Essendon C of E Primary School (VC)

Encouraging Everyone's Light To Shine (Matthew 5:16)

Computing Curriculum Map – Year A

Value	Essendon Way	Love Yourself	Love Others	Love God	Love Learning	Love the World You Live In
Term	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Pantherswood	Children recognise that a range of technology is used in places such as homes and schools.	Complete simple program. Use ICT to support learning.	Make observations of animals. Know how to operate simple equipment (ICT). Complete simple program.	Complete simple program.	Select & use technology for a range of purposes.	Select & use technology for a range of purposes.
Homewood	**Improving mouse skills** Learning how to login and navigate around a computer; developing mouse skills; learning how to drag, drop, click and control a cursor to create works of art	**Bee-Bots** Introducing programming through the use of a Bee-Bot and exploring its functions.	**Algorithms unplugged** Algorithms, decomposition and debugging are made relatable to familiar contexts, following directions, learning why instructions need to be specific Online S **E-safety refresh**	**Digital Imagery** Taking and editing photos, searching for and adding images to a project.	**Introduction to data** Learning what data is and the different ways it can be represented. Learning why data is useful and the ways it can be gathered and recorded.	**Rocket to the moon** Developing keyboard and mouse skills through designing, building and testing. Creating a digital list of materials, using drawing software and recording data
Warrenwood	**Networks and internet** Learning what a network and how devices communicate	**Video Trailers** Developing digital video skills to create trailers, with special	**Programming – scratch** Exploring the programme Scratch,	**Networks – email** Sending emails with attachments and lunderstanding what cyberbullying is	**Journey inside a computer** Assuming the role of computer parts and creating paper	**Data handling & databases** Learning about records, fields and

	and share information.	effects and transitions.	following the predict > test > review cycle. Learning about 'loops' and programming an animation, story and game. **E-safety refresh**		versions of computers to consolidate understanding of how a computer works.	data and sorting and filtering data.
Harefield	**Micro:bit** **The meaning and purpose of Programming** Creating algorithms and programs that are used in the real world. Using the 'predict, test and evaluate' cycle to create and debug programs with specific aims	**Programming Music** Building-on programming and music skills to create different sounds, beats and melodies which are put to the test with a Battle of the Bands performance!	**Stop Motion animation** Creating animations, storyboard ideas and decomposing a story into small parts before putting together to create the illusion of a moving image. **E-safety refresh**	**Bletchley Park WWII and the first computers** Discovering the history of Bletchley and learning about code breaking and password hacking. Demonstrating digital literacy skills by creating presentations.	**Coding / robotics - Mars Rovers** Learning about the Mars Rover, exploring how and why it transfers data including instructions, and how messages can be sent using binary code	**Mars Rover 2** Exploring how the Mars rover: moves, follows instructions, collects and sends data; understanding how computers work, what data is and how it is transferred.

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Computing Curriculum Map – Year B

Value	*Essendon Way*	*Love Yourself*	*Love Others*	*Love God*	*Love Learning*	*Love the World You Live In*
Term	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Pantherswood	Children recognise that a range of technology is used in places such as homes and schools.	Complete simple program. Use ICT to support learning.	Make observations of animals. Know how to operate simple equipment (ICT). Complete simple program.	Complete simple program.	Select & use technology for a range of purposes.	Select & use technology for a range of purposes.
Homewood	**What is a computer?** Exploring what a computer is by identifying how inputs and outputs work and how computers are used in the wider world to design their own computerised invention.	**Word Processing Letter writing** Developing touch typing skills, learning keyboard shortcuts and simple editing tools.	**Algorithms and debugging** Developing an understanding of; what algorithms are, how to program them and how they can be developed to be more efficient, introduction of loops. **E-safety refresh**	**ScratchJnr** Exploring what 'blocks' do' by carrying out an informative cycle of predict > test > review. Programming a familiar story and make a musical instrument.	**Creating media - Stop Motion** Learning how to create simple animations from storyboarding creative ideas.	**Data handling** Learning how data is collected, used and displayed and the scientific learning of the conditions needed for plants and humans, to survive.
Warrenwood	**Collaborative Learning** Learning how to work collaboratively and	**Coding – Scratch** Revisiting the key features and beginning to use	**Website design** Learning how web pages and sites are created and how to	**HTML** Learning about the markup language behind a webpage;	**Data handling – investigating weather**	**Computational thinking** Solving problems effectively using the

	exploring a range of collaborative tools e.g. google, Microsoft office	'variables' in code scripts.	embed media and links. **E-safety refresh**	becoming familiar with HTML tags, changing HTML and CSS code to alter images and 'remix' a live website.	Researching and storing data on spreadsheets and designing a weather station	four areas of abstraction, algorithm design, decomposition and pattern recognition.
Harefield	**History of Computers** Writing, recording and editing radio plays set during WWII, learning about how computers have evolved.	**Intro to Python** Using the programming language 'Python' to create designs and art. Learning how to create loops and nested loops to make their code more efficient.	**Big Data 1 Barcodes, QR codes and RFID** Identifying how barcodes and QR codes work. Learning how infrared waves are used for the transmission of data while recognising the uses of RFID. **E-safety refresh**	**Big Data 2 Data usage and smart schools** Further developing understanding of how networks and the Internet are able to share information. Learning how big data can be used to design smart buildings.	**Search engines** Learning about how page rank works and how to identify inaccurate information	**Skills showcase** Designing a product, pupils: evaluate, adapt and debug code to make it suitable for their needs and designing products in CAD and creating a website and video.

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.