

# Computing Subject Overview

| Nursery  |   |  |  |  |   |   |
|--|---|--|--|--|---|---|
| Term   | Autumn Term   |  | Spring 1   | Spring 2   | Summer 1  | Summer 2  |
| <p><b>Mini Mash Objectives</b></p> <p><i>(these activities will be demonstrated with a short carpet focus and then children can explore those activities on ipads and laptops during provision time)</i></p> | <p><i>The focus this half term is establishing routines, building relationships with children and ensuring they can use the environment/areas of the classroom effectively.</i></p> |  | <p><b>Games:</b><br/>I can use drag and drop to complete a jigsaw (4 piece)</p> <p><b>Numbers &amp; Counting:</b><br/>I can click to identify which is taller.</p> <p>I can click to identify which is longer.</p> | <p><b>Paint Project</b><br/>I can click and drag to fill a picture (animal or any of the other options)</p> <p><b>Number &amp; Countings:</b><br/>Number paint project 1: I can click and drag to trace a number and draw a picture (numbers 1-5)</p> <p>E-Safety: Stranger Danger</p> | <p><b>Games:</b><br/>I can use drag and drop to complete a jigsaw (6 piece)</p> <p><b>Number &amp; Countings:</b><br/>Number paint project 2: I can click and drag to trace a number and draw a picture (numbers 5-10)</p> <p><b>Reading &amp; writing:</b><br/>I can complete an initial sound quiz by clicking the sound button and clicking the correct word (m, a, s, d, t, i, n, p, g, o, c, k, u)</p> | <p><b>Games:</b><br/>I can click to complete a 4 or 6 card pairs game.</p> <p><b>Reading &amp; writing:</b><br/>I can complete an initial sound quiz by clicking the sound button and clicking the correct word (b, f, e, l, h, r, j, v, y, w, z, q, x)</p> <p><b>Number &amp; Countings:</b><br/>I can drag and drop to complete an ordering numbers quiz (1-5).</p> |
| <b>Computing specific Vocabulary</b>   |   |  | drag, drop, click, hold  | drag, drop, click, hold, fill, image   | select, drag, drop, click, hold, fill, image, order, trace  | select, drag, drop, click, hold, fill, image, order, trace, pattern   |

**Reception**

|   | <b>Autumn 1</b>  | <b>Autumn 2</b>   | <b>Spring 1</b>  | <b>Spring 2</b>   | <b>Summer 1</b>  | <b>Summer 2</b>   |
|---|--|---|--|---|--|---|
| <p><b>Mini Mash/iCompute</b></p> <p><b>See iCompute website Lesson Plans for objectives and specific vocabulary</b></p> | <p><b>Mini Mash -</b><br/>L1 - <b>Numbers &amp; Counting</b> - Ladybird<br/>To click and drag to form a number.</p> <p>L2 - <b>Numbers &amp; Counting</b><br/>- Ordering numbers quiz.<br/>One more and one less. To click and select the correct answer.</p> <p>L3 - <b>Reading &amp; Writing</b> - Phonics, Phase 2 spellings.<br/>Click and drag the missing sound.</p> | <p><b>Mini Mash -</b><br/>L1, 2 &amp; 3 - <b>Reading &amp; Writing</b> - 'My Simple Story'<br/>To click, drag, drop and type to draw a picture and type a label or caption.</p> | <p><b>iCompute</b> computing lessons:</p> <p><b>L1 - iMke Algorithms</b><br/>- To understand that nursery rhymes involve sequences<br/><br/>-To create simple flow charts for popular nursery rhymes</p> <p><b>L2 - iMake Pixel Art</b><br/>- To decode simple digital images by colouring pixels</p> <p><b>L3 - iMake Art</b><br/>- To identify and compare simple 2D shapes<br/>- To use digital tools to create artwork</p> | <p><b>iCompute</b> computing lessons:</p> <p><b>L1 - iMake Media</b><br/>- To understand that devices can be used to capture images<br/>- To explore using software to combine images, sound and text</p> <p><b>L2 - iCan Move</b><br/>- To develop basic mouse skills</p> <p><b>L3 - iCan Turn</b><br/>- To program a toy to move and make turns</p> | <p><b>iCompute</b> computing lessons:</p> <p><b>L1 - iCan animate</b><br/>- To create a simple animation using stop motion</p> <p><b>L2 - iCan Model</b><br/>- Compare real life and virtual situations<br/>- Begin to understand that computers can represent real or imaginary situations</p> <p><b>L3- iCan Direct</b><br/>- To give and follow simple directions</p> | <p><b>iCompute</b> computing lessons:</p> <p><b>L1 - iStay Safe</b><br/>- To understand that the Internet can be used to visit places and learn from<br/>- To compare staying safe online to staying safe in the real world</p> <p><b>L2 - iSearch Online</b><br/>- To search digital content</p> <p><b>L3 - iCan program</b><br/>- To give simple commands to a programmable toy</p> |
| <b>Key Vocab</b>  | <b>click, drag, drop, number, order, more, less, select</b>  | <b>click, drag, drop, picture, letters, keyboard, draw</b>  | <b>before, after, first, next, last, image, pixel, pattern, shape</b>  | <b>picture, image, photograph, playing, together, control, forward, backward, turn, instruction</b>   | <b>animation, real, pretend, model, up, down, forward, backward, direction</b>   | <b>internet, online, website, picture, letters, search, program, code, go, forward, backwards, left, right</b>  |

| <b>Year 1</b> |  |   |   |   |  |  |
|---------------|--|---|---|---|--|--|
|               | <b>Autumn 1</b>  | <b>Autumn 2</b>   | <b>Spring 1</b>   | <b>Spring 2</b>   | <b>Summer 1</b>  | <b>Summer 2</b>  |
| <b>Unit</b>   | <b>iDraw</b>   | <b>iModel</b>   | <b>iSafe</b>  | <b>iAlgorithm</b>   | <b>iProgram</b>  | <b>iWrite</b>  |
|               | <p><b>Lesson 1: iMark</b><br/>The children explore how computer models work and learn that they can be used to represent real or imaginary environments, situations and scenarios.</p> | <p><b>Lesson 1: iDress</b><br/>The children explore how computer models work and learn that they can be used to represent real or imaginary environments, situations and scenarios.</p> | <p><b>Lesson 1: iWatch</b><br/>To understand what being online means, how it feels and how to identify adults who can help</p>          | <p><b>Lesson 1: ifollow</b><br/>To understand that algorithms are precise instructions that can be followed<br/>To follow a simple algorithm<br/>To devise a simple algorithm</p> | <p><b>Lesson 1: iRobot</b><br/>The children identify everyday devices that perform an action in response to an instruction</p> | <p><b>Lesson 1: iText</b><br/>The children engage in a carousel of activities producing text in different ways</p> |
|               | <p><b>Lesson 2: iShape Up</b><br/>To investigate simple digital mark-making tools</p>  | <p><b>Lesson 2: iDecide</b><br/>To understand that computers can be used to make choices</p>  | <p><b>Lesson 2: iPlay</b><br/>To understand that people online may try to manipulate others and where to go for help if you need it</p> | <p><b>Lesson 2: iSilly</b><br/>To understand that programs execute by following precise and unambiguous instructions</p>  | <p><b>Lesson 2: iControl</b><br/>Programming toys to move</p>  | <p><b>Lesson 2: iSentence</b><br/>The children use word processing software to create text</p>                     |
|               | <p><b>Lesson 3: iCopy</b><br/>To create digital art in the style of an artist</p>  | <p><b>Lesson 3: iVenture</b><br/>To understand that a computer can be used to model an environment where choices can be made</p>  | <p><b>Lesson 3: iShare</b><br/>To understand that photographs can be shared online and that permission is needed</p>                    | <p><b>Lesson 3: iSay</b><br/>To test and debug a simple algorithm</p>   | <p><b>Lesson 3: iPlan</b><br/>Planning, testing and debugging a sequence of instructions that moves a programmable toy</p>     | <p><b>Lesson 3: iTell</b><br/>The children construct a simple story using a word processor and a word bank</p>     |

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|            | <p><b>Lesson 4: illustrate</b><br/>To explore a range of digital drawing tools</p>                 | <p><b>Lesson 4: iRepresent</b><br/>To create a representation of a real or fantasy game or story</p>       | <p><b>Lesson 4: iPlay More</b><br/>To understand online manipulation and where to go to for help if you need it</p> | <p><b>Lesson 4: iBuild</b><br/>To predict the outcome of an algorithm</p>   | <p><b>Lesson 4: iProgram</b><br/>Programming virtual toys with directional commands</p>                        | <p><b>Lesson 4: iReview</b><br/>The children practise keyboard skills and type text about themselves</p>        |
|            | <p><b>Lesson 5: iCompile</b><br/>To create a representation of a real or fantasy game or story</p> |  |   | <p><b>Lesson 5: iCompose</b><br/>To understand conditions and outcomes</p>  | <p><b>Lesson 5: iHunt</b><br/>Recording instructions and programming objects to move to specific locations</p> |   |
| Vocabulary | Line, fill, undo, brush tools, paint, shape, colour, eBook, import, upload, edit                   | Mouse, point, click, drag, algorithm, instructions, drop, left click, choose, decide, real, fantasy, model | Trusted adult, online, manipulate, approach, shared, permission   | Sequence, instruction, forward, backwards, up, down, algorithm, debug, pattern, repeat, true, false, commands, code | Device, signal, instructions, respond, input, output, step, program, debugging, algorithm, sequence            | Return, backspace, spacebar, scroll, text, mouse, click, shift, user, connect, word, keys, keyboard, save, bold |

| Year 2                     |  |   |  |  |  |  |
|----------------------------|--|---|--|--|--|--|
|                            | Autumn 1   | Autumn 2  | Spring 1   | Spring 2   | Summer 1   | Summer 2   |
| <b>Unit</b>                | iAnimate   | iAnimate  | isafe  | iProgram1  | iBlog  | iProgram2  |
| <b>Learning objectives</b> | <p><b>Lesson 1: iFlip</b></p> <p>To understand what an animation is</p>  | <p><b>Lesson 4: iScript</b></p> <p>To understand that animations need to be scripted</p>  | <p><b>Lesson 1: iWatch</b></p> <p>To understand what being online means, how it feels and how to identify adults who can help</p>          | <p><b>Lesson 1: iSequence</b></p> <p>To understand algorithms can describe everyday activities and can be followed by humans and computers</p> | <p><b>Lesson 1: iLog In</b></p> <p>To log in to a class blog</p> <p><b>Lesson 2: iWrite</b></p> <p>To know how to respond to the writing of others</p> | <p><b>Lesson 1: iRescue</b></p> <p>To program an animation using motion blocks</p>                     |
|                            | <p><b>Lesson 2: iDesign</b></p> <p>To understand that an animation consists of characters, a stage, props, sound, text and a story</p> | <p><b>Lesson 5: iCreate</b></p> <p>To understand that stop-frame animations involve physical characters, settings and props</p> | <p><b>Lesson 2: iPlay</b></p> <p>To understand that people online may try to manipulate others and where to go for help if you need it</p> | <p><b>Lesson 2: iInstruct</b></p> <p>To understand that algorithms are made up of steps, some of which can be repeated</p>                     | <p><b>Lesson 3: iPost</b></p> <p>To know how to post on a blog</p>   | <p><b>Lesson 2: iBehave</b></p> <p>To use sequence, triggers, and movement in computer programs</p>    |
|                            | <p><b>Lesson 3: iStoryboard</b></p> <p>To understand the importance of a storyboard in the story planning process</p>                  | <p><b>Lesson 6: iFilm</b></p> <p>To create a stop-motion animation</p>  | <p><b>Lesson 3: iShare</b></p> <p>To understand that photographs can be shared online and that permission is needed</p>                    | <p><b>Lesson 4: iMove</b></p> <p>To program a simple animation involving movement</p>  | <p><b>Lesson 4: iJustify</b></p> <p>To explain what you think and why</p>  | <p><b>Lesson 3: iExplore</b></p> <p>To use sequence, selection and repetition in computer programs</p> |

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|------------|--|--|--|--|---|---|
|            |  |  | <p><b>Lesson 4: iPlay More</b></p> <p>To understand online manipulation and where to go to for help if you need it</p> | <p><b>Lesson 6: iCreate</b></p> <p>To combine images and text to create a simple animation</p>   | <p><b>Lesson 5: iBlog</b></p> <p>To use a blog to demonstrate and share learning</p>  | <p><b>Lesson 4: iGrow</b></p> <p>To use events, triggers and sequences in programs</p>              |
| Vocabulary | <p>Stop motion, image, animate[tion], movie, character, flipbook, background, stage, sound, a udio, test, storyboard</p> | <p>Animation, characters, scene, stop motion, storyboard, script, setting, props, shot</p> | <p>personal, information, trust, safe, online, trustworthy, untrustworthy, emotions,</p>                               | <p>Algorithm, instructions, sequence, input, output, process, list, steps, order, repeat, cut, paste, undo, redo, copy, sprite, statement, execute, edit, undo, redo</p> | <p>Blog online, website, text, images, audio, video, webpage, hyperlink, login, username, password, post, response, comment, publish, evidence, evaluate,</p> | <p>programming, coding, algorithm, sequence, sprite, trigger, execute, messages, send, receive,</p> |

| <b>Year 3</b>              |   |  |   |   |   |   |
|----------------------------|---|--|---|---|---|---|
|                            | <b>Autumn 1</b>   | <b>Autumn 2</b>  | <b>Spring 1</b>   | <b>Spring 2</b>   | <b>Summer 1</b>   | <b>Summer 2</b>   |
| <b>Unit</b>                | iProgram  | iSimulate  | iSafe   | iNetwork  | iConnect  | iData   |
| <b>Learning objectives</b> | <p><b>Lesson 1: iMove</b><br/>To program an animation that executes a sequence of statements</p>      | <p><b>Lesson 1: iExplore</b><br/>To understand that computer simulations can represent real or imaginary situations</p>                    | <p><b>Lesson 1: iBlock</b><br/>To understand some measures that can be taken to stay safe</p>                           | <p><b>Lesson 1: iMap</b><br/>To understand what a network is</p>  | <p><b>Lesson 1: iConnect</b><br/>To understand that the internet is many computers that are connected</p> | <p><b>Lesson 1: iRecord</b><br/>To understand how information in a database is organised</p>                    |
|                            | <p><b>Lesson 2: iExplore</b><br/>To understand that programs with graphics use x/y coordinates</p>    | <p><b>Lesson 2: iRule</b><br/>To understand that computer simulations are guided by rules</p>  | <p><b>Lesson 2: iFind Out</b><br/>To understand potential consequences of sharing without consent</p>                   | <p><b>Lesson 2: iConnect</b><br/>To know key parts of a computer network</p>  | <p><b>Lesson 2: iSurf</b><br/>To use basic navigation skills to browse the world wide web</p>             | <p><b>Lesson 2: iCompare</b><br/>To understand the advantages of a computer based database over a paper one</p> |
|                            | <p><b>Lesson 3: iAnimate</b><br/>To program a sequence of instructions that create visual effects</p> | <p><b>Lesson 3: iAdventure</b><br/>To explore the effect of changing variables in a simulation using them to make and test predictions</p> | <p><b>Lesson 3: iFriend</b><br/>To understand some of the ways we can protect ourselves online against manipulation</p> | <p><b>Lesson 3: iNet</b><br/>To understand that the internet is the physical connections between computers and networks</p> | <p><b>Lesson 3: iBrowse</b><br/>To know the main features of web browsers</p>                             | <p><b>Lesson 3: iAdd</b><br/>To find and enter information to create additional records in a database</p>       |

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|                          | <p><b>Lesson 4: iMake Music</b></p> <p>To understand that algorithms and programs can involve repetition</p>   | <p><b>Lesson 4: iCircuit</b></p> <p>To understand that simulations help us understand difficult concepts</p> | <p><b>Lesson 4: iFeel</b></p> <p>To understand the ways the internet can make young people feel about themselves</p>  | <p><b>Lesson 4: iAddress</b></p> <p>To understand that devices on networks have a unique address</p>  | <p><b>Lesson 4: iSearch</b></p> <p>To understand how to find information using a search engine</p>   | <p><b>Lesson 4: iTravel</b></p> <p>To demonstrate the knowledge skills and understanding they have learned during this unit</p> |
|                          | <p><b>Lesson 5: iShape Up</b></p> <p>To use a repeat function to draw a 2D shape</p>   | <p><b>Lesson 5: iSim</b></p> <p>To design and produce a computer simulation or adventure game</p>            | <p><b>Lesson 6: iChat</b></p> <p>To identify several different forms advertising can take online</p>  |   | <p><b>Lesson 5: iCheck</b></p> <p>To know the basic steps that can help distinguish safe and credible websites</p>   |   |
| <p><b>Vocabulary</b></p> | <p>Sprite, blocks, programming, coordinates, up, down, left, right, if, axis, sequence, animate, repeat, loop, import, record, repeat, internet, image</p> | <p>Simulation, choice, rules, variables, model, pattern, predict, decision, design, effect</p>               | <p>post, message, share, privacy, settings, like/dislike, block, comment, public, private, threat, manipulation, bribe, offers, flatter, self-esteem, body image, isolate, fans, advertise, ads, target, pop up, vlog, endorse, email, website,</p> | <p>Network, connect, network switch, server, wireless access point (WAP), Device, WIFI, router, Local Area Network [LAN], URL, Domain Name Server [DNS], Internet protocol [IP]</p> | <p>Network, internet, world wide web, email, communicate, connected, forward, backwards, home, router, data, images, text, audio, hyperlinks, browser, refresh/reload, address bar, URL, favourite icon, default, navigate</p> | <p>Database, record, question, field data, internet</p>   |



| <b>Year 4</b>              |  |   |   |   |  |  |
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|                            | <b>Autumn 1</b>  | <b>Autumn 2</b>   | <b>Spring 1</b>   | <b>Spring 2</b>   | <b>Summer 1</b>  | <b>Summer 2</b>  |
| <b>Unit</b>                | iProgram1  | iData   | iSafe   | iAnimate  | iAlgorithm   | iProgram 2   |
| <b>Learning objectives</b> | <b>Lesson 1: iMake Blocks</b><br>To understand the need to reuse code in programming             | <b>Lesson 1: iBinary</b><br>To understand that computers represent data as numbers and count using switches of 'on' and 'off' (0 and 1) | <b>Lesson 1: iPrivate</b><br>Distinguish between personal information, which is safe to share online, and private information, which is unsafe to share | <b>Lesson 1: iFlip</b><br>To understand what an animation is                                | <b>Lesson 1: iSort</b><br>To understand that information is easier to find in a sorted order   | <b>Lesson 1: iDraw</b><br>To program a turtle to execute a sequence of statements                                  |
|                            | <b>Lesson 2: iSync</b><br>To understand that action can be programmed to synchronise             | <b>Lesson 2: iSort</b><br>To sort record cards using field names  | <b>Lesson 2: iPower</b><br>Generate solutions for dealing with cyberbullying  | <b>Lesson 2: iDraw</b><br>To create a scene for an animation                                | <b>Lesson 2: iNetwork</b><br>To understand that splitting problems up and solving parts at the same time can speed up finding a solution | <b>Lesson 2: iWrite</b><br>To understand that computer programs consist of statements that perform a specific task |
|                            | <b>Lesson 3: iScene</b><br>To understand that broadcasts can be used to change scenes in Scratch | <b>Lesson 3: iEnter</b><br>To understand that storing information in an organised way helps answer questions                            | <b>Lesson 6: iKnow</b><br>Spam<br>Explore strategies for safely managing unwanted messages  | <b>Lesson 3: iFrame</b><br>To understand that animations can be created using digital tools | <b>Lesson 3: iMarch</b><br>To understand that algorithms are a set of instructions that complete a task                                  | <b>Lesson 3: iShape Up</b><br>To amend an algorithm to change the size of a shape                                  |
|                            | <b>Lesson 4: iDebug</b><br>To detect and correct errors in a computer program                    | <b>Lesson 4: iSearch</b><br>To search a database to answer questions  | <b>Lesson 7: iCommunicate</b><br>Analyse why private information should not be given to anyone online without the permission of a trusted adult         | <b>Lesson 4: iScene</b><br>To create an animated scene                                      | <b>Lesson 4: iLocate</b><br>To use decomposition to approach problems  | <b>Lesson 4: iRobot</b><br>To program a virtual robot to move and draw   |

|            | <b>Lesson 5: iCreate</b><br>To understand that code can be remixed and reused to create new content  | <b>Lesson 5: iChart</b><br>To use the information in a database to create a simple chart                 | <b>Lesson 8: iBeat</b><br>Cyberbullying<br>Identify strategies for dealing responsibly with cyberbullying   | <b>Lesson 5: iProduce</b><br>To storyboard and create a short animation   | <b>Lesson 5: iGraph</b><br>To use logical reasoning and abstraction to design algorithms  | <b>Lesson 5: iDesign</b><br>To design a program that makes choice  |
|------------|--|--|---|---|---|--|
| Vocabulary | Coding, programming, reusing, procedure, custom block, pattern recognition, wait, broadcast, timing, scene, backdrop, message, sequence, debug, fix, test, | Binary, series, base, on, off, data, digital, information, record, field, file, database, search, chart, | register, personal & private information, identity theft, cyberbully, keywords, precise, results, spam, computer virus, monitor, track, target, empathise, by/upstander | Image, camera, animation, stop, motion, illusion, onion skin, animator, frame, dimension, frame rate, FPS[frames per second] CGI [computer generated images] GIF [graphics interchange format] 3D, design, plan, storyboard | Order, compare, measure, sort, select, greater/less than, left, right, node, model, decomposition, abstraction, algorithm, optimisation, logical reasoning, computational thinker | Turtle, repeat, angles, degrees, repeat, value, remote control, condition, if, then, true, false, execute, statement, repeat |

| Year 5                     |   |   |   |   |   |   |
|----------------------------|---|---|---|---|---|---|
|                            | Autumn 1  | Autumn 2  | Spring 1  | Spring 2  | Summer 1  | Summer 2  |
| <b>Unit</b>                | iCrypto   | iDraw   | iSafe   | iWeb  | iProgram  | iProgram  |
| <b>Learning objectives</b> | <b>Lesson 1: iDecipher</b><br>To understand that messages can be sent and received secretly | <b>Lesson 1: iCreate</b><br>To understand that digital tools can be used to create images   | <b>Lesson 1: iCommunicate</b><br>To understand the risks and benefits of various modes of communication | <b>Lesson 1: iShare</b><br>To understand that the world wide web is one of the services offered on the internet | <b>Lesson 1: iMove</b><br>To understand that computer programs containing graphics use x y coordinates and turns are measured in degrees                    | <b>Lesson 5: iScore</b><br>To program statements that make something happen in response to the value of a variable                      |
|                            | <b>Lesson 2: iSignal</b><br>To understand signalling is a form of communication             | <b>Lesson 2: iShape</b><br>To understand that vector images are made up of shapes and lines | <b>Lesson 2: iPersonal</b><br>To understand the concept of personal and private information             | <b>Lesson 2: iRemix</b><br>To understand that many people remix content to work on the world wide web           | <b>Lesson 2: iSense</b><br>To understand that programs can do different things if the value of a boolean variable is true or false (conditional statements) | <b>Lesson 6: iDesign</b><br>To develop an outline of tasks and activities required to develop a project                                 |
|                            | <b>Lesson 3: iCode</b><br>To understand that data can be transmitted as binary (on or off)  | <b>Lesson 3: iDetail</b><br>To use digital tools to improve detail in images                | <b>Lesson 3: iStay Safe</b><br>To learn the SMART rules for being online                                | <b>Lesson 3: iHack</b><br>To know that HTML gives a web page structure  | <b>Lesson 3: iNavigate</b><br>To program statements that make something happen in response to events on screen  | <b>Lesson 7: iCode</b><br>To use the computational concepts of sequence, selection, repetition and variables to program a computer game |
|                            | <b>Lesson 4: iShift</b><br>To encode/decode messages using a simple shift cipher            | <b>Lesson 4: iLayer</b><br>To understand that vector images are constructed of layers       | <b>Lesson 5: iChat</b><br>To understand how to chat sensibly and safely                                 | <b>Lesson 4: iDecode</b><br>To read basic HTML code   | <b>Lesson 4: iVary</b><br>To be able to understand what a variable is and why they are useful   | <b>Lesson 8: iTest</b><br>To develop strategies for testing and debugging computer programs   |

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|            | <b>Lesson 5: iCrack Code</b><br>Understand the algorithm of a simple shift cipher   | <b>Lesson 5: iDesign</b><br>To design and create vector images  | <b>Lesson 6: iKnow Bullying</b><br>To understand what to do if confronted with cyber bullying  | <b>Lesson 5: iPresent</b><br>To use research for the creation of a website  |   |  |
| Vocabulary | Cipher, code, encrypt, decrypt, cryptography, key, signalling, semaphore, message, data, binary, encode, decode, morse, dots and dashes, dit, dah | Tools, area, resize, rotate, toolbar, handles, canvas, undo, redo, fill, vector, stamp, duplicate, layer, send backwards, send forwards, zoom, resize, design, evaluate, improve, order, position | communication, internet, risk, personal, private, SMART, website, address, search engine, search bar, compare, user-friendly, cyber-bullying, benefit, | Internet, communicate, world wide web, email, instant messaging, HTML code, hacking, CSS, element, copyright, syntax, | Sprite, xy coordinates, condition, if/then statements,<br><br>Boolean, sense, vary, change, data, type, string, memory, store | Sprite, xy coordinates, condition, if/then statements,<br><br>Boolean, sense, vary, change, data, type, string, memory, store, design, storyboard, input, sequence, output, test, debug, amend, systematically |

| <b>Year 6</b> |                 |                 |                 |                 |                 |                 |
|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|               | <b>Autumn 1</b> | <b>Autumn 2</b> | <b>Spring 1</b> | <b>Spring 2</b> | <b>Summer 1</b> | <b>Summer 2</b> |
| <b>Unit</b>   | iNetwork        | iProgram        | iData/isafe     | iModel          | iApp            | iApp            |

|                            |  |   |   |  |  |  |
|----------------------------|--|---|---|--|--|--|
| <b>Learning objectives</b> | <b>Lesson 1: iConnect</b><br>To understand that a computer network is a group of computers that are connected  | <b>Lesson 1: iControl</b><br>To identify the various inputs that computer games can use   | <b>Lesson 1: iCell</b><br>To identify some parts of a spreadsheet   | <b>Lesson 1: iShape</b><br>To become familiar with basic 3D modelling tools                        | <b>Lesson 1: iMobile</b><br>To understand the value of mobile technology and its future development      | <b>Lesson 5: iPlan</b><br>To understand that apps are computer programs that are developed according to a plan |
|                            | <b>Lesson 2: iRoute</b><br>To understand that the internet is many networks that are connected to each other   | <b>Lesson 2: iGame</b><br>To program a computer game by sequencing conditional statements | <b>Lesson 2: iWork it Out</b><br>To understand that spreadsheets can be used to store numerical data and to make calculations | <b>Lesson 2: iDesign</b><br>To understand that graphical models can easily be changed              | <b>Lesson 2: iExplore</b><br>To explore event-driven programming using a text-based programming language | <b>Lesson 6: iDevelop</b><br>To develop an app according to a plan   |
|                            | <b>Lesson 3: iTrace</b><br>To know that computers connected to the Internet have their own address   | <b>Lesson 3: iPlan</b><br>To understand that programs are developed according to a plan   | <b>Lesson 3: iCalculate</b><br>To enter a formula to calculate totals   | <b>Lesson 3: iDevelop</b><br>To use features of graphical modelling software to develop a 3D model | <b>Lesson 3: iPaint</b><br>To understand the importance of decomposition in programming                  | <b>Lesson 7: iDebug</b><br>To develop strategies for testing and debugging computer programs                   |
|                            | <b>Lesson 4: iSearch</b><br>To know that internet search engines maintain, and rank, a list (or index) of other websites available on the world wide web | <b>Lesson 4: iCode</b><br>To program an algorithm according to a plan                     | <b>Lesson 4: iRecord</b><br>To understand that graphs and charts can be created and easily be changed from spreadsheet data   | <b>Lesson 3: iDevelop</b><br>To use features of graphical modelling software to develop a 3D model | <b>Lesson 4: iTap</b><br>To use algorithms to develop a solution to a problem                            |  |
|                            |  |   | <b>E Safety</b><br><b>Lesson 3: iPlay</b><br>Put into practice what they have learnt about privacy and security               |  |  |  |

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| Vocabulary | Network, internet, wired, wireless, data, devices, communicate, connected, LAN, WAN, network switch, router, packet, data, address, ISP[internet service providers] WWW [world wide web]trace, URL, ranking, algorithm, crawling, spider, search terms, search engine. | Control, input, output, simulation, condition, statement (if, then), design, plan, logical operators, variables, sprite, plan, test, bug, iteration, | Spreadsheet, cell, cell reference, calculate, format cell, formula, SUM, + - * /, Chart, graph, update, | 2D, 3D, dimensions, model, graphics, resize, scale, pan, orbit, rotate, component, workspace, view, amend, 3D model, import | Events, test, debug, conditional, test, syntax, assets, commands, decomposition, event, variables, function, design, abstraction, algorithm, pseudo-code, input, process, output, function, interface, parameters, amend |
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