Computing overview – Long Term Plan

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	I Program Unit 1	I Write	I Algorithm	I Data	I Model	I Safe
Year 2	I animate	I do mail	I Search	I Blog	I Program	I Safe
Year 3	I program	I Simulate	I Network	I Data	I Connect	I Safe
Year 4	I program	I animate	I Mail	I Program 2	I Data	I Safe
Year 5	I Program Unit 1	I Program Unit 2	I Model	I Crypto	I Web	I Safe
Year 6	I program Unit 1	I Network	I Data	I App Unit 1	I App Unit 2	I Safe

EYFS

EYFS	Use touch screen technology carefully and the correct way up Talk about and identify patterns around them. Explore how things work.	Enjoy an increasing range of digital books (fiction and non-fiction)	Understand what constitutes a sensible amount of screen time. Learn and use subject specific vocabulary (e.g. on/off)	
	Vocabulary Skills and knowledge			

Year 1 – Medium Term Plans

Term 1 **I Program Unit 1**	**iRobot** LO: To understand that algorithms are implemented as programs on a range of digital devices.	**iControl** LO: To give instructions to a programmable toy.	**iPlan** LO; To plans simple algorithm that controls a toy.	**iProgram** LO: To program a virtual object to move n screen objects.	**iHunt** LO: To record a sequence of instructions in a common format.	
	Vocabulary: Device, signal, instruction, response	**Vocabulary:** Instruction, forward, back, left, right, step, program, input, output	**Vocabulary:** Forward, back, left, right, step, program, algorithm, debugging	**Vocabulary:** Forward, back, left, right, turn, program, instruction, command, debugging	**Vocabulary:** Sequence, instructions, forward, backward, left, right, turn	
	Skills & Knowledge: understand that programs execute by following precise and unambiguous instructions; Use logical reasoning to predict behaviour of simple programs; create and debug simple programs; use technology purposefully to create, organise, store, manipulate and retrieve digital content.					
Term 2 **I Write**	**iText** LO: To recognise that text can be created in a number of ways.	**iSentence** LO: To use word processing software to create text.	**iSentence** LO: To understand that a computer can be connected to a printer.	**iTell** LO; To select and insert text into a word processing application.	**iTell** LO: To open and save a word processing document.	**iReview** LO: To understand the value of using a word processor to produce text.
	Vocabulary: Return, backspace, spacebar, scroll, text	**Vocabulary:** mouse, click, keyboard, computer, printer, shift, space, backspace, return, connected, user	**Vocabulary:** mouse, click, keyboard, computer, printer, shift, space, backspace, return, connected, user	**Vocabulary:** mouse, click, word bank, space, shift, return, backspace, open, save, cut	**Vocabulary:** mouse, click, word bank, space, shift, return, backspace, open, save, cut	**Vocabulary:** word processor, type, keyboard, keys, font, centre, bold, save, print
	Skills & Knowledge: recognise common uses of technology beyond school; use technology purposefully to create, organise, store, manipulate and retrieve digital content.					
Term 3 **I Model**	**iDress** LO: To understand that computers can show real events happening.	**iDress** LO: To use a mouse of move things accurately on screen.	**iDecide** LO; To understand that computers can be used to make choices.	**iVenture** LO: To understand that a computer can be used to model an environment	**iVenture** LO: To understand that a computer model is not an exact replica of real-life environments or scenarios.	**iRepresent** LO: To create a representation of a real or fantasy game/story.

				where choices can be made.		
	Vocabulary: mouse, point, click, drag, algorithm, instructions, drop, left click	**Vocabulary:** mouse, point, click, drag, algorithm, instructions, drop, left click	**Vocabulary:** choose, decide, point, click, drag	**Vocabulary:** Choice, decision, adventure, real, imaginary	**Vocabulary:** Choice, decision, adventure, real, imaginary	**Vocabulary:** real, fantasy, model
	Skills & Knowledge: use technology purposefully to create, organise, store, manipulate and retrieve digital content.					
Term 4 **I Data**	**iSurvey** LO: To understand why pictograms are useful.	**iSurvey** LO: To collect and organise information to solve a problem.	**iRepresent** To create a graph using digital tools.	**iPresent** LO: To create a pictogram using collected data.	**iSort** LO: To sort information on a criterion.	**iSort** LO: To present data using a graph.
	Vocabulary: survey, tally, information, data, pictogram	**Vocabulary:** survey, tally, information, data, pictogram	**Vocabulary:** graph, data, software, select, click, icon	**Vocabulary:** pictogram, tally, information, select, click, icon, data	**Vocabulary:** graph, data, tally, column, click, icon, sort, print, classify	**Vocabulary:** graph, data, tally, column, click, icon, sort, print, classify
	Skills & Knowledge: use technology purposefully to create, organise, store, manipulate and retrieve digital content.					
Term 5 **I Algorithm**	**iFollow** LO: To understand that algorithms are precise instructions that can be followed. LO: To follow a simple algorithm.	**iFollow** LO: To devise a simple algorithm.	**iSilly** LO: To understand that programs execute by following precise and unambiguous instructions.	**iSay** LO: To plan, test and debug a simple algorithm.	**iBuild** LO: To make predictions about an outcome based on a simple algorithm.	**iCompose** LO: To understand conditions and outcomes. To understand that some statements can only be true or false.
	Vocabulary: instruction, sequence, forward, back, turn, up, down	**Vocabulary:** instruction, sequence, forward, back, turn, up, down	**Vocabulary:** Instruction, algorithm, forward, back, left, right	**Vocabulary:** Up, down, left, right, debug	**Vocabulary:** predict, debug, up, down, pattern, repeat	**Vocabulary:** sequence, if, true, repeat
	Skills & Knowledge: understand what algorithms are; understand how algorithms are implemented as programs on digital devices; understand that programs execute by following precise and unambiguous instructions; use logical reasoning to predict the behaviour of simple programs; create and debug simple programs					
Term 6 **I Safe**	**iWatch** LO: To understand what being online may look like, the different feelings we can experience and how to identify adults who can help.	**iPlay** LO: To understand that people online may try to manipulate other, how this can make someone feel and how to approach adults who can help.	**iShare** LO: To understand that photos can be shared online.	**iShare** LO: To understand the importance of seeking permission before sharing a photo online.	**iShare** LO: To understand how to identify and approach adults who can help.	**iPlayMore** LO: To understand that people online may try to manipulate other, how this can make someone feel and how to approach adults who can help.
	Vocabulary: personal information, trustworthy, untrustworthy	**Vocabulary:** personal information, trustworthy, untrustworthy	**Vocabulary:**	**Vocabulary:**	**Vocabulary:**	**Vocabulary:**
	Skills & Knowledge: use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about the content or contact on the internet or other technologies; identify a range of ways to report concerns about content and contact					

Year 2 – Medium Term Plans

Term 1 **I animate**	**iFlip** LO: To understand what an animation is. To understand the premise of a stop-frame animation.	**iDesign** LO: To understand that an animation consists of characters, a stage, props, sound, text and a story.	**iStoryboard** LO: To understand the importance of a storyboard in the story planning process. To create my own storyboard.	**iScript** LO: To understand that animation needs to be scripted.	**iCreate** LO: To understand that stop-frame animations involve physical characters, settings and props. To work collaboratively as a group to achieve a common goal.	**iFilm** LO: To create a stop-frame animation.
	Vocabulary: stop motion, image, animation, movie, character, flip book	**Vocabulary:** Animate, stop-motion, character, stage, background, sound, audio, text	**Vocabulary:** animation, stop-motion, character, storyboard	**Vocabulary:** animation, character, scene, background, stop-motion, storyboard, script	**Vocabulary:** animation, character, scene, background, stop-motion, storyboard, script, background, setting, props	**Vocabulary:** animation, character, scene, background, stop-motion, storyboard, script, background, setting, props, shot
	Skills & Knowledge: use technology purposefully to create, organise, store, manipulate and retrieve digital content.					
Term 2 **I Do Email**	**iSend** LO: To understand that messages can be sent electronically over distances.		**iReply** LO: To understand that messages can be sent electronically over distances and that people can reply to them.		**iAttach** LO: To understand that communication can be images, sound and text.	
	Vocabulary: email, type, send, snail mail, to, from		**Vocabulary:** communication, email, send, reply, to, from		**Vocabulary:** Communication, send, reply, text, images, sound, attachment	
	Skills & Knowledge: 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 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.					
Term 3 **I Search**	**iFind** LO To know the internet contains large amounts of information To use links to navigate a website	**iAnswer** LO To know the internet can be used to answer questions	**iAsk** LO To navigate a website using hyperlinks	**iLocate** LO To locate specific information using a website	**iResearch** LO To collect information from a number of different internet sources and check they are the same	**iResearch** LO To collect information from a number of different internet sources and check they are the same
	Vocabulary: internet, website, web page, browsing, hyperlink, navigate, information, world wide web	**Vocabulary:** clue, solve, information	**Vocabulary:** clue, solve, information	**Vocabulary:** explore, navigate, scroll	**Vocabulary:** research, website, hyperlink, scroll, URL	**Vocabulary:** Research, website, hyperlink, scroll, URL
	Skills & Knowledge: use technology purposefully to create, organise, store, manipulate and retrieve digital content; use technology safely and respectfully, keeping 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.					

Term 4 **I Blog**	**iLogin** LO: To know what a blog is and how it will be used in the classroom. To log in to the class blog.	**iWrite** LO: To know how to respond to the writing of others.	**iPost** LO: To know how to post on a log. To know how to respond to someone else's post on the class blog.	**iJustify** LO: To explain what I think and why.	**iBlog** LO: To use a blog to demonstrate learning.	**iEvaluate** LO: To reflect on work and make improvements.
	Vocabulary: blog, online, website, text, images, audio, video, webpage, hyperlink, login, username, password	**Vocabulary:** blog, online, website, text, images, audio, video, webpage, hyperlink, login, username, password, post, response	**Vocabulary:** blog, post, comment, respond, publish, login, username, password, communicating	**Vocabulary:** blog, post, response, comment, justify, evidence	**Vocabulary:** blog, post, login, comment	**Vocabulary:** blog, post, comment, evaluate, evidence
	Skills & Knowledge: 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.					
Term 5 **I Program**	**iSequence** LO: To understand that an algorithm is a process that consists of a series of steps that achieve a specific goal.	**iInstruct** LO: To understand that algorithms are made up of steps that can be repeated. To understand that computers need precise instructions.	**iMonster** LO: To use digital drawing tools to create images.	**iMove** LO: To program a simple animation involving movement.	**iSpeak** LO: To write a simple program that produces an output (text).	**iCreate** LO: To combine images and text to create a simple animation.
	Vocabulary: algorithm, instructions, sequence, input, output	**Vocabulary:** instruction, steps, order, repeat, forward, back, left, right	**Vocabulary:** cut, paste, undo, redo, copy, sprite	**Vocabulary:** input, output, statement, move, negative, steps, sprite	**Vocabulary:** duplicate, wait	**Vocabulary:** edit, undo, redo
	Skills & Knowledge: To understand what algorithms are; understand how algorithms are implemented as programs on digital devices; to create and debug simple programs; to use technology purposefully to create, organise, store, manipulate and retrieve digital content.					
Term 6 **I safe**	**iHero** LO: To understand what personal information is and that it is unique to themselves. To understand that personal information should only be given to trusted adults.	**iCarnival** LO: To understand that not everyone you meet is trustworthy. To begin to identify the characteristics of people who are worthy of trust and who can make choices that keep them safe.	**iGame** LO: I can identify a risky situation when a rusted adult's help may be needed.	**iInfo** LO: To understand that emotions can be a tool to help judge unsafe situations. To know that physical sensations can alert us to unsafe situations.	**iHero** LO: To understand the importance of checking with an adult before participating in an online environment.	**iHero** LO: To begin to be open with trusted adults about online experiences.
	Vocabulary: personal, information, trust, safe, online	**Vocabulary:** trustworthy, untrustworthy	**Vocabulary:** trustworthy, untrustworthy	**Vocabulary:** sensation, emotion, fear, panic, anxious, nervous, happy, excited, safe	**Vocabulary:** trust, personal, information, safety	**Vocabulary:** trust, personal, information, safety
	Skills & Knowledge: 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; recognise common uses of information technology beyond school.					

Year 3 – Medium Term Plans

Term 1 **I program**	**iMove** To understand that a program is a sequence of statements written in a programming language. To program an animation that executes a sequence of statements	**iExplore** To understand that computer programs contain graphics, use x and y coordinates and turns are measured in degrees	**iAnimate** Program a sequence of statements that create visual effects	**iMakeMusic** LO: To import, create and record sounds. To understand that algorithms and programs can involve repetition.	**iShapeUp** LO: To predict the outcome of a simple algorithm. To use a repeat function to draw a 2D shape.	**iCreate** LO: To import pictures from a computer/the internet. To combine images, sounds and movement to create a personal animation.
	Vocabulary: sprite, blocks, programming, co-ordinates, up, down, right, left, if (conditional statement)	**Vocabulary:** sprite, up, down, left, right, x/y axis, co-ordinates	**Vocabulary:** sequence, animate, repeat, loop	**Vocabulary:** import, record, animate, repeat, loop	**Vocabulary:** 2D, pen, degrees, turn	**Vocabulary:** import, internet, image
	Skills & Knowledge: 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 variable and various forms of input/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; 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 and 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.					
Term 2 **I Simulate**	**iExplore** LO: To understand that computer simulations can represent real or imaginary situations.	**iRule** LO: To understand that computer simulations are guided by rules.	**iAdventure** LO: To explore the effect of changing variables in a simulation using them to make and test predictions.	**iCircuit** LO: To understand hat simulations can help people try things quickly and inexpensively.	**ICircuit** LO: To understand that simulations help us to understand difficult concepts.	**iSim** To design and produce a computer simulation or adventure game.
	Vocabulary: simulation, choice, rules, variables, model	**Vocabulary:** simulation, rule, pattern	**Vocabulary:** simulation, rules, adventure, choices, variables, predict	**Vocabulary:** simulation, choice, decision, rules, real life	**Vocabulary:** simulation, choice, decision, rules, real life	**Vocabulary:** simulate, design, program, choice, effect, decision, variables
	Skills & Knowledge: simulating systems; use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs; use sequence, selection and repetition in programs; work with variables and various forms of input and output; simulating physical systems; select, use and combine a variety of software 9including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.					
Term 3 **I Network**	**iMap** LO: To understand what a network is.	**iConnect** LO: To know key parts of a computer network.	**iConnect** LO: To understand how information is exchanged between devices.	**iNet** LO: To understand that the internet is the physical connections between computers and networks.	**iNet** LO: To understand how data travels throughout a network.	**iAddress** LO: To understand that devices on networks have a unique address.
	Vocabulary: network, connected, network switch, server, wireless access point (WAP)	**Vocabulary:** Device, network switch, server, wireless access point	**Vocabulary:** Device, network switch, server, wireless access point	**Vocabulary:** Internet, network, switch, wireless access point (WAP), WIFI, router	**Vocabulary:** Internet, network, switch, wireless access point (WAP), WIFI, router	**Vocabulary:** network, switch, router, internet protocol (IP) address, URL, DNS

		(WAP), WIFI, router, local area network (LAN)	(WAP), WIFI, router, local area network (LAN)			
	Skills & Knowledge: understand computer networks including the internet; understand how networks can provide multiple services such as the world wide web; understand how networks offer opportunities for communication and collaboration.					
Term 4 **I Data**	**iRecord** LO: To understand how information is organised in a database.	**iAdd** LO: To understand the advantages of a computer-based database over a paper one.	**iCompare** LO: To find and enter information to create additional records in a database.		**iTravel** LO: To demonstrate the knowledge, skills and understanding I have learned.	
	Vocabulary: database, record, question, field, data	**Vocabulary:** database, record, field, data	**Vocabulary:** internet, database, record, enter, question, field, data		**Vocabulary:** internet, database, record, enter, question, field, data	
	Skills & Knowledge: 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.					
Term 5 **I Connect**	**Iconnect** LO: To understand some of the services available on the internet and move around the web using hyperlinks.	**iSurf** LO: To use basic navigation skills to browse the world wide web.	**IBrowse** LO: To know the main features of web browsers.	**iSearch** LO: To understand how to find information using a search engine and what search terms to use.	**iCheck** LO: To understand that not all information on the web is reliable and to know how to distinguish safe and credible websites.	**iHunt** LO: To apply the skills leant throughout the unit and understand the concept of copyright.
	Vocabulary: network, internet, world wide web, email, communicate, connected, forward, back, home, router, data, images, text, audio, video	**Vocabulary:** surfing, hyperlinks, forward, back, home, browser, world wide web	**Vocabulary:** browser, world wide web, navigate, default, homepage, forward, back, refresh/reload, home, address bar, url, favourite, icon	**Vocabulary:** world wide web, website, webpage, search engine, data, spider, crawl, sort, hits, tab	**Vocabulary:** world wide web, reliable, up-to-date, safe, author, domain	**Vocabulary:** world wide web, up-to-date, safe, author, domain, copyright
	Skills & Knowledge: understand computer networks, including the internet; understand how networks 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 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; use technology safely, respectfully and responsibly					
Term 6 **I safe**	**iBlock** LO: To identify some of the risks of sharing publicly online To understand measures that can be taken to stay safe.	**IFindOut** LO: To raise awareness about appropriate and inappropriate content for online sharing and the consequences of sharing without consent.	**iFriend** LO: To understand some of the ways we can protect ourselves online against manipulation.	**iFeel** LO: To understand the ways the internet can make young people feel about themselves.	**IProtect** LO: To understand the need for strong passwords.	**iChat** LO: To identify several different forms advertising can take online.
	Vocabulary: post, messaging, gaming, share, privacy, settings, like, dislike, block, comment	**Vocabulary:** like, dislike, group, public, private, comment, share	**Vocabulary:** fan, threat, manipulation, pressure, flatter, bribe, offers	**Vocabulary:** self-esteem, worry, body image, isolation, fans	**Vocabulary:** personal, private, safe, unsafe, password, strong, log on, account, symbols, uppercase, lowercase	**Vocabulary:** advertising, ads, target, pop-up, vloggin, endorsement, emails, websites, block

	Skills & Knowledge: to be discerning in evaluating digital content; use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Year 4 – Medium Term Plans

Term 1 **I Program**	**Idraw** To understand that a program is a sequence of statements written in programming language. To program a turtle to execute a sequence of statements.	**Iwrite** To understand that statements can be altered.	**Ishapeup** To amend an algorithm to change the size of a shape.	**Irobot** To program a virtual robot to move and draw.	**Idesign** To design a program to make choices. To understand that a commands and actions can be programmed to be executed depending on conditions.	**Ifollow** To develop an algorithm. To combine repetition and conditional statements into a program.
	Vocabulary: turtle, forward, back, left, right, repeat, angle, degrees, repeat	**Vocabulary:** turtle, sequence, angle, forward, back, left, right, degrees	**Vocabulary:** sequence, angle, forward, back, right, left, value	**Vocabulary:** robot, forward, backward, right, left, paint, remote control	**Vocabulary:** condition, if, then, true, false, execute, statement, left, right, forward, back, repeat	**Vocabulary:** condition, repeat, if, else, left, right, forward, back
	Skills & Knowledge: design, write and debug programs that accomplish specific goals; use sequence, selection and repetition in programs; use logical reasoning to explain how a simple algorithm works; detect and correct errors in algorithms and programs; solve smaller problems by decomposing them into smaller parts.					
Term 2 **I Animate**	**iFlip** LO: To understand what an animation is.	**iDraw** LO: To create a scene for an animation.	**iFrame** LO: To understand that animations can be created using digital tools.	**iScene** LO: To create an animated scene	**iProduce** LO: To storyboard and create a short animation.	
	Vocabulary: image, camera, animation, stop, motion, illusion, onion skin	**Vocabulary:** animation, animator, frame, dimension, effects, onion skinning	**Vocabulary:** animation, frame, sequence, frame rate, frames per second, CGI, GIF	**Vocabulary:** animation, sequence, frame rate, frames per second, CGI, GIF, effects, 3D	**Vocabulary:** design, plan, animate, storyboard, test, debug, edit	
	Skills & Knowledge: Select, use and combine a variety of software (including internet services) on a range of digital devices; design and create a range of programs, systems and content that accomplish given goals; collecting, analysing, evaluation and presenting data and information.					
Term 3 **I Mail**	**iMessage** LO: To understand that messages can be used to communicate over distance a number of ways.	**iRetrieve** LO: To understand hoe email travels and how to retrieve it.	**ISend** LO: To send and reply to emails.	**iAttach** LO: To attach a file to an email.	**iAttach** LO: To understand the advantages of attaching files to emails.	**iCollaborate** LO: To use email to communicate ideas.
	Vocabulary: message, private, security	**Vocabulary:** email, send, receive, internet, mail; inbox, log on, log out,	**Vocabulary:** Email, send reply, internet, mail, inbox, log on, log out,	**Vocabulary:** email, attachment, browse	**Vocabulary:** email, attachment, browse	**Vocabulary:** email, send, receive, attachment, reply, forward

		telecommunications, email address, server, inbox	email address, server, inbox			
	Skills & Knowledge: 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 the content or contact on the internet or other inline technologies.					
Term 4 **I Program** **Unit 2**	**iRobot** LO: To understand that robots need moving parts and can be programmed to follow instructions.	**iLoop** LO: To understand that sequences of commands can be replaced with repeats/	**iSense** LO: To understand that robots use sensors to 'see' and 'feel'	**iSense** LO: To understand that robots can be programmed to respond to data by changing behaviour.	**iAmuse** LO: To design, build and program a robotic model.	
	Vocabulary: design, engineering, hub, motor, program, robot, input, output	**Vocabulary:** repeat, loops, if, however, until, execute, sequence, parameter	**Vocabulary:** repeat, sense, sensor, respond, data, choice, decisions, condition, conditional, if	**Vocabulary:** repeat, sense, sensor, respond, data, choice, decisions, condition, conditional, if	**Vocabulary:** design, test, debug, program	
	Skills & Knowledge: 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 repetitions in programs; work with variables and various forms of input and output; use logical reasoning to explain how some simple algorithms work; detect and correct errors in algorithms and programs; understand how computer networks work, including the internet; understand how they can provide multiple services 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 a given goal, including collecting, analysing, evaluating and presenting data.					
Term 5 **I Data**	**Ibinary** LO: To understand that computers represent data as numbers.	**Isort** LO: To sort record names using field names.	**Ienter** LO: To understand that information can be stored as numbers, text and choices.	**Ienter** LO: To understand that storing information in an organised way helps answer questions.	**iSearch** LO: To search a database to answer a question.	**iChart** LO: To use the information in a database to create a simple chart.
	Vocabulary: binary, series, base, on, off, data, digital	**Vocabulary:** data, information, record, field, file	**Vocabulary:** information, record, field, file, database	**Vocabulary:** information, record, field, file, database	**Vocabulary:** database, file, record, field, search	**Vocabulary:** database, record, field, search, chart
	Skills & Knowledge: 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 a given goal, including collecting, analysing, evaluating and presenting data.					
Term 6 **I Safe**	**iPrivate** LO: To learn about the risks and benefits of sharing information online.	**iPower** LO: To empathise with those who have received mean or hurtful messages and generate solutions for dealing with cyberbullying.	**iSearch** LO: To experiment with different keyword searches and compare their results. To be able to refine searches by using alternative words/phrases.	**iRespect** LO: To define plagiarism and describe its consequences. To explain how giving credit is a sign of respect for people's work.	**iKnowSpam** LO: To define what spam is and explore strategies for safely managing it.	**iBeatCyberbullying** LO: To recognise some of key similarities between in-person bullying and cyberbullying.
	Vocabulary: register, personal information, identify theft	**Vocabulary:** cyberbullying	**Vocabulary:** keywords, precise, results page, synonyms, alternatives	**Vocabulary:** plagiarism, citation, respect	**Vocabulary:** junk mail, spam, computer virus	**Vocabulary:** cyberbullying, target, empathise, bystander, upstander

	Skills & Knowledge: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact; use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating 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.

Year 5 – Medium Term Plans

Term 1 **I program** **Unit 1**	**iMove** LO: To understand that computer programs containing graphics use x and y coordinates.	**iSense** LO: To understand that some variables can only be true or false (Boolean.)	**iNavigate** LO: To program statements that make something happen in response to an event on screen.	**iVary** LO: To understand what a variable is and why they are useful.	**iScare** LO: To understand that variables can be used in programming to keep track of values.	**iDesign** LO: To develop an outline of tasks and activities required to develop a project.	**iCode** LO: To use the computational concepts of sequence, selection, repetition and variables to program a computer game.
	Vocabulary: sprite, up, down, left, right, x/y co-ordinates, condition, if	**Vocabulary:** condition, Boolean, if, true, false, variable	**Vocabulary:** sense, Boolean, true, false	**Vocabulary:** vary, variable, change, data, type, string, number, Boolean, store, memory	**Vocabulary:** vary, variable, value, change, data, type, string, Boolean, number, store, memory	**Vocabulary:** design, storyboard, sequence, input, output	**Vocabulary:** condition, variable, boolean, true, false, repeat, loop, repetition, statement, algorithm, selection
	Skills & Knowledge: 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; 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						
Term 2 **I Program** **Unit 2**	**iExplore** LO: To learn how to create and control a character to complete conditional statements.	**iCode** LO: To program an object to move towards another using sequencing statements.	**iInput** LO: To amend a computer programme to allow user input.	**iTravel** LO: To add pathways that allow characters to move within a game.	**iLevel** LO: To understand how to create levels in a computer game.	**iDesign** LO: To understand that computer programs need to be designed.	**iTest** LO: To develop strategies for testing and debugging computer programs.
	Vocabulary: 3D, object, sequence, program, conditions (when/do), iteration, repetition, loops (always), input, variable (score)	**Vocabulary:** statement, sequence, objective, conditions (when/do), iteration, repetition, loops (always), input, variable (score)	**Vocabulary:** input, sequence, user, interacting, objects, conditions (when/do), iterations, repetition, loops (always), variable (score)	**Vocabulary:** iteration, repetitions, loops, object, path, variable	**Vocabulary:** level, platform, test, debug, variable, iteration, repetition, loops, condition, statement, input, equal to	**Vocabulary:** algorithm, plan, design, object, storyboard	**Vocabulary:** test, bugs, debug, amend, systematically
	Skills & Knowledge: 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; 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					
Term 3 **I Model**	**Ishape** LO: To understand the difference between 2D and 3D shapes and become familiar with basic 3D modelling tools.	**iDesign** LO: To understand that graphical models can easily be changed.	**iDevelop** LO: To use features of graphical modelling software to develop a 3D model.		**iEvaluate** LO: To evaluate and improve 3D models.	
	Vocabulary: 2D, 3D dimensions, model, graphic	**Vocabulary:** Graphic, model, 2D, 3D, resize, rotate, design, evaluate	**Vocabulary:** Graphic, model, 2D, 3D, resize, rotate, group, workspace, workplane, view.		**Vocabulary:** Graphic, model, 2D, 3D, resize, rotate, group, workspace, work plane, view, amend, evaluate, improve	
	Skills & Knowledge: 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.					
Term 4 **I Crypto**	**iDecipher** LO: To understand that messages can be sent and received secretly. LO: To learn to encrypt/decrypt simple messages.	**iSignal** LO: To understand signalling is a form of communication and communicate simple messages through signals.	**iCode** LO: To understand that messages can be sent electronically over distances and they are transmitted as binary. To encode and decode Morse code.	**iShift** LO: To encode/decode messages using a simple shift cipher.	**iCrackcodes** LO: To understand the algorithm of a simple shift cipher. To use frequency analysis to decipher encrypted text.	**iEnigma** LO: To understand the importance of cryptography and understand how the Enigma Machine operates.
	Vocabulary: cipher, code, encrypt, decrypt, code, cryptography, key	**Vocabulary:** signalling, semaphore, down, low, out, high, up, across	**Vocabulary:** communication, signal, message, data, binary, encode, decode, morse, dots, dashes, dit, dah, on, off	**Vocabulary:** encode, decode, encrypt, decrypt, cipher, decipher, key, shift	**Vocabulary:** encryption, decryption, encode, decode, cipher, decipher, key, pattern, frequency, analysis, shift	**Vocabulary:** cryptography, cipher, shift, key, polyalphabetic, enigma, plaintext, ciphertext
	Skills & Knowledge: 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; 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					
Term 5 **I Web**	**IShare** LO: To understand the world wide web is one of many services offered on the internet.	**iRemix** LO: To understand that many people remix content on the world wide web and	**iHack** LO: To know that HTML gives a web page structure. To change the picture on a webpage,	**iDecode** LO: To read basic HTML code.	**iPresent** LO: To use research for the creation of a website.	

		know that websites are written in HTML.			To upload an image for insertion into a website.		
	Vocabulary: internet, communicate, world wide web, email, instant messaging, skype, facetime, FTP	**Vocabulary:** world wide web, website, webpage, HTML code, hacking, remix	**Vocabulary:** HTML, CSS, code, web page, tag, element, internet browser, url, hyperlink, copyright, syntax	**Vocabulary:** internet, webpage, website, url, hyperlink, HTML, element, paragraph	**Vocabulary:** internet, web, webpage, website, url, hyperlink, HTML, CSS, tags, element		
	Skills & Knowledge: 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; 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; use technology safely, respectfully and responsibly						
Term 6 **I safe**	**iCommunicate** LO: To explore and identify methods of communication, understanding why people communicate.	**iPersonal** LO: To understand the concept of personal and private information. To understand the safety rules and responsible behaviour when using new technologies.	**iStaySafe** LO: To learn the SMART rules for using the internet. To explore the difference in communicating face-to-face and online.	**iTrust** LO: To explore the validity of online content, making sensible and considered judgements. To compare and contrast sources of information.	**iChat** LO: To understand how to chat sensibly and safely, making sensible and considered judgements about trusting online content.	**iKnowBullying** LO: To define cyber bullying and know what forms it takes. To understand what to do if confronted with cyber bullying.	
	Vocabulary: communication, e-safety, technology, internet, risk, benefit, personal, private	**Vocabulary:** communication, e-safety, technology, internet, risk, benefit, personal, private	**Vocabulary:** communication, e-safety, technology, internet risk, benefit, personal, private, SMART	**Vocabulary:** communication, e-safety, technology, internet, risk, benefit, personal, private, SMART, website, web address, search engine, search bar, trust, compare, user-friendly	**Vocabulary:** communication, e-safety, technology, internet, risk, benefit, personal, private, SMART, website, web address, chat, instant messaging	**Vocabulary:** communication, e-safety, technology, internet, risk, benefit, personal, private, SMART, website, web address, chat, instant messenger, text message, cyber bullying, bullying, definition	
	Skills & Knowledge: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact; use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content						

Year 6 – Medium Term Plans

Term 1 **I Program** **Unit 1**	**iControl** LO: To understand the difference between games and simulations To identify the various inputs that computer games can use	**iGame** LO: To program a computer game by sequencing conditional statements	**iPlan** LO: To understand that behaviour of a computer program should be planned To understand that programs are developed according to a plan	**iCode** LO: To program an algorithm according to a plan	**iDevelop** LO: To develop a program according to a plan	**iDebug** LO: To develop strategies for testing and debugging computer programs
	Vocabulary: control, input, output, simulation	**Vocabulary:** control, input, output, process, condition, statement, if, then	**Vocabulary:** design, plan, logical operators, variables	**Vocabulary:** algorithm, plan, sprite, costume, variable, iteration, test, bug	**Vocabulary:** algorithm, plan, sprite, costume, variable, iteration	**Vocabulary:** test, bug, debug, amend, systematically
	Skills & Knowledge: Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller arts; use sequence, selection and repetition in programs; Work with variables and various forms of input and output; Detect and correct errors in algorithms and programs.					
Term 2 **I Network**	**iConnect** LO: To understand that a computer network is a group of computers that are connected, which allows users to communicate and share	**iRoute** LO: To understand that the internet is many networks that are connected to each other. To know that a router sends/receives information as packets of data.	**iTrace** LO: To know that computers connected to the internet have their own address. To understand that services involving web pages on the internet are known as the World Wide Web and that websites can be traced to a particular webserver.	**iSearch** LO: To know that internet search engines maintain, and rank, a list (or index) of other websites available on the world wide web. To use clear search items when conducting internet searches in order to find things out.	**iCreate** LO: To know that web pages are written in HTML. To recognise the basic HTML syntax.	
	Vocabulary: network, internet, wired, wireless, data, devices, communicate, connected, LAN, WAN, network switch, router	**Vocabulary:** network, connect, internet, router, packet, data, address	**Vocabulary:** IP address, router, website, webserver, trace, url, World Wide Web, internet service providers (ISP)	**Vocabulary:** internet, world wide web, search engine, search terms, spider, crawling, algorithm	**Vocabulary:** website, webpage, browser, world wide web, hyperlink, image link, HTML, CSS, tags, URL, copyright	
	Skills & Knowledge: Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer fr communication and collaboration.					
Term 3 **I Data**	**iData** LO: To identify some parts of a spreadsheet. To identify cell references.	**iWorkItOut** LO: To understand that spreadsheets can be used to store numerical data and to make calculations. To understand that recalculations with different values can be done quickly.	**iCalculate** LO: To enter a formula to calculate totals. To enter numerical data into cells.	**iGraph** LO: To understand that graphs and charts can be created and easily changed from spreadsheet data.	**iSum** LO: To understand the SUM function can be used to create formulas at will. To use a spreadsheet to model a costing exercise.	

	Vocabulary: spreadsheet, cell, cell reference	**Vocabulary:** calculate, formula, cell, cell reference	**Vocabulary:** formula, sum, formula bar	**Vocabulary:** formula, cell, calculate, chart, graph	**Vocabulary:** calculate, formula, formulae, sum, modelling, variable	
	Skills & Knowledge: Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluation and presenting data and information.					
Term 4 **I App** **Unit 1**	**iMobile** LO: To understand the value of mobile technology and its future development.		. **iExplore** LO: To use development tools to create an app.		**iPlay** LO: To understand that procedures are a sequence of statements that can be called repeatedly using only one command. To create an app involving variables and procedures	
	Vocabulary: mobile, smart, phone, tablet, apps, technology, touch, communication, input, output		**Vocabulary:** components, events, properties, test, debug, program, code, android, iOS, operating system, hardware, software, conditional, handler		**Vocabulary:** sprite, component, event, event handler, co-ordinates, x and y, procedure, function, variables, data, value, type, call, argument	
	Skills & Knowledge: design, write and debug programs that accomplish specific goals, including controlling or simulation physical systems; solve problems by decomposing them into smaller parts; use sequence, selection, and repetition in programs; work with various 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.					
Term 5 **I App** **Unit 1**	**iPlan** LO: To understand that apps are developed according to a plan.		**iDevelop** LO: To develop an app according to a plan		**iDebug** LO: To develop strategies for testing computer games.	
	Vocabulary: design, plan, decomposition, algorithm, interface, interact, pseudo-code		**Vocabulary:** plan, algorithm, component, events, properties, test, bug		**Vocabulary:** test, bug, debug, amend, systematically	
	Skills & Knowledge: design, write and debug programs that accomplish specific goals, including controlling or simulation physical systems; solve problems by decomposing them into smaller parts; use sequence, selection, and repetition in programs; work with various 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.					
Term 6 **I Safe**	**iSecure** LO: To recognise the importance of never sharing passwords and screen locks. To know how to create passwords that are hard to guess and to select the right security for their login settings.	**iPrivate** LO: To customise privacy for the online services being used. To make decisions about sharing information on sites and services. To understand what two-factor and two-step verifications means and when to use them.	**iKind** LO: To identify situations of harassment or bullying online. To evaluate what it means to be a bystander or upstander online. To learn how to respond to bullying when you see it.	**iUpstand** LO: To see that being an upstander is a choice. To learn ways to intervene and choose how to respond to situations in a safe and appropriate way.	**iNice** LO: To express feelings and opinions in a positive, effective way. To respond to negativity in a constructive and civil way.	**iGetHelp/iReoprt** LO: To recognise that seeking help for oneself or others is a sign of strength. To be aware of online tools for reporting abuse and consider when to use them.
	Vocabulary: privacy, security, two-factor verification, encryption, complexity, hacker, strong password, personal information	**Vocabulary:** privacy settings, two-factor/two-step verification	**Vocabulary:** bullying, cyberbullying, conflict, bystander, upstander, harassment	**Vocabulary:** bullying, cyberbullying, bystander, upstander	**Vocabulary:** bullying, cyberbullying, positive, negative, comment	**Vocabulary:** communication, support, advice
	Skills & Knowledge: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.					