XII Apostles RCPS – Computing Curriculum Outcomes Document

Year Group	Topic	Concepts	Outcomes	Key Vocabulary	Further Vocabulary
Reception	**Online Safety-**Recognise that a range of technology is used in places such as homes and schools	**Digital Literacy**	• Name ways that technology is used at home and in school • Introduce the T (tell) of the SMART rules	Tell, adult, worry, Camera, photograph, control	Safe, tell, adult, trusted, tablet, iPad, computer, laptop, whiteboard, mouse, mobile phone
	Using Apps/ Taking Photographs- Recognise that a range of technology is used in places such as homes and schools; Select and use technology for particular purposes	**Information Technology**	• Use an app on a digital device to create digital content and record ideas • Ask permission before talking photographs of other people		App, tablet, iPad, digital, camera, device, photograph, permission
	Controlling Turtles- Recognise that a range of technology is used in places such as homes and schools Select and use technology for particular purposes	**Computer Science**	• Discuss how control technology is used in the real world (Traffic lights etc) • Give instructions to direct Beebot		Spaces, instructions, move, way, direction, change, debug, arrow, button, forwards, backwards, left, right, command, Beebot, control, click, button, press, on, off, arrow, program.
Year Group	**Topic**	**Concepts**	**Outcomes**	**Vocabulary**	**Further Vocabulary**
Year 1	**Online Safety** 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	**Digital Literacy**	**Computer Science:** • Follow an algorithm and predict the outcome of a program on a device and how changing a value effects the outcome • Use an algorithm to create a program (including an individual sprite) and test it	Help, computer, type, instruction.	Safe, tell, worry, help, adult.

XII Apostles RCPS – Computing Curriculum Outcomes Document

	on the internet or other online technologies		• Debug a program **Information Technology:** • Describe and use the tools in a paint package and word processor including opening and saving documents • Make careful choices when changing text-select a word by double clicking, select all the text by clicking and dragging and use the undo button. **Digital Literacy** • Identify technology and explain how it helps us. • Identify a computer and its main parts including using a mouse and keyboard in different ways. • Name some rules for using technology responsibly including tell an adult • Use the vocabulary on the Computing Progression in Knowledge and Skills document.		
	Computing systems and networks – Technology around us Recognise common uses of information technology beyond school; Use technology purposefully to create, organise, store, manipulate, and retrieve digital content; 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.	**Digital Literacy**			Technology, computer, mouse, trackpad, keyboard, screen, double-click, typing
	Creating media – Digital writing Use technology purposefully to create, organise, store, manipulate, and retrieve digital content; Use technology safely and respectfully, keeping personal information private	**Information Technology**			Word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.

XII Apostles RCPS – Computing Curriculum Outcomes Document

	Moving a Robot 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; Recognise common uses of information technology beyond school	**Computer Science**			Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program.
	Creating media – Digital painting Use technology purposefully to create, organise, store, manipulate, and retrieve digital content	**Information Technology**			Paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers
	Programming Animations 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	**Computer Science**			ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.

XII Apostles RCPS – Computing Curriculum Outcomes Document

	Use logical reasoning to predict the behaviour of simple programs				
Year Group	**Topic**	**Concepts**	**Outcomes**	**Key Vocabulary**	**Further Vocabulary**
Year 2	**Online Safety-** 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	**Digital Literacy**	**Computer Science:** To create a program made up of algorithms using a given design, own design and change it to improve it To describe a series of instructions as a sequence and explain what happens when we change the order of instructions To explain that programming projects can have code and artwork To create and debug a program that I have written **Information Technology:** To take, edit and improve photographs using digital tools -To explain that we can present information using a computer including pictograms and tally charts and create own **Digital Literacy** Name some rules for using technology responsibly including tell an adult and some ways to stay safe. To recognise the uses and features of information technology in and beyond school and explain how it helps us -To recognise that choices are made when using information technology	Share, information, edit, image, algorithm, debug.	Tell, trusted, adult, SMART, share, personal information, online, device, polite, kind, internet, apps, websites, social media, gaming, games, report
	IT Around Us 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	**Digital Literacy**			Information technology (IT), computer, barcode, scanner/scan
	Data and Information- Pictograms Use technology purposefully	**Information Technology**			More than, less than, most, least, common,

	to create, organise, store, manipulate and retrieve digital content; 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		Use the vocabulary on the Computing Progression in Knowledge and Skills document		popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute, group, same, different, conclusion, block diagram, sharing
	<u>Digital photography</u> 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	**Information Technology/ Digital Literacy**			Device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting,
	Programming an Introduction to Quizzes Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following	**Computer Science**			Sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match,

	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				compare, debug, features, evaluate, decomposition, code
	Programming a Robot- Algorithms 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	**Computer Science**			Instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition
Year Group	**Topic**	**Concepts**	**Outcomes**	**Key Vocabulary**	**Further Vocabulary**
Year 3	**Online Safety** Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to	**Digital Literacy**	**Computer Science:** -To explore a new programming environment -To change the appearance of my project and adapt a program to a new context -To create a project from a task description on Scratch	Media, personal information, code, algorithm, debug	Personal information, website, report, choices, trusted adult, online, communicate.

	report concerns about content and contact		-To create and develop a program to move a sprite in four directions and add features -To identify and fix bugs in a program **Information Technology:** -To plan and create a branching database -To recognise that page settings, text and layout can be edited -To add content to a desktop publishing publication and choose appropriate layouts for different purposes whilst understanding the benefits of desktop publishing **Digital Literacy** • Explain the SMART rules and describe how to keep themselves safe online. -To explain how digital devices function and can be connected Use the vocabulary on the Computing Progression in Knowledge and Skills document.		
	Computing-Systems & Networks Connecting Computers Use sequence, selection, and repetition in programs; work with variables and various forms of input and output; 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; 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	**Digital Literacy/ Computer Science**			Digital device, input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets
	Data and Information Branching-Databases Select, use and combine a variety of software (including internet services) on a range of digital devices to design	**Information Technology**			Attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare,

	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				order, organise, selecting, information, decision tree.
	Programming a Sequence in Music 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	**Computer Science**			Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to, glide, sequence, event, task, design, run the code, order, note, chord, algorithm, bug, debug.

	algorithms and programs; 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				
	Creating Media **Desktop Publishing** 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	**Information Technology**			Text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits.

	of programs, systems, and content that accomplish given goals, including collecting, analysing, evaluating, and presenting data and information				
	Programming Events and Actions 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;	**Computer Science**			Motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions..

	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				
Year Group	**Topic**	**Concepts**	**Outcomes**	**Key Vocabulary**	**Further Vocabulary**
Year 4	**Online Safety** Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	**Digital Literacy**	**Computer Science:** -To design, create and modify a repetitive design that includes two or more loops (infinite loops and count controlled loops) which run at the same time **Information Technology:** -To identify that sound can be recorded -To explain and apply audio editing skills independently and evaluate the use of audio -To use a digital device to collect data automatically and explain that a data logger collects 'data points' from sensors over time to answer questions -To recognise how a computer can help us analyse data **Digital Literacy:** • Explain the SMART rules and describe how to keep themselves safe online.	Design, refine, programming, internet, network.	Password, report, safe, meet, accept, reliable, tell
	Computing Systems and Networks the internet Understand computer networks including the internet; how they can provide multiple services,	**Computer Science/Digital Literacy**			Internet, network, router, security, switch, server, wireless access point (WAP), website, web page, web address,

	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.		-To recognise how networked devices make up the internet and how websites can be shared via the World Wide Web (WWW) -To describe how content can be created, added and accessed on the World Wide Web (WWW) by people Use the vocabulary on the Computing Progression in Knowledge and Skills document		routing, web browser, World Wide Web, content, links, files, use, download, sharing, ownership, permission, information, accurate, honest, content, adverts
	Data and Information **Data Logging** Use sequence, selection, and repetition in programs; work with variables and various forms of input and output;	**Information Technology**			Data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.

	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				
	Creating Media Audio Editing 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	**Information Technology**			Audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback.

	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				
	Programming- Repetition in Games 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;	**Computer Science**			Scratch, programming, sprite, blocks, code, loop, repeat, value, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate, modify, design, algorithm, debug, refine, evaluate

	Use logical reasoning to explain how some simple algorithms work, and to detect and correct errors in algorithms and programs; 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				
Year Group	**Topic**	**Concepts**	**Outcomes**	**Key Vocabulary**	**Further Vocabulary**
Year 5	**Online Safety** Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify	**Digital Literacy**	**Computer Science:** -To explain how selection is used in computer programs to direct the flow of a program -To relate that a conditional statement connects a condition to an outcome	Input, process, output, video, audio	Password, report, safe, meet, accept, reliable, tell, personal information, communicate, respect.

	a range of ways to report concerns about content and contact		-To design, create and evaluate a program which uses selection **Information Technology:** -To explain what makes a video effective and apply by improving own video through reshooting and editing -To create a storyboard -To capture video using a range of techniques -To recognise that objects can be combined in a 3D model and modified on a computer -To plan and create my own 3D model for a given purpose -To compare paper and computer-based databases -To outline how you can answer questions by grouping and then sorting data using tools to select specific data -To use a real-world database to answer questions and compare data visually **Digital Literacy:** -To explain how search engines select results and are ranked -To recognise why the order of results is important, and to whom -Explain the SMART rules and how they can be applied in different contexts		
	Computing Systems and Networks Sharing Information 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	**Digital Literacy**			System, connection, digital, input, process, storage, output, search, search engine, refine, index, bot, ordering, links, algorithm, search engine optimisation (SEO), web crawler, content creator, selection, ranking.
	Creating Media Video Editing Use search technologies effectively, appreciate how results are selected and ranked,	**Information Technology**			Vector, drawing tools, object, toolbar, vector drawing, move, resize, colour, rotate, duplicate/copy, zoom, select, align, modify, layers, order, copy,

	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; Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to				paste, group, ungroup, reuse, reflection

	report concerns about content and contact				
	Creating Media-3d Modelling 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	**Information Technology**			TinkerCAD, 2D, 3D, shapes, select, move, perspective, view, handles, resize, lift, lower, recolour, rotate, duplicate, group, cylinder, cube, cuboid, sphere, cone, prism, pyramid, placeholder, hollow, choose, combine, construct, evaluate, modify.

	Data and Information **Flat File Databases** 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	**Information Technology**			Database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation.
	Programming **Selection in Quizzes** Design, write and debug programs that accomplish specific goals, including controlling or simulating physical	**Computer Science**			Selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, debug, question, answer, task, design, input,

	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; 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				implement, test, run, setup, operator

	presenting data and information				
Year Group	**Topic**	**Concepts**	**Outcomes**	**Key Vocabulary**	**Further Vocabulary**
Year 6	**Online Safety** Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	**Digital Literacy**	**Computer Science:** -To explain why a variable is used in a program -To choose how to improve and evaluate a game by using variables -To design a project that builds on a given example -To review an existing website and consider its structure -To plan the features of a web page including its navigation paths -To consider the ownership and the implications of using images and content owned by other people (copyright) -To recognise the need to preview pages -To explain and write a program that includes count-controlled loops that can stop when a condition is met -To explain that a loop can be used to repeatedly check whether a condition has been met -To create a program that controls a physical computing project with selection **Information Technology:** -To build a data set in a spreadsheet -To explain and apply that formulas can be used to produce calculated data -To create a spreadsheet to plan an event -To choose suitable ways to present data **Digital Literacy:**	Collaborate, abuse, data, evaluate, embed, navigate	Personal information, respect, communication, collaborate, report abuse.
	Computing Systems and Networks **Communication** 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; 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	**Digital Literacy/ Computer Science**			Communication, protocol, data, address, Internet Protocol (IP), Domain Name Server (DNS), packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private, oneway, two-way, one-to-one, one-to-many.

	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		-Explain the SMART rules and how they can be applied in different contexts -To recognise how data is transferred across the internet -To recognise and evaluate different methods of online communication		
	Programming Variables in Games 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	**Computer Science**			Variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign, declare

	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; 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				
	Designing and Creating a Website Use search technologies effectively, appreciate how results are	**Digital Literacy/ Computer Science**			Website, web page, browser, media, Hypertext Markup Language (HTML), logo, layout, header, media, purpose,

	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				copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, evaluate, implication, external link, embed.
	Selection in physical computing Design, write, and debug programs that accomplish specific goals, including controlling or simulating physical	**Computer Science**			Microcontroller, USB, components, connection, infinite loop, output component, motor, repetition, count-controlled loop, Crumble controller, switch, LED, Sparkle, crocodile clips,

	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; 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				connect, battery box, program, condition, Input, output, selection, action, debug, circuit, power, cell, buzzer

	presenting data and information				
	Spreadsheets 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	**Information Technology**			data, collecting, table, structure, spreadsheet, cell, cell reference, data item, format, formula, calculation, spreadsheet, input, output, operation, range, duplicate, sigma, propose, question, data set, organised, chart, evaluate, results, sum, comparison, software, tools.