


Year 1	National Curriculum Links	Working Towards	Meeting	Greater Depth
iAlgorithm 	<ul style="list-style-type: none"> understand what algorithms are; how they are how 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 	<ul style="list-style-type: none"> Read a set of instructions and sometimes predict the correct outcome Produce instructions but sequence them incorrectly or make assumptions 	<ul style="list-style-type: none"> Read a set of instructions and usually predict the correct outcome Give simple instructions to make things happen and understand that this is called an algorithm Make changes to instructions if they are wrong 	<ul style="list-style-type: none"> Plan and give clear instructions to make things happen Give instructions using an agreed format Use algorithms to solve simple problems Produce a sequence of instructions that result in planned outcomes Debug a sequence of instructions when things do not go as planned
iProgram 	<ul style="list-style-type: none"> 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 recognise common uses of information technology beyond school 	<ul style="list-style-type: none"> Read a set of instructions and sometimes predict the correct outcome Produce instructions but sequence them incorrectly or make assumptions 	<ul style="list-style-type: none"> Read a set of instructions and usually predict the correct outcome Produce a set of instructions that others can usually follow 	<ul style="list-style-type: none"> Read a set of instructions and predict the correct outcome Produce an accurate set of instructions using agreed language that others can follow
iWrite 	<ul style="list-style-type: none"> To use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school 	<ul style="list-style-type: none"> Type words using a keyboard Use a word bank to create simple sentences with support Open, save and print documents with support 	<ul style="list-style-type: none"> Type simple sentences using a keyboard Use a word bank to construct meaningful sentences Open, save and print documents 	<ul style="list-style-type: none"> Use software applications to create meaningful sentences Use a keyboard and word bank confidently
iData 	<ul style="list-style-type: none"> use technology purposefully to create, organise, store, manipulate and retrieve digital content 	<ul style="list-style-type: none"> collect simple data organise data into simple charts and graphs, sometimes with help 	<ul style="list-style-type: none"> collect data and construct simple charts and graphs make observations about graphs 	<ul style="list-style-type: none"> collect data and construct charts with more sets of data use graphs to answer a range of questions



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		<ul style="list-style-type: none"> answer questions using a simple graph use a graphing tool to select appropriate icons, recognise quantities and create a pictogram 	<ul style="list-style-type: none"> answer simple questions using graphs make statements about the information simple graphs tell them ask questions about graphs enter information into a graphing tool 	<ul style="list-style-type: none"> create their own questions that can be answered using a graph make comparisons between data on a graph use a graphing tool to select appropriate icons; recognise quantities and create a pictogram; make comparisons, such as 'twice as many'
iModel 	<ul style="list-style-type: none"> To use technology purposefully to create, organise, store, manipulate and retrieve digital content 	<ul style="list-style-type: none"> Use a mouse to point, click, and drag objects around a screen with support Make simple choices about pictures on a screen Navigate to a specific page with support Print work with support 	<ul style="list-style-type: none"> Confidently use a mouse to point, click and drag objects around a screen Make choices, explore alternatives and discuss those made Navigate a selection of related pages Add simple labels to images Print work 	<ul style="list-style-type: none"> Communicate accurately to others aspects of specific screens and resources Learn independently how to use specific resource and screens Explain how alternative choices may affect outcomes
iDraw 	<ul style="list-style-type: none"> use technology purposefully to create, organise, store, manipulate and retrieve digital content recognise common uses of information technology beyond school 	<ul style="list-style-type: none"> have explored a limited range of digital drawing tools choose appropriate shapes for digital art know that different paint tools do different jobs understand that digital tools can be useful for creating art save and retrieve work with support 	<ul style="list-style-type: none"> use the shape and line tools effectively use appropriate shape and colours in digital art use appropriate paint tools to create particular effects be able to compare creating a picture using computers with manual methods talk about how they have used the computer to create a picture save and retrieve work 	<ul style="list-style-type: none"> be able to explain why a particular tool has been chosen and its effect explain which paint tools were helpful and why for creating digital art talk about their preferences reflect on their work and act on feedback to improve it



Year 1	National Curriculum Links	Working Towards	Meeting	Greater Depth
<p>iLearnAI</p> 	<ul style="list-style-type: none"> use technology purposefully to create, organise, store, manipulate and retrieve digital content recognise common uses of information technology beyond school 	<ul style="list-style-type: none"> knows that machines can appear to be 'smart' understands AI is part of everyday life but sometimes struggle to provide examples can follow simple commands in role-play but may need assistance can sort information but sometimes require guidance can use simple AI tools with support 	<ul style="list-style-type: none"> knows AI systems are trained by humans and can simulate intelligence and can sometimes make mistakes can give and follow commands in role-play exercises can categorise information accurately using the criteria can talk about examples of AI in everyday life, such as smart speakers or robotic vacuums can use simple AI tools (e.g. to draw and write) 	<ul style="list-style-type: none"> knows computers can simulate intelligence knows that AI systems learn from examples understands AI can be unreliable and it needs to be checked knows AI can assist in creative tasks and simulate intelligence



Year 1	National Curriculum Links	Working Towards	Meeting	Greater Depth
isafe 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Knows that some information is personal (E.g. name & address) Can identify some characteristics of trustworthy/untrustworthy people but gives inappropriate justification (E.g. trustworthy because they are being nice) Understands that personal information should only be given to trusted people but the trust can be misplaced (see above) Understands that sharing pictures may sometimes not be appropriate and can have negative consequences Understands that people can sometimes be mean online 	<ul style="list-style-type: none"> Understand that various information is personal (E.g. hobbies) Can usually identify characteristics of trustworthy people Know that personal information should only be given to trusted people Can give examples of when it may and may not be appropriate to share pictures Knows that people can bully and be bullied online 	<ul style="list-style-type: none"> Understands that a wider range of information is personal (E.g. regular attendance at a specific place) Can identify a variety of characteristics of trustworthy people and justifies opinions appropriately Knows that personal information should only be given to trusted people Understands the potential negative consequences of sharing a range of digital media and information online Can identify a range of bullying behaviours and talk about a number of ways to deal with them



Year 2	National Curriculum Links	Working Towards	Meeting	Greater Depth
iProgram 	<ul style="list-style-type: none"> 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 use technology purposefully to create, organise, store, manipulate and retrieve digital content 	<ul style="list-style-type: none"> Know that Scratch can be given commands to produce specific effects on screen Produce a command that achieves a simple effect (E.g. movement) 	<ul style="list-style-type: none"> Execute short a sequence of commands that results in an effect Move a sprite in one direction on screen using steps Program and test a simple program 	<ul style="list-style-type: none"> Program a sequence of commands that results in a number of planned effects Test and correct simple programs Evaluate their own work and comment on improvements
iSearch 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Use a link to access a website Navigate a website using hyperlinks Find out answers to questions using a website with help 	<ul style="list-style-type: none"> Use a link to find a website Confidently navigate a website Select information in a website Find answers to questions using a website Discuss their findings 	<ul style="list-style-type: none"> Make decisions about how useful a website is for a purpose Demonstrate how they found specific information in a website Make choices about the kind of information they collect from websites
iAnimate 	<ul style="list-style-type: none"> use technology purposefully to create, organise, store, manipulate and retrieve digital content 	<ul style="list-style-type: none"> understand showing pictures quickly can look like movement plan a simple stop-motion scene with support create a simple script with support produce a short stop-motion animated scene using digital tools with support talk about what they like/dislike about an animation 	<ul style="list-style-type: none"> Know that that stop-motion animations are created by capturing images with small movements in between each image Understand that showing images rapidly with small changes in between simulates motion plan a short animated scene using a basic storyboard 	<ul style="list-style-type: none"> know that animations consist of a number of different images that are played rapidly plan an animated scene for an audience using a detailed storyboard Use a storyboard to created a detailed script for an animated scene produce a simple stop-motion animated scene using animation software



Year 2	National Curriculum Links	Working Towards	Meeting	Greater Depth
<p>iPub</p>			<ul style="list-style-type: none"> create a simple script based on a storyboard create an short stop-motion animated scene using digital tools 	<ul style="list-style-type: none"> add effects to enhance a simple stop-motion animation edit own work to make improvements
	<ul style="list-style-type: none"> To use technology purposefully to create, organise, store, manipulate and retrieve digital content 	<ul style="list-style-type: none"> Combine text and images to give basic information on a given topic Save and retrieve work, sometimes with assistance Talk about how they have used software to create their work 	<ul style="list-style-type: none"> Combine, text, images and audio to provide information on a topic Edit to improve, including using text styling and adding appropriate images Publish eBooks 	<ul style="list-style-type: none"> Combine a variety of multimedia to give information for an intended audience Experiment with visual effects such as text and image styles Provide audio narration about a topic using appropriate vocabulary Add hyperlinks to text to link to appropriate websites
<p>iBlog</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Write simple blog posts sometimes with support Read the posts/comments written by others with support Write comments on a blog with support Know that passwords should not be shared with others 	<ul style="list-style-type: none"> Write simple blog posts on a given topic Respond appropriately to a blog and keep on topic Edit blog posts and/or responses to posts to communicate meaning (e.g. use spaces between words, adding new lines) Understand the importance of keeping passwords and personal information private when online Be respectful online 	<ul style="list-style-type: none"> Write blog posts on given topic Consider the audience when choosing vocabulary in their posts Use titles, subtitles and paragraphs in posts Experiment with different font styles and colours Enhance posts with multimedia (e.g. add images, audio, videos or hyperlinks etc.)



Year 2	National Curriculum Links	Working Towards	Meeting	Greater Depth
<p>iDo Mail</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> understand that they should not use email without permission understand that they should never talk online to a stranger with support compose and send a simple email 	<ul style="list-style-type: none"> know they should not speak to strangers online understand they should not open or reply to emails without permission compose and send a simple email read and reply to an email send an email with an attachment talk about why and when they think email would be useful 	<ul style="list-style-type: none"> Know that some information is personal and should not be shared online – incl. passwords as well as personal information that could identify themselves or their whereabouts understand some of the potential dangers associated with sending and receiving email always ask permission before using email apps compose and send emails that include more content compose and send emails that include a variety of media (e.g. text and images) talk about the advantages and disadvantages of email understand the circumstances whereby different forms of communication would be better than others (i.e. face-to-face; telephone; written word; electronic)



Year 2	National Curriculum Links	Working Towards	Meeting	Greater Depth
<p>iSafe</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Knows that some information is personal (E.g. name & address) Can identify some characteristics of trustworthy/untrustworthy people but gives inappropriate justification (E.g. trustworthy because they are being nice) Understands that personal information should only be given to trusted people but the trust can be misplaced (see above) Understands that sharing pictures may sometimes not be appropriate and can have negative consequences Understands that people can sometimes be mean online 	<ul style="list-style-type: none"> Understand that various information is personal (E.g. hobbies) Can usually identify characteristics of trustworthy people Know that personal information should only be given to trusted people Can give examples of when it may and may not be appropriate to share pictures Knows that people can bully and be bullied online 	<ul style="list-style-type: none"> Understands that a wider range of information is personal (E.g. regular attendance at a specific place) Can identify a variety of characteristics of trustworthy people and justifies opinions appropriately Knows that personal information should only be given to trusted people Understands the potential negative consequences of sharing a range of digital media and information online Can identify a range of bullying behaviours and talk about a number of ways to deal with them



Year 3	National Curriculum Links	Working Towards	Meeting	Greater Depth
iProgram 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Know that Scratch can be given commands to produce specific effects on screen Produce a sequence of blocks that achieves a simple effect (Eg. move a sprite around the screen) 	<ul style="list-style-type: none"> Execute a sequence of commands that results in a planned effect Move a sprite around a screen using turns and repetition Program and test a simple program 	<ul style="list-style-type: none"> Design and produce basic programs Combine sequences of commands into procedures that are repeated Test and correct simple animations Evaluate their own work and comment on improvements
iSimulate 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> recognise patterns within simulations make and test predictions 	<ul style="list-style-type: none"> use simulations to make and test predictions explore options 	<ul style="list-style-type: none"> identify the relationships and rules on which the simulations are based test predictions
iNetwork 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> recognise that a network is two or more devices connected can identify some devices on a network with support understand that not all devices need a wire understand that information travels through a network understand that devices have an address 	<ul style="list-style-type: none"> demonstrate that a network is two or more devices connected can identify different devices within a network understand that connections can be wired or wireless know that each device on a network has its own address model how information travels through a network using switches and routers 	<ul style="list-style-type: none"> explain why networks are used and what they're used for identify a range of wired and wireless devices on a network explain the role of devices on a network know that each device has a unique address called an IP address know that information travels through a network in a variety of ways



Year 3	National Curriculum Links	Working Towards	Meeting	Greater Depth
				<ul style="list-style-type: none"> explain that networks connect to the internet through routers and telephone wires understand that website addresses are nicknames for IP addresses
iData 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> know that information can be entered and stored in a computer enter information into a database and save with support use search tool to find answers to specific questions with support 	<ul style="list-style-type: none"> know that databases and graphs are used for different purposes collect data from the Internet (or electronic source) to enter in to a database enter data in the appropriate fields using keywords or keyboard enter information into the database and save use search tool to find answers to specific questions 	<ul style="list-style-type: none"> use the search facility and navigational buttons to find the answer to a variety of questions pose own questions to be answered by searching a database
iConnect 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Understand that a computer network means connected computers Understand that you can use the internet for activities other than web browsing Navigate around a website using hyperlinks and the back button 	<ul style="list-style-type: none"> Know that a computer network consists of a number of computers and devices that are connected Suggest a range of activities you can do using the internet, including web browsing Find information by navigating around a number of websites using hyperlinks and buttons 	<ul style="list-style-type: none"> Write blog posts on given topic Consider the audience when choosing vocabulary in their posts Use titles, subtitles and paragraphs in posts Experiment with different font styles and colours



Year 3	National Curriculum Links	Working Towards	Meeting	Greater Depth
		<ul style="list-style-type: none"> Enter URLs into an address bar of a browser with support Know that not all information on the web is correct Know that internet search engines search for websites 	<ul style="list-style-type: none"> Enter URLs into the address bar of a browser not always accurately Question the credibility of information given on websites Know that internet search engines give a list of websites based on key words Cross-check information provided on one website against that provided on another 	<ul style="list-style-type: none"> Enhance posts with multimedia (e.g. add images, audio, videos or hyperlinks etc.) Know that some information is personal and should not be shared online – incl. passwords as well as personal information that could identify themselves or their whereabouts
<p>iDo Mail</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> understand that they should not use email without permission understand that they should never talk online to a stranger with support compose and send a simple email 	<ul style="list-style-type: none"> know they should not speak to strangers online understand they should not open or reply to emails without permission compose and send a simple email read and reply to an email send an email with an attachment talk about why and when they think email would be useful 	<ul style="list-style-type: none"> Confidently enter URLs into the address bar of a browser Use appropriate search criteria to find relevant information online Understand that search engines rank websites using algorithms Know which websites are more likely to be reliable than others and explain why Evaluate websites for accuracy, reliability and relevance
<p>iPodcast</p>	<ul style="list-style-type: none"> 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, evaluating and presenting data and information 	<ul style="list-style-type: none"> Record and play audio using digital devices Make simple edits to audio recordings with support 	<ul style="list-style-type: none"> Plan a podcast Record and play audio using digital devices Make simple edits to audio recordings using software tools Use effects in a podcast 	<ul style="list-style-type: none"> Plan and rehearse a podcast Use audio editing tools to develop and refine a recording and adapt it for an audience Combine tracks in an audio recording



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iSafe 		<ul style="list-style-type: none"> ✔ Create a podcast, with support, that shows some evidence of organisation ✔ Talk about what they like about a podcast 	<ul style="list-style-type: none"> ✔ Combine two or more tracks in an audio recording ✔ Create a podcast that shows awareness of audience ✔ Evaluate podcasts and suggest improvements 	<ul style="list-style-type: none"> ✔ Use appropriate effects in appropriate parts of a podcast ✔ Create a podcast that shows awareness of and engagement with an audience ✔ Critically analyse podcasts, identify effects, suggest improvements and improve work
	<ul style="list-style-type: none"> ✔ 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 	<ul style="list-style-type: none"> ✔ understand that people can be influenced online ✔ identify physical and emotional feelings associated with discomfort ✔ know appropriate people to go to for help using digital tools safely and responsibly ✔ be supported in talking about what is appropriate/inappropriate to share online ✔ know the need for passwords and that they should be kept safe 	<ul style="list-style-type: none"> ✔ To know some of the ways people can be influenced online ✔ Understand that some online content may be advertising ✔ identify some of the risks of communicating and collaborating online and act to minimise them ✔ know ways technology can be used positively and what is appropriate to share online ✔ demonstrate the use of basic safety measures when using technology and working online ✔ Know the need to use secure passwords and to keep them private 	<ul style="list-style-type: none"> ✔ Identify a wider range of ways people can be influenced, pressurised or manipulated online ✔ Identify a number of adverts use technology and online services to communicate and collaborate, identify some of the risks and act to minimise them ✔ use a range of digital tools positively





Year 4	National Curriculum Links	Working Towards	Meeting	Greater Depth
<p>iProgram</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Sequence commands to make something happen in a program Identify when it is possible to use repeat commands Talk about what is happening in a program and make predictions Talk about what is going wrong with a program and suggest ways it could be fixed Attempt to fix programs not always successfully 	<ul style="list-style-type: none"> Write and amend computer programs Sequence commands to produce specific effects Use repetition (repeat) and conditions (if..then) Synchronise action using timings and broadcasts Combine sequences of commands into procedures (blocks of code) that are repeated Test computer programs and correct any errors 	<ul style="list-style-type: none"> Explain how a programmed effect has been achieved Work systematically to create and remix programs Use a range of programming blocks including sequence, selection, repetition, custom blocks & broadcasts (procedures) Test, debug and refine computer programs
	<p>iData</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> know that information can be entered and stored in computer collect data to enter in a database enter data in the appropriate fields of a database 	<ul style="list-style-type: none"> know the computer can be used to help search for specific information and answer specific questions collect data, enter into a database and save use the search facility in a database to find the answer to questions carry out searches involving more than one condition to find answers to a variety of questions, sometimes with help
<p>iAnimate</p>				




Year 4	National Curriculum Links	Working Towards	Meeting	Greater Depth
	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> understand that animations are created by showing a number of different images quickly plan a simple animation with support produce a simple animation using digital tools with support talk about what they like/dislike about an animation 	<ul style="list-style-type: none"> know that animations consist of a number of different images that are played rapidly plan a simple animated scene and a basic storyboard create an animated scene using digital tools understand that 3D effects can add depth to an animation test and debug an animation 	<ul style="list-style-type: none"> understand that animations can be created using different animation techniques (E.g. stop motion and CGI) plan an animated scene for a particular audience create a detailed storyboard of an animated scene produce a detailed animated scene using animation software convey personality or atmosphere through use of character and setting critically analyse an animation and suggest improvements improve own work
	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> know that email use the internet send, receive and reply to e-mails understand the need to be careful using email use attachments 	<ul style="list-style-type: none"> use email to work on a shared project talk about some of the risks associated with using email communicate safely and respectfully using email 	<ul style="list-style-type: none"> work collaboratively on a shared project using email give and receive feedback via email respond to feedback and improve work identify a range of risks associated with using email (E.g. spoofing, spam, viruses, impersonation)



Year 4	National Curriculum Links	Working Towards	Meeting	Greater Depth
<p>iLearn AI</p>  	<ul style="list-style-type: none"> design, write and debug programs that accomplish specific goals understand that programs execute by following precise and unambiguous instructions 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 purposefully to create, organise, store, manipulate and retrieve digital content 	<ul style="list-style-type: none"> understands that AI involves computers doing tasks identifies less common or incorrect examples of AI understands that computers can learn recalls the term 'machine learning' but cannot explain what it means understands that data is necessary for training models but does not grasp the importance of data quality 	<ul style="list-style-type: none"> knows that AI involves computers or machines performing tasks that usually require human intelligence identifies common examples of AI in everyday life, like smart assistants or game AI recognises that computers learn from input data and can explain the process can talk about machine learning being process by which computers learn from data understands that high-quality, varied data leads to more accurate and reliable machine learning models 	<ul style="list-style-type: none"> can describe AI as not just computers performing tasks, but also as them learning and making decisions based on data can give a range of examples of AI, including both common and less obvious ones, explaining how they use AI can explain that computers learn from examples (data) and improve over time as they are given more data can define machine learning and give examples of how it's used in technologies or applications they've come across knows the importance of the quality and variety of data in training models effectively can talk about the impact of poor-quality or biased data on the performance of AI systems and suggests ways to ensure data quality



Year 4 iPhotoEdit 	National Curriculum Links	Working Towards	Meeting	Greater Depth
	<ul style="list-style-type: none"> 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 purposefully to create, organise, store, manipulate and retrieve digital content 	<ul style="list-style-type: none"> Shows basic understanding of what photo editing is and its usefulness Can perform basic operations like cropping and rotating with support Applies colours and filters with help Attempts to use tools like duplicating objects Has a basic understanding of ethical considerations in photo editing Identifies some differences between real and edited images with support Completes simple editing tasks with help 	<ul style="list-style-type: none"> Understands and can explain the purpose of photo editing Independently performs basic operations like cropping and rotating Selects and applies appropriate colours and filters independently Successfully uses tools like duplicating and selection Understands and discusses the ethical implications of photo editing Analyses and explains differences between real and digitally created/altered images Independently completes editing tasks 	<ul style="list-style-type: none"> Demonstrates a thorough understanding of photo editing and can talk about its broader applications Efficiently uses basic operations and can help peers use them Creatively uses colours and filters to enhance images Uses more advanced tools and can combine multiple techniques effectively Provides insightful views on the ethics of photo editing and AI generated images Uses software to add creative elements and demonstrates a higher level of skills



Year 4	National Curriculum Links	Working Towards	Meeting	Greater Depth
<p>iSafe</p>	<ul style="list-style-type: none"> 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 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	<ul style="list-style-type: none"> communicate online with support understand that a wider range of information is personal (E.g. regular attendance at a specific place) Identify some of the ways to keep themselves safe online know the need for passwords and that they should be kept safe use keywords to search for information online, sometimes with support 	<ul style="list-style-type: none"> Use technology to communicate and collaborate, identify some of the risks and act to minimise them Use search criteria to find relevant information online demonstrate the use of basic safety measures when using technology and working online Know the need to use secure passwords and to keep them private 	<ul style="list-style-type: none"> use technology and online services to communicate and collaborate, identify some of the risks and act to minimise them know that personal information should only be given to trusted sources know that some information on the internet may be misleading or inaccurate and that it needs to be checked find relevant information online and cross-check information provided on one website against that provided on another




Year 5	National Curriculum Links	Working Towards	Meeting	Greater Depth
iProgram 	<ul style="list-style-type: none"> 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 detect and correct errors in algorithms and programs 	<ul style="list-style-type: none"> Know that computer programs contain commands that achieve a specific action Write or amend computer programs to produce specific actions with assistance 	<ul style="list-style-type: none"> Write and amend computer programs Program a number of algorithms that achieve a specific outcome Use repetition, variables and conditional statements in computer programs Test computer programs and correct any errors 	<ul style="list-style-type: none"> Write and amend more complex computer programs to create a variety of outcomes Program algorithms that achieve a range of specified outcomes Test, debug and refine computer programs
iDraw 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> know how to draw an object add and remove objects to create a simple image combine one or more objects to create a simple image manipulate objects (e.g. resizing and rotating); sometimes with assistance 	<ul style="list-style-type: none"> know that images can be created by combining and manipulating objects understand that objects are individual elements modify objects to create an image use the geometric tools to create objects, copy and resize images select and manipulate a graphic object – move it, resize it, change its colour, bring forwards, send backwards 	<ul style="list-style-type: none"> understand the features and tools of digital drawing apps and know which to use for specific tasks combine a range of objects, image groups and layers to create images experiment with a wide range of tools to create images modify objects appropriately using colour, size and rotation discuss the advantages and disadvantages of different features and tools
iCrypto 	<ul style="list-style-type: none"> use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 	<ul style="list-style-type: none"> understand the need for privacy when sending messages 	<ul style="list-style-type: none"> understand that messages can be encrypted using a range of methods 	<ul style="list-style-type: none"> compare and comment upon different forms of encryption methods (e.g. Semaphore, Morse and ciphers)



Year 5	National Curriculum Links	Working Towards	Meeting	Greater Depth
		<ul style="list-style-type: none"> ✔ understand the importance of data security online and that data is encrypted for privacy ✔ encrypt and decrypt ciphers using a given key with support ✔ understand that coded messages can be cracked 	<ul style="list-style-type: none"> ✔ know that privacy online is maintained using encryption and decryption ✔ suggest a range of scenarios where it is important to secure data using encryption methods ✔ use simple encryption methods to encode and decode messages with a key ✔ know that codes can be broken by identifying patterns in letters and words 	<ul style="list-style-type: none"> ✔ use a range of encryption methods to encode and decode messages ✔ identify patterns and use frequency analysis to determine a cipher key and decrypt messages
<p>iWeb</p>	<ul style="list-style-type: none"> ✔ 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 	<ul style="list-style-type: none"> ✔ Know that internet search engines search for websites ✔ Know that keywords should be precise and specific to obtain the most relevant results ✔ Understand that web pages are linked together and are part of the world wide web ✔ Understand that web content can be changed 	<ul style="list-style-type: none"> ✔ Can discuss opportunities for communication and collaboration online ✔ Use search technology to find things out ✔ Know that the World Wide Web consists of many websites and that web pages can be accessed using the internet. ✔ Know that web pages are formatted using a type of 'code' ✔ Know that you can change what is displayed on a web page ✔ Understand that you can change how content on a web page looks 	<ul style="list-style-type: none"> ✔ Can communicate and collaborate online ✔ Understand that the World Wide Web is one of a number of services provided on the internet ✔ Use search technology and clear search terms to view web pages and obtain information and data ✔ Know that HTML tells the computer what to put where on a web page ✔ Understand that HTML tags tell a computer what content to display between them (e.g. an image, text or hyperlink)



Year 5	National Curriculum Links	Working Towards	Meeting	Greater Depth
iModel 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Design a simple model on paper Create simple 3D models using Tinkercad Use a limited set of 3D modelling tools with support Talk about what they like about a model 	<ul style="list-style-type: none"> Design a 3D model identifying shapes making it up Create compound, connected 3D models using Tinkercad 3D model is fairly accurately grouped and sized Explore simple features of graphical modelling software Evaluate own work and make improvements 	<ul style="list-style-type: none"> Understand that CSS tells the computer how content inside HTML tags should be styled Create accurate, fit-for-purpose, complex 3D models using Tinkercad 3D model is accurately scaled, in proportion and true to life Use a range of 3D modelling features and tools Critically analyse own work and the work of others and make improvements



Year 5	National Curriculum Links	Working Towards	Meeting	Greater Depth
<p>iSafe</p>	<ul style="list-style-type: none"> use search technologies effectively, appreciate how results are selected and ranked, and 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 	<ul style="list-style-type: none"> Know that some information is personal and should be kept private online Know that there are some risks associated with communicating online Know some of the differences between chatting online and face to face Understand that not all online content is reliable or can be trusted Know that people can bully and be bullied online as well as in real life 	<ul style="list-style-type: none"> Identify risks and benefits of forms of communication Understand the concept of personal and private information Understand and relay the SMART rules Understand the difference between communicating online and face-to-face, and some of the dangers associated in communicating online Consider whether they trust the content of websites Make judgments about the validity and suitability of websites Identify a number of rules that apply to online chatting Understand the definition of bullying and cyber bullying, exploring the differences and similarities Identify some types of cyber bullying Understand that the school rules about bullying also apply to online activity 	<ul style="list-style-type: none"> Know that a range of information is personal and should be protected Know a variety of online risks Identify a range ways they can keep themselves safe using technology and online services and know how to report any concerns Know that some information on the internet may be misleading or inaccurate and that it needs to be checked find relevant information online and critically evaluate its plausibility and usefulness Identify a range of kinds of cyber bullying and know what to do if it were happening to them or someone they know Understand the bystanders role in contributing to, or preventing, cyber bullying. Understand the schools' sanctions and rules about bullying, including cyber bullying (anti bullying policy)



Year 6	National Curriculum Links	Working Towards	Meeting	Greater Depth
<p>iProgram</p>	<ul style="list-style-type: none"> 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 detect and correct errors in algorithms and programs 	<ul style="list-style-type: none"> Write or amend computer programs to produce specific actions with assistance Know that commands can be given in shorter form Use iteration (repeats and loops) with assistance 	<ul style="list-style-type: none"> Write and amend more complex computer programs to create a variety of outcomes Use iteration(repeats and loops), variables and conditional statements (if..then) in computer programs Test computer programs and correct most errors 	<ul style="list-style-type: none"> Create procedures that call on other procedures using broadcasting blocks and produce a result Create and use efficient methods of iteration, and nested conditional statements (if..then..if etc.) Systematically test computer programs for bugs and make them work as expected Critically analyse code and suggest more elegant solutions
<p>iNetwork</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Know a computer network is a group of computers that are connected Talk about how people can work together online Understand that computers can be connected together Understand that the internet is a network Use a search engine to find information Know that websites have an address and are located on web servers Can find a website using its URL 	<ul style="list-style-type: none"> Can discuss opportunities for communication and collaboration online Understand that a computer network consists of a number of computers and devices that are connected Know that the internet is an example of a computer network Use search technology to find things out and check for reliability Know that internet search engines list search results in order of popularity 	<ul style="list-style-type: none"> Can communicate and collaborate online Know that the internet is an example of a Wide Area Network Understand that the World Wide Web is one of a number of services provided by the internet Understand that special devices and services are required to connect to the internet Use search technology and clear search terms to view web pages and obtain data Can trace the route and path of a URL using trace tools



Year 6	National Curriculum Links	Working Towards	Meeting	Greater Depth
iData 		<ul style="list-style-type: none"> know that internet search engines order the results they return 	<ul style="list-style-type: none"> Know that data is sent and received across a network as packets Can talk about the number of routers (hops) a request to visit a website passes through before reaching its location 	<ul style="list-style-type: none"> Can explain how internet search results are ranked I can set out content on a web page using basic HTML
	<ul style="list-style-type: none"> Select, use and combine a variety of software on a range of digital devices to design & create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information 	<ul style="list-style-type: none"> know the computer can be used to help answer specific question enter text and numbers in a spreadsheet change some of the data and discuss effect on results with assistance 	<ul style="list-style-type: none"> enter text and numbers in a spreadsheet enter a formula to perform a calculation use SUM function change some of the data and discuss effect on results create a graph from the data entered and explain results know that spreadsheets can be used for mathematical calculations and that recalculations with different values can be done quickly discuss the advantages and disadvantages of using spreadsheets for calculations against the use of manual methods 	<ul style="list-style-type: none"> select relevant data for graph select appropriate graph for the data explore further functions know how a spreadsheet is used and discover more about how they are used outside school



Year 6	National Curriculum Links	Working Towards	Meeting	Greater Depth
<p>iApp</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Write or amend computer programs to produce specific actions with assistance Use event handlers (conditional statements) 	<ul style="list-style-type: none"> Write and amend more complex computer programs to create a variety of outcomes Use iteration (repeats and loops), variables and conditional statements (e.g. if..then) in computer programs Test computer programs and correct most errors 	<ul style="list-style-type: none"> Use variables and functions Systematically test computer programs for bugs and make them work as expected Critically analyse code and suggest more elegant solutions
<p>iModel</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Design a simple model on paper Create simple 3D models using SketchUp Use a limited set of 3D modelling tools with support Talk about what they like about a model 	<ul style="list-style-type: none"> Design a 3D model Create compound, connected 3D models using SketchUp 3D model is fairly accurately grouped and scaled Explore simple features of graphical modelling software Apply materials to surfaces using SketchUp Evaluate own work and make improvements 	<ul style="list-style-type: none"> Create accurate, fit-for-purpose, complex 3D models using SketchUp 3D model is accurately scaled, in proportion and true to life Use a range of 3D modelling features and tools Import materials and images and apply to surfaces using SketchUp Critically analyse own work and the work of others and make improvements



Year 6	National Curriculum Links	Working Towards	Meeting	Greater Depth
iLearnAI 	<ul style="list-style-type: none"> 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 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 	<ul style="list-style-type: none"> know that data is used to train computers know that AI can respond to a range of input, including movement organise data into categories with support create input data for machine learning models, sometimes with support train machine learning models to recognise and respond to text, movement and emotion with support 	<ul style="list-style-type: none"> know that computers can be taught to learn know that machine learning is a method used to train AI models know that the output from an AI model is a prediction based on its training know that human bias can influence machine learning outcomes classify data create input data for machine learning models train AI systems to recognise and respond to text, movement and emotion 	<ul style="list-style-type: none"> know that computers are taught to learn by people using a process called machine learning talk about how the quality and type of training data affect the accuracy and reliability of machine learning systems discuss the role of AI in society, including ethical considerations classify a range of data into distinct categories identify potential bias in data train a variety of AI systems using a wide range of quality, unbiased, input data (incl. text, images and motion)
iMicrobit 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> follow step-by-step instructions but struggles with independent coding tasks use sequence, selection, and repetition in programming with support transfer a program to the micro:bit debug or adapt code with support 	<ul style="list-style-type: none"> write and debug programs use sequence, selection, and repetition use variables and inputs to create programs that control micro:bit's transfer and test programs on the micro:bit use logical reasoning to explain how algorithms work can detect and correct errors in code 	<ul style="list-style-type: none"> design, write, and debug more complex programs use all key constructs: sequence, selection, repetition, and variables modify and adapt existing code to create original programs, debug programs efficiently use the MakeCode environment, experimenting with advanced features and functions



Year 6	National Curriculum Links	Working Towards	Meeting	Greater Depth
iSafe 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> apply logical reasoning to predict the outcome of programs or solve problems with support 		
	<ul style="list-style-type: none"> use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	<ul style="list-style-type: none"> Know that some information is personal and should be kept private online Understand the need for strong passwords Know that there are some risks associated with communicating online Understand that not all online content is reliable or can be trusted Know that people can bully and be bullied online as well as in real life Are aware there are some tools available for reporting online abuse Can talk about some situations where a trusted adult should be consulted 	<ul style="list-style-type: none"> Identify risks and benefits of forms of communication Understand the concept of personal and private information Understand that privacy matters and how it relates to online security Understand what types of situations call for getting help or talking things out with a trusted adult Can talk about when and why to report online abuse Understand the definition of bullying and cyber bullying, exploring the differences and similarities Identify some types of cyber bullying Know what positive behavior looks like online and offline 	<ul style="list-style-type: none"> Know that a range of information is personal and should be protected Understand what types of situations call for getting help, blocking and/or reporting or talking things out with a trusted adult Identify a range of kinds of cyber bullying and know what to do if it were happening to them or someone they know Understand the upstanders role in supporting targets of cyberbullying and their potential to help prevent cyber bullying Know some tools and settings that protect against hackers and other threats

