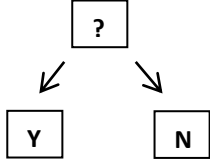


Year 1	Programming	Data	Understanding Technology	Using technology effectively	Keeping Safe
<b>Vocabulary</b> Algorithm Instruction Series Sequence Commands Bee Bot Program Image Pictogram Data Sorting Technology Website Internet Back button Search Email Graphics Fill Copy Paste Shift Text Font E-safety Password Log on	<p>Know that an algorithm is a series of instructions to achieve an outcome.</p> <p>Create a 'written algorithm story' to direct a person around to achieve a task</p> <p><b>Unit 1: Bee Bots</b> Give and follow instructions, which include straight and turning commands, <b>one at a time</b>.</p> <p>Explore a program with errors (in a sequence) given by an adult. Find and correct the errors to become successful</p> <p>Give own simple sequence of instructions to a programmable robot</p>	<p>Know that images give information.</p> <p>Know and explain what a pictogram is showing them.</p> <p>Put data into a program (pictogram - 2Count).</p>	<p><b>Technology in the world.</b> Know how technology is used in the world around them.</p> <p><b>Websites</b> Know and talk about websites they have been on.</p> <p>Explore a website by clicking on buttons, arrows, menus and hyperlinks. (Modelled by and adult)</p> <p>Use website for a purpose - <a href="http://www.switch200.com">www.switch200.com</a> - create own 'wild thing'</p> <p>E.g. history research</p> <p>Know how to navigate 'back' by clicking on the 'back' button.</p> <p>Know how to complete a search under the supervision of adults.</p> <p>Explore the use of email using an adult's email account (whole class)</p>	<p><b>Ongoing: Selecting appropriate devices or software for a task - e.g. text, images, multimedia (topic related activities)</b></p> <p><b>Unit 1: Graphics (2Simple/colour magic)</b> Use ICT to generate ideas for their work. - <b>life cycle of butterfly (ENG)</b></p> <p>Use various tools including brushes, pens, lines, fill, spray and stamps - <b>ENG - explanation texts symmetry butterflies</b></p> <p>Use save, retrieve, amend and print.</p> <p><b>Unit 2: Text (Word)</b> Use the spacebar, back space, enter, shift and arrow keys. <b>SCI - Four seasons heading and tree images</b></p> <p>Start to use two hands when typing.</p> <p>Word process short texts, rather than copying up written work.</p> <p><b>Unit 3: Multimedia (2create a story)</b> Explore to produce shared outcome</p> <p><b>2Publish - science, drawing seasonal change on trees + write up</b> <b>2create - story maps for own stories - based on Hada's Surprise</b></p>	<p>Know about different devices that can go on the internet, and separate those that do not.</p> <p>Know about what things count as personal information.</p> <p>Agree rules for online use - e-safety</p> <p>Understand and use 'Log on' with a Password</p> <p>ThinkUKnow (5-7) lessons, Hector Protector</p> <p><b>(COVER ALONGSIDE THE ONLINE SAFETY TOPIC FROM THE PSHE CURRICULUM)</b></p> <p><b>PSHE</b> What is the Internet? How to Stay Safe Online</p>
		<p><b>POSSIBLE RESOURCES NEEDED</b></p> <p>PCs Bee Bot 2Simple software package (E.g. 2DIY, 2Create a story) Microsoft Word Microsoft PowerPoint Internet Teacher email account (for demonstration only)</p>			

Year 2	Programming	Data	Understanding Technology	Using technology effectively	Keeping Safe
<b>Vocabulary</b> Algorithm Instruction Series Sequence Commands Bee Bot Program Image Pictogram Data Sorting Technology Website Internet Back button Search Email Graphics Fill Copy Paste Shift Text Font E-safety Password Log on	Know that an algorithm is a series of instructions to achieve an outcome.  Create a 'written algorithm story' to direct a person around to achieve a task  <u><b>Unit 1: Bee Bots</b></u> Discuss/explore what will happen when instructions are given in a sequence.  Give a sequence of instructions to complete a simple task.  Know that instructions use both movement commands and additional commands.  <u><b>Unit 2: - Roamer on screen</b></u> Use an on screen turtle with turns and diagonals.  Test and modify.  Create a simple activity in 2DIY	Pose questions, collect data, generate charts and graphs.  Retrieve and edit information. 2graph.  Know that images give information.  Say what a pictogram is showing them.  Put data into a program (pictogram - 2Count).  Sort objects and pictures in lists or simple tables.  Choose an appropriate device or software tool for a task.  Evaluate work and make simple changes.  Understand how a file structure works.  Save work effectively.	<u><b>Technology in the world.</b></u> Discuss how technology is used in the world around them.  <u><b>Websites</b></u> Talk about websites they have been on.  Explore a website by clicking on buttons, arrows, menus and hyperlinks. (Modelled by and adult)  Navigate 'back' by clicking on the 'back' button.  Complete a safe search (E.g. for research purposes - Captain Cook/Australia) under the supervision of adults.  Explore the use of email using an adult's email account (whole class) - send and receive emails from a protected email (e.g. DHT).  Share information with others using the school network and with an adult using the school's Twitter account.	<u><b>Unit 1: Graphics (2Simple/colour magic)</b></u> Use ICT to generate ideas for their work by selecting an appropriate device or software tool for a task.  Use various tools including brushes, pens, lines, fill, spray and stamps.  Use save, retrieve, amend and print.  <u><b>Unit 2: Text + Unit 3: Multimedia - (Australia PowerPoint)</b></u> Explore PowerPoint to produce an agreed outcome.  Use the spacebar, back space, enter, shift and arrow keys.  Start to use two hands when typing.  Word process short texts, rather than copying up written work.  Evaluate work and make simple changes.	Make decisions about whether or not statements or images found on the internet are likely to be true.  Identify when inappropriate content is accessed and act appropriately  (COVER THE ABOVE OBJECTIVES ALONGSIDE THE ONLINE SAFETY TOPIC FROM THE PSHE CURRICULUM) <u><b>PSHE</b></u> Risks Online and How to Avoid Them  What not to Share Online and Why  Create and agree class rules for online use - e-safety  <u><b>Additional resources</b></u> ThinkUKnow (5-7) lessons, Hector Protector  <b>POSSIBLE LINKS TO OTHER SUBJECTS</b> <ul style="list-style-type: none"> <li>Maths/Science for data gathering and representation of data</li> <li>English/History - research and information texts through PowerPoint - Australia/Captain Cook</li> <li>Katie Morag Island - programming robots</li> </ul>
	<b>POSSIBLE RESOURCES NEEDED</b>  PCs PowerPoint Word Google Chrome 2create, 2Publish, 2DIY, 2simple, Colour Magic Roamer (on screen/robot) Bee Bot				

Year 3	Programming	Data	Understanding Technology	Using technology effectively	Keeping Safe	
<b>Vocabulary</b> Algorithm Program Sequence Modify Repeat Commands Applications Coding Data Database questionnaire Branching Device Internet URL Search engine Email Bookmark Image Graphics Browser Viruses Cyber bullying	Know and use the term 'algorithm'  Recognise that errors can occur (in a prepared program), identify errors, test and modify sequences in programs  Design, write and test own narrative algorithms (programs) with precision and clarity.  <u>Unit 1: Bee Bot</u> Use the 'repeat' command within a series of instructions.  Know and talk about the similarities and difference between different coding applications (Roamer, Bee Bots etc.).	Select a question to answer.  Know which information is suitable for their topic.  Design a questionnaire to collect information.  Collect data to answer a question.  Select an appropriate graph type to represent data collected.  Construct a branching database.  	Save work on a range of devices and storage spaces.  Learn about the Internet and how it works and connects.  Use a search engine <a href="http://www.swiggle.org.uk">http://www.swiggle.org.uk</a>  Know and discuss the reliability of information on the internet, e.g. the difference between fact and opinion (link to E-Safety)  <u>Unit 1 - Emails</u> Subscribe with an adult's email - teacher discussion and demonstration  <u>Unit 2: Internet research</u> Type in a URL to find a website. Add websites to favorites. (E.g. <a href="http://www.swiggle.org.uk">http://www.swiggle.org.uk</a> )  Use a search engine to find a range of media, e.g. images, text.	<u>Unit 1: Graphics</u> Acquire, store and combine images from cameras or the internet for a purpose.  Use the print screen function to capture an image.  Select certain areas of an image and resize, rotate an image.  Edit pictures using various tools in paint or photo-manipulation software.  <u>Unit 2: Video (Windows movie maker)</u> Capture photographs as a class (e.g. science activity).  Discuss and know which photographs to keep and why.  Arrange clips to make a short film that conveys meaning.  Add simple titles and credits.  (Could be discussed in groups and created as a whole class English/Computing/E-Safety task)  <u>Unit 3 - Applications</u> Type in and bookmark a URL for Times Tables Rockstars Use application to support learning in mathematics.	Recognise several online behaviours that would be unfair.  Recognise the need to choose age-appropriate online sites.  Know about keeping information safe and private  Begin to understand how to keep safe when sharing information online  (COVER THE ABOVE OBJECTIVES ALONGSIDE THE ONLINE SAFETY TOPIC FROM THE PSHE CURRICULUM)  <u>PSHE</u> Age Restrictions in the World, Online and Why we need Them  How to Behave Sensibly Online  Why Spending too much Time Online is Bad Know how to report online problems, discuss cyberbullying  E.g. Use Digiduck's Big Decision book	
	<b>POSSIBLE RESOURCES NEEDED</b>					
		<ul style="list-style-type: none"> <li>Bee Bot</li> <li>2 Simple DIY</li> <li>Paper-based branching databases</li> <li>Digiduck's Big Decision book</li> <li>Rockstars login</li> <li>Windows Media Player</li> </ul>	<ul style="list-style-type: none"> <li>PCs</li> <li>iPad</li> <li>2Simple software package</li> <li>PowerPoint</li> <li>Publisher</li> <li>Word</li> <li>Camera</li> </ul>			

Year 4	Programming	Data	Understanding Technology	Using technology effectively	Keeping Safe
<b>Vocabulary</b>	<b>Unit 1: Scratch Junior - Create an animation</b>	Know different tools for collecting data.	<b>Unit 1: iPad maintenance</b>	<b>Unit 1: Emails</b>	Recognise social networking sites and social networking features built into other things (such as online games and handheld games consoles).
Navigate	Navigate the Scratch Junior programming environment.	Create and search a branching database.	Changing the screen/homepage, keyboard settings, saving battery, switch on/off for apps, investigate newly purchased apps, select printer, copy, paste, open and edit previously saved work.	Log in to own school email, open emails, create and send replies.	Make judgements in order to stay safe, whilst communicating with others online.
Coding	Create a background and sprite for a game.	Sort and organise information to use in other ways.		Attach files to an email.	
Algorithm	Add inputs to control their sprite.	Create a database from information I have selected.	<b>Unit 2: internet, copyright, online information</b>	Download and save files from an email.	Tell an adult if anything worries them online.
Input output	Use conditional statements (if... then) within their game.	Present data.	Understand keywords to complete and online search on the internet.	Email more than one person and participate in group emails by 'replying to all'.	Understand the procedures for reporting online incidents, share rules with others
Sprites	<b>EXTRA UNIT 2: Lego 'We Do'</b>	Discuss and look at QR codes.		<b>Unit 2: Multimedia tools</b>	<b>(COVER THE ABOVE OBJECTIVES ALONGSIDE THE ONLINE SAFETY TOPIC FROM THE PSHE CURRICULUM)</b>
Conditional statement	Explore software and hardware for tasks.	Use iPads to read/scan and understand examples of QR codes.	Begin to understand the use of a tracer.	Use variety of multimedia tools.	
Data	Know the importance of algorithms for robots and how robots are used in the 'real world'.	<b>POSSIBLE RESOURCES NEEDED</b>	Understand copyright and use copyright-free websites for resources (creative commons)	Consider different audience.	<b>PSHE</b>
Branching database	Build and program Lego robots to complete given/simple tasks.	PCs		Pic Collage, Pages	Being Polite Online and How the Internet Works
QR codes	Recognise errors and debug	iPad	How reliable is online information? <a href="http://www.thedogisland.com">www.thedogisland.com</a>	Provide constructive criticism to evaluate and modify work.	What is Cyberbullying? - Teacher Resource
Scan		Lego 'We Do' sets	Discuss and understand pop-ups in advertising. <a href="http://pbskids.org/dontbuyit/advertisingtricks/index.html">http://pbskids.org/dontbuyit/advertisingtricks/index.html</a>	Use of Podcasts, blogging (Edublog), email	All about Bullying and Cyberbullying
Attachment		Netbooks			<b>Possible Resources</b>
Download		Examples of QR codes			ThinkUKnow - cybercafé
Tracer		QR code scanner app			<a href="https://www.thinkuknow.co.uk/8-10/">https://www.thinkuknow.co.uk/8-10/</a>
Copyright		Email			Digizen -
Pop-ups		Internet			<a href="https://www.digizen.org/kids/">https://www.digizen.org/kids/</a>
Homepage		Microsoft software			
Bookmarks		2 Simple software package			
Applications		iPad applications - Pages, Keynote			
Air print		TT Rockstars login			
Multimedia		Prodigy login			
Podcast		Hit the Button			
Blog		National Geographic Kids			
Credits		First News website			
Transitions		Maths is fun.com (website)			
Social networks					
Report					
CEOP					
Viruses	(Try Etch-A-Sketch for iPads!)				

Year 5	Programming	Data	Understanding Technology	Using technology effectively	Keeping Safe
<b>Vocabulary</b> Algorithms Backgrounds Debug Repeat Data Database Formula Spreadsheets Search engine Multimedia Avatar Edit Refine E-safety Passwords Privacy Airdrop	<b>Unit 1: Hopscotch - Create a simple game</b>  Discuss everyday things which need instructions.  Review Hopscotch from year 4.  Focus on abilities. Create abilities from abilities.  Introduce random feature.  Create backgrounds.  Assessment focus: to create a simple game.  <b>(EXTRA UNIT - Unit 2: Scratch Junior)</b>  (Create a simple game)	Create data collection forms and enter data from these accurately.  Know how to check for and spot inaccurate data.  Know which formulas to use when I want to change my spreadsheet model. (Excel) <b>E.g. Science link - between the circumference of head to length of forearm.</b>  Make graphs from the calculations on my spreadsheet.	<b>Unit 1: iPad maintenance</b> Review changing the screen/homepage, keyboard settings, saving battery, switch on/off for apps, investigate newly purchased apps, select printer, copy, paste, open and edit previously saved work.  <b>Unit 2: Internet research</b> Use advanced search functions in Google, e.g. quotations.  Understand websites such as Wikipedia are made by users (link to E-Safety)  Use strategies to check the reliability of information, e.g. cross checking with books.  Use their knowledge of domain names to aid their judgment of the validity of websites.  <b>Ongoing</b> Use different sources to double check information found -when used for research purposes.	<b>Unit 1: - Multimedia work (examples)</b> Devise a leaflet/advert for a trip to go to Mecca for a pilgrimage (Pages - iPad).  Create a Wordle for display - <b>English - adjectives to describe snowflake for use in creating poetry</b>  Create an avatar in Timestables Rockstars  Use of school email  <b>Unit 2: Sound Recording Garage Band</b> Collect audio from a variety of sources including own recordings and internet clips.  Create a multi-track recording using effects.  Edit and refine their work to improve outcomes.	Judge what sort of privacy settings might be relevant to reducing different risks.  Judge when to answer a question online and when not to.  Articulate what constitutes good behaviour online.  <b>(COVER THE ABOVE OBJECTIVES ALONGSIDE THE ONLINE SAFETY TOPIC FROM THE PSHE CURRICULUM)</b>  Find and note/share the web address for any information or resource found online - e.g. through airdrop  <b>PSHE</b> Understanding what not to Share Online  What Content can we Trust Online?  What Content can we Trust Online? - Teacher Resource
		<b>POSSIBLE RESOURCES NEEDED</b>  iPads Rockstars login School email Garage Band Pages Safari PCs - Excel/Word/PowerPoint Wordle			

Year 6	Programming	Data	Understanding Technology	Using technology effectively	Keeping Safe
<b>Vocabulary</b>	<b>Unit 1: Scratch on PCs</b>	Create data collection forms and enter data from these accurately.	<b>Blogging (Edublog)</b>	<b>Unit 1: Animation</b>	Create own class rules for online use.
Triggers	Use infinite loops to control sprites.	Know how to check for and spot inaccurate data.	Register for a blog: selecting a URL and navigate to their blog once it is created.	Plan a multi-scene animation including characters, scenes, camera angles and special effects.	Discuss scenarios involving online risk.
Variables	Create and edit variables	Know which formulas to use when I want to change my spreadsheet model. (including: SUM(_:_), =(*_))	Alter the theme and appearance of their blog, adding background images etc.	Use stop-go animation software with an external camera to shoot the animation frames.	State the source of information found on the internet.
Algorithms	Evaluate the effectiveness of their game and debug if required.	Sort and filter information.	Create a new post, save it as a draft and publish it.	Adjust the number of photographs taken and the playback rate to improve the quality of the animation.	(COVER THE ABOVE OBJECTIVES ALONGSIDE THE ONLINE SAFETY TOPIC FROM THE PSHE CURRICULUM)
Debug	<b>EXTRA UNIT - Unit 2: Lego Mindstorms</b>	Understand that changing the numerical data effects a calculation.	Embed hyperlinks and videos into posts.	Publish their animation and use a movie editing package to edit/refine and add titles.	Act as a role model for younger pupils, including promoting <i>Sid's Top Tips</i> and SMART rules
Data	Introduction to Mindstorms software.	Use formula in a spreadsheet to present and analyse information (Class Party planning, design and cost new classroom)	Reorganise posts and remove posts they no longer want.	<b>E.g.</b> Using Lego figures and backdrop (created in art) to tell a short story.	Find <i>report</i> and <i>flag</i> buttons in commonly used sites and name sources of help (ChildLine, Cybermentors, etc.)
Databases	Investigate programming simple movements for the Robot.		Like/follow other blogs and build up their blog content over the year.		'click-CEOP' button and explain to parents what it is for.
Spreadsheets	Use Lego League competition table (and team members) to set short tasks to be solved and completed using the robot.				<b>PSHE</b> Understanding Unrealistic Expectations Online
Formula		<b>POSSIBLE RESOURCES NEEDED</b>			What People can we Trust Online?
Blogging		<u>iPads + Apps</u>			What People can we Trust Online? - Teacher Resource
Email		i-Movie			
Post		Scratch Junior			
Embed		Hopscotch			
Multimedia		Pages			
Multi-scene		Safari			
Animation		Morfo			
Stop-go		PCs			
i-Movie		Excel			
report		Lego Mindstorms + robots			
flag		Edublog			
CEOP					