teaching and Learning, Safeguarding & Child Protection, Equal Opportunities, Inclusion and E-Safety, the school vision and the mission statement.

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Committee: Curriculum Lead & SLT
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Approved by the Full Governing Body Date: March 2023

Chair of Governors Signature:

Safeguarding Statement
This school takes notice of and adheres to all the national and local policies and guidance in regard to Safeguarding Children and Young People.

Lead Safeguarding Person Junior School: Mrs S Hulme

Lead Safeguarding Person Nursery & Infant School: Mrs M Quinn

Safeguarding Deputy: Mrs H Nicholls, Miss F Sullivan & Miss E Bryant

Governor designated safeguarding officer: Mr T Richmond

"St Mary's is committed to being a Rights Respecting School to inspire and support the children, parents and school governors in school and the wider community."

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1.General Statement

Purpose of study

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.

Computing Intention Statement

To inspire pupils to be critical thinking, responsible digital citizens, apply and embrace new technology to empower pupils to be lifelong learners.

2. Aims

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems

- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- Are responsible, competent, confident and creative users of information and communication technology and understand E-Safety online.
- To provide opportunities for pupils, irrespective of race, gender or ability, to become familiar with a range of information technologies and to develop the skills to use them confidently.
- To provide opportunities for pupils to use Computing to support their learning in other areas of the curriculum.
- To develop Computing as a tool for investigation in all subjects.
- To provide pupils with an opportunity to continue their learning at home (Google Workspace for Education)

3.Objectives

Key stage 1 Pupils should be taught to:

- 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.

Key stage 2 Pupils should be taught to:

- 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.

Implementation

4. Learning and experiences

The Pupils at St Mary's are given the opportunities to develop through a wide range of activities, using a variety of equipment, to develop their Computing skills and to become confident in their use of Computing. While Computing skills may be taught as a discrete activity, Computing is also taught through other areas of the curriculum where the skills are practised whilst supporting the children's work in other subjects.

Computer use is carefully managed so that all pupils are given equal access opportunities. Pupils usually work as individuals but sometimes in groups and in pairs. Groups of pupils using Computing -

- Vary in size from pairs to groups, where discussion is concerned.
- May be of mixed ability to enable those who are more competent to help those who are less able.
- May be involved in sharing experiences, in a rolling program (when a new skill is being taught for example).

Teaching with Computing is not only on the use of computers as a tool to support learning but also on the development of the use of skills within programs to facilitate presentation, locating and recording information e.g.

- Combining pictures with sound and text;
- Graphs and charts;
- Use of the internet for research and messaging;
- Monitoring and controlling;
- Use of Google Workspace for Education
- Write programmes, debug using logical reasoning and creating websites.

As pupils progress through the school they grow in independence in their use of Computing, gaining confidence in their use of skills, which are built on in each year group. In Early Years children are exposed to using a range of technology.
The children begin to learn basic computing skills through the use of computers and iPads. There is a scheme of work in place called Switched on Computing Years 1 – 6 and CS First Years 3 - 6 that ensures coverage of all the strands of the Computing curriculum and progression through the school. Both schemes identify the skills that the pupils will be taught, the activities through which the skills will be taught and the links with other subjects.

5.Planning

Planning is a three-tier process consisting of long term plans, medium term plans and short-term plans.

Long term planning consists of a scheme of work for Computing, which is an outline of the Computing activities, in each of the strands of Computing, for each year group for each half term of the year. These activities can be used within other curriculum areas.

Half termly in yearly grid consists of half termly plans, which outline the main activity, the programs to be used and the skills to be taught for each year group.

Short term planning consists of the skills to be taught each week and the activities and programs used.

In Computing, differentiation is planned by identifying those children who need extra support and at the Juniors use of differentiated Computing Passports (Mild, Medium or Spicy) in Google Classroom. Here pupils can choose their own level of ability as well as make interchangeable Computing passports. This also includes those who do not have access to a computer at home. The class teacher, more able pupils or a classroom assistant if appropriate may provide this support.

6. Monitoring and evaluation

Each class teacher evaluates the activities carried out in their year group.

Records are kept in each class to monitor the use of Computing to ensure equal access by all pupils.

Copies of the medium term planning and evaluations are kept by the coordinator and in the Federated Curriculum Drive to ensure a balanced coverage of all the strands of the Computing curriculum. Planning and resources can also be found on the Subject Lead for the St. Mary's Catholic Federated Curriculum site.

7. Assessment

Assessment in Computing is formative and is an ongoing process carried out by the class teachers. At the Juniors there are self-evaluation assessments that are carried out by pupils at the end of each unit which includes online self-assessment and use of thinking hats, completed online via google forms. A selection of three varying pupil abilities of these assessments are given to the Subject Lead for the St. Mary's Catholic Federated Curriculum site.

Impact

The impact of implementing these onto our teachers and pupils is that with improved teaching of computing, there is a better subject knowledge for the teachers to

teach higher quality lessons that demonstrate the coverage of the skills taught to the pupils. teachers understand how to better assess their children, which then leads to a higher level of achievement amongst the children and their enjoyment for the subject.

Another impact is that children are better equipped to navigate the internet in a safer way as they know and understand the impacts and repercussions of having a safe digital footprint online.

8.Resources

There are a variety of resources in the school: -

In the Nursery and Infant School -

- Each classroom has 1 computer for the class teacher to access and 1 computer for the children to use. In Reception 1 computer for children to use.
- There are 15 computers linked to the network in the Computer suite enabling one computer to be used in pairs and teacher laptop.
- There is a huge range of software available including Internet accessed programs such as Espresso, Espresso Code and Busythings.
- 10 iPads linked to the network that have a range of apps that cover all aspects of the curriculum and are used to collect and record observations using the Tapestry program in EYFS. Extra Ipads given to Years 1 and 2 from the Juniors.
- There is one central printer connected to the network, which can be used as a scanner.
- 11 clever touch screens, one of which is portable.
- 15 Chromebooks for staff.

In the Junior School -

- There are 35 computers linked to the network in the Computer suite enabling one computer per child and a computer for the teacher at the front of the Computer suite linked to the Clevertouch. 30 of these have been converted to Cloudready software acting like Chromebooks.
- 13 clever touch screens, one of which is portable.
- 1 Smartboard
- There is 1 network printer held centrally in the staffroom with the network server.
- There is 1 computer in the library for recording library transactions and for teacher use.
- There is one laptop and projector in the Drama Room.
- Each class has a Chromebook as well as 6 Ipads for general use in the iPad dock located in the Computer Suite.
- There is a huge range of software available including internet accessed programs such as Espresso and LGFL resources.
- 7 laptops and 1 desktop computer in the Meeting Room.

- 30 Chromebooks are stored in the Meeting Room in a charging station.
- The school business manager keeps a record of all new purchases of hardware.

9. DISPLAY

Pupils and staff use Computing in display around the school for headings, pictures, text, graphs and charts.

10. STAFFING

S Pratsis has Google Educator Level 1.

Computer teaching is integrated into normal classroom practice under the direction of the coordinator teachers.

11. PROGRAMS

The following is a list of the most frequently used software.
In January 2020 Windows 7 was updated to Windows 10 and some programs on the system may become incompatible with the new update. When this occurs the Computing Subject Leaders will find alternative programs or online programs.

Microsoft Office - Word
Excel
Power Point
Publisher
Google Workspace for Education - Google Classroom, Drive, Docs, Slides, Sheets, Forms, Sites, Sketchup for Schools, Blogger and Jamboard.
CS First
Dazzle Plus
Adobe Photoshop
Ancient Greeks
Adobe Acrobat
Seashore Life
Amazing animals
Eyewitness History of the World
How we used to live –Early Victorians
Easiteach Maths
Maths Explorer 2
Multimaths
Ancient Lands
Collins Rapid Maths
Starspell
Word Shark

Number Shark
Village life in India
Ancient Greeks
Rivers
Mountains
DFES Maths Programs
Number Works
Robolab
Investigate
Music Explorer
First Logo
Counter
Clicker 5 & 7 (Juniors)
Groovy - Shapes, Jungle and City
Smart Notebook
Crystal Rain Forest
LogIT software
Easiteach Literacy
Easiteach Studio
Flexitree2
Information Workshop
2Investigate
2Simple
Espresso
Espresso CODE
Crystal Computing channel
Scratch
CODE.org
REAL PE - software
MIT App Inventor

12. APPS FOR IPADS

Phonics	Literacy
	Write & play
	Phonics studio
	Short vowels
	Ollie's friend
	Ollie's Handwriting and Phonics
	Sight words 2
	Word family
	Phonics lite
	Sound it out
	Phonics
	ABC Alphabet
	PhaseoneLTD
	2nd Grade

	Alphabet training Eggy 100 Phonics LT Phonics awareness Sight words Hooked Phonics Phonics Genius TwinkILTE AbbyPhonics Phonics Stories Make a word Phonics Vowels Word Families PhonicsRead ABC Circus (Free) Cirque ABC (Free) PhonicsFun 7 Tic Tac Toe Letters Lite Phonics with Letter Lilies
Maths Maths (Cont)	TellTimeLite NumberBattle Maths Dots Dtdnumletlite Grade 3 Maths Doodlemaths Primary Maths Maths Trainer Math Zombies Writing Numbers Logic Games Banana Maths Virtual Manipulatives
Programming	Kodable Hopscotch Cato's Hike Daisy the Dino Bee-Bot Cargo-Bot Logo Draw Scratch Jr
Spelling and Grammar	Grammar Wonderland Primary Spell Game Wordventure Spelling Test Spelling Bug

	Grammar Wonderland Elementary
Sentence Work	ICanWrite 2 Silly Sentence Sentences MakeSentence JumbledSent 1 JumbledSent3 JumbledSent4 JumbleSent 7 Language Sentence 1 Sent Builder Sentence Maker
Presentations	Captions PuppetPals HD Pic Collage Doodle Buddy Sock Puppets Skitch eFinger Lite WordPress Tiny Tap
Picture and Animations	Telligami Morfo Animoto Finger Draw on Photo Aurasma
Brainstorming and planning	Corkulous Popplet lite
Story writing and presenting Story writing and presenting	Comic lite Book Creator Skitch Explain everything
Pictures, animations and film making	IMovie Movie maker Video Star Action Movie
Music	Music Autorap Onebeat
Geography	Globe Google Earth
Science	Video Science
Reading	Playing Farmers Lunch Stories

	At the dump Bike ride RWBCK Big Cat – The world Big Cat – Dark Night Mad Libs
Handwriting	Letter Quiz Handwriting Cursive Practice Trace it Cursive
Simulations/Gaming/Storymaking	Theme Park Epic Citadel Toontastic SketchNation Logos Quiz game
Browser	Rover – The browser for education Google Chrome Dropbox
Behaviour	ClassDojo
Fine Motor skills	Dexteria
MIS – Register etc	Emerge – Schools/For parents
Apps/Extensions for Chromebooks	
Art	Infinite Painter
Classwork	Google Classroom
EAL	Google Translate
Geography	Google Earth
Maths	Times Table Rockstars
Music	Spotify (Teacher Chromebooks only)
Organisation	Pic Collage (Teacher Chromebooks only) Jamboard
Other - Links with Art/ History/Geography	Google Expeditions
Other - Ideas	Pinterest (Teacher Chromebooks only)
Science	Science Journal
DT	Sketchup