



**Buckstones Community Primary School**

**Computing Medium Term Plans**

		EYFS - ongoing	
Programme of Study	Knowledge, Skills and Understanding	Activity or Unit	Suggested Hardware / Software
<p>Using Technology</p> <p>Most of this strand can be linked in a cross curricular way across the curriculum.</p>	<p>Can I recognise a range of technology that is used in places such as homes and schools?</p> <p>Can I select and use technology for a particular purpose?</p> <p>Can I name and use a keyboard and mouse with developing control?</p> <p>Can I use the keyboard to write my name with a capital letter?</p> <p>Can I access and use simple activities using touch technology with increasing control?</p>	<p>Explore school and look at and explore a range of technology e.g children to have a go at photocopying, printing, using the office keyboards, looking in the kitchens at a variety of technology.</p> <p>Give children a variety of challenges to identify technology for a given purpose e.g would a telephone be used to make a cake? Nonsense challenges.</p> <p>Look at a variety of keyboards, including those on touch screen and laptops. Children to explore these and write their own name and simple words or letters.</p> <p>Open apps independently and be able to control and manipulate objects confidently and talk about how to do this using the words 'scroll', 'drag' 'click' 'open' and 'close'</p>	<p>Ipads/ipods, cameras, photocopier, printers, phones, weighing scales, video recorders, alarms, microwave, cooker.</p> <p>A variety of keyboards on tablets, laptops and pc's if available.</p> <p>A variety of age related APPs on a range of touch technology devices.</p>

<p><b>Algorithms and Programs.</b> This area of the curriculum is a main area of the new curriculum. Children should be taught this strand discreetly in order to fulfil the new requirements.</p>	<p>Can they use a range of control toys and devices?</p>	<p>Look at controlling a car around a track, cause and effect of pressing buttons. Use the buttons to make the bee bots move across a map or course.</p> <p>Possible use of petterson's inventions. to access early coding. / codable</p>	<p>petterson's inventions.</p>
<p><b>Data Retrieving and Organising</b></p> <p>Main teaching strands:</p> <p>Creating a simple Pictogram</p>	<p>Can they insert data into a pictogram, as a class? Can they answer simple questions relating to the pictogram as a class?</p>	<p>Create a pictogram to represent eye colour/hair colour etc.</p>	<p>2Paint</p>
<p><b>E-Safety</b></p> <p>This forms a critical part of the curriculum, which should link through all your</p>	<p>Can they talk about what they are doing on a computer?</p> <p>Can they say if something they find on the internet makes them feel bad?</p> <p>Can they understand not to feel guilty if something comes on the screen that makes them feel bad?</p>	<p>Demonstration on how to close a website or window.</p> <p>Discussions on what to if they find something that makes them feel bad.</p> <p>Hectors world safety button - swimming dolphin</p>	

<p>sessions. This could be linked to your PSHCE.</p>	<p>Can they speak to an adult about what they have seen?</p>		
<p>Communicating / Presentation.</p> <ul style="list-style-type: none"> <li>- Write name on a device including a keyboard.</li> <li>- Take photographs on digital devices.</li> <li>- Record sounds on ipads.</li> </ul>	<p>Can they write their name using a keyboard on different devices?</p> <p>Can they use the caps lock for the initial sound in their name?</p> <p>Can they use the use the space bar, backspace and return key?</p> <p>Can they use a simple paint programme with increasing mouse control?</p> <p>Can they use a digital device to take a photograph?</p> <p>Can they explore sounds?</p> <p>Can they understand the purpose of and experiment with hardware such as cameras, computers, ipads, voice recorders etc?</p> <p>Can they create an image relating to a topic covered in class and add a title?</p>	<p>Write own name using keyboard. Demonstrate caps lock for initial sound, space bar, backspace and return key.</p> <p>Write a simple sentence</p> <p>Draw a self- portrait or character. Use the fill tool to fill a picture. Draw a symmetrical pictures using 2simple.</p> <p>Photograph items linked to topic</p> <p>use devices to record video . Record sounds - voices, sound effects or music.</p>	<p>Computer, laptop, I-Pad, I-Pod 2 simple, purple mash</p> <p>2simple, purple mash, Microsoft paint</p> <p>tiny tap</p> <p>Digital cameras, Flip cams, I-Pads, I-Pods</p> <p>Beatbox</p>

**Year 1 - Autumn Term - COMPUTING**

**Pupils should be taught:**

- to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- to create and debug simple programs
- to use logical reasoning to predict the behaviour of simple programs
- to use technology purposefully to create, organise, store, manipulate and retrieve digital content
- to recognise common uses of information technology beyond school
- to 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.

Programme of Study	Knowledge, Skills and Understanding	Activity/ Link to scheme of work
Using Technology	<p><b>* Can they discuss and talk about control technology and new technologies' and understand how to use them?</b></p> <p><b>* Can they select the appropriate program by finding and retrieval through the school network?</b></p> <p><b>* Can they use keyboard skills to type a simple username and password into a given program?</b></p> <p><b>* Do they know how to safely use technology by opening and closing a piece of equipment safely?</b></p>	<p>Discuss how to use basic equipment safely. Teach children the basic uses of equipment, and how to use it safely such as turning on and off a computer, and being able to discuss the use of a keyboard and the basic functions of it.</p> <p>Explore a variety of programs, apps and algorithms and be able to drag and move images using these (inc. use of iPad and laptops)</p> <p>Explore how to log on and off computers, and touch technologies. Teach children why we have a password- link to e-safety. Children to name uses of the keyboard and be able to use these simply.</p>

	<p><b>Ongoing:</b></p> <p><b>* Do they know that there is a wide range of technology and can they name some equipment?</b></p> <p><b>* Do they use a range of different technology and talk about its use?</b></p> <p>Explore a variety of ranges of technology in the environment and name them e.g common uses of ICT beyond that of the school context. Hunt and tour school - how can we use control technology?</p>	
<b>Algorithms and Programs</b>	<ul style="list-style-type: none"> <li>• <b>Can they explore a simulation to support a given topic and talk about what happens and why?</b></li> </ul>	<p>Simulations - <b>Purple Mash (2Explore / 2Beat)</b> Link to Music</p> <p>Discuss simulations being the games they may play at home on their computer.</p>
<b>Data Retrieving and Organising</b>	<ul style="list-style-type: none"> <li>• <b>Can they enter information into a template to make a graph and pictogram?</b></li> <li>• <b>Can they answer questions relating to a graph and pictogram?</b></li> </ul>	<p>Creating a simple graph:</p> <p>Link to Local Area topic- use <b>Purple Mash to create a pictogram</b> to show how we get to school/ what modes of transport we saw on our road traffic survey. Interpret findings.</p>
<p><b>E-Safety</b></p> <p><a href="http://www.thinkuknow.co.uk">www.thinkuknow.co.uk</a> (CEOP)</p>	<ul style="list-style-type: none"> <li>• <b>Can they recognise that the majority of technology devices have access to the internet?</b></li> </ul>	<p>Undertake activity with the children to understand whether the internet is a brain or a box.</p> <p>Sorting activity - What devices access the internet and which ones don't.</p>
<b>Communicating / Presentation</b>	<ul style="list-style-type: none"> <li>• <b>Can they enter text using a keyboard?</b></li> </ul>	<p>Simple typing activities eg. typing name on work, typing usernames / passwords, typing simple sentences</p>

	<ul style="list-style-type: none"><li>• Can they draw on screen image?</li></ul>	<p>Simple colouring activities (for mouse control) eg. Purple Mash (Paint Projects), Espresso,</p> <p>Simple drawing activities eg. Purple Mash (2Paint a Picture) drawing view from our classroom window</p>
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**Year 1 - Spring Term - COMPUTING**

**Pupils should be taught:**

- to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- to create and debug simple programs
- to use logical reasoning to predict the behaviour of simple programs
- to use technology purposefully to create, organise, store, manipulate and retrieve digital content
- to recognise common uses of information technology beyond school
- to 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.

Programme of Study	Knowledge, Skills and Understanding	Activity/ Link to scheme of work
Using Technology	<p><b>* Do they know that there is a wide range of technology and can they name some equipment?</b></p> <p><b>* Do they use a range of different technology and talk about its use?</b></p> <p><b>* Can they discuss and talk about control technology and new technologies' and understand how to use them?</b></p> <p><b>* Can they select the appropriate program by finding and retrieval through the school network?</b></p> <p><b>* Can they use keyboard skills to type a simple username and password into a given program?</b></p>	<p>Explore a variety of ranges of technology in the environment and name them e.g common uses of ICT beyond that of the school context. Hunt and tour school - how can we use control technology?</p> <p>Discuss how to use basic equipment safely. Teach children the basic uses of equipment, and how to use it safely such as turning on and off a computer, and being able to discuss the use of a keyboard and the basic functions of it.</p> <p>Explore how to log on and off computers, and touch technologies. Teach children why we have a password-link to e-safety. Children to name uses of the keyboard and be able to use these simply.</p>

	<p><b>* Do they know how to safely use technology by opening and closing a piece of equipment safely?</b></p>	<p>Explore a variety of programs, apps and algorithms and be able to drag and move images using these.</p>
<p><b>Algorithms and Programs</b></p>	<ul style="list-style-type: none"> <li>• <b>Can they use a range of control toys and devices?</b></li> <li>• <b>Can they begin to develop computational thinking by following instructions to move around a course and create a series of instructions for others to follow?</b></li> <li>• <b>Can they explore outcomes when individual buttons are pressed on robots, such as floor turtles and combine these together to draw simple shapes or follow a route?</b></li> <li>• <b>Can they understand that computers and technology can be used to represent and model situations?</b></li> </ul>	<p>Explore using Bee bots to navigate a track or a map, including right &amp; left turns. children to follow on by creating a set of instructions for someone to follow ( <a href="#">inc. using Bee Bot app on iPads</a>).</p> <p><i>Children should be taught the correct terminology sequence and algorithms.</i></p> <p>SMART Learning Unit:</p>
<p><b>Data Retrieving and Organising</b></p>	<ul style="list-style-type: none"> <li>• <b>Can they enter information into a template to make a graph and pictogram?</b></li> <li>• <b>Can they answer questions relating to a graph and pictogram?</b></li> </ul>	<p>Children carry out their own weather survey to show which is our favourite type of weather in Year 1. They then create their own simple pictograms using <a href="#">2Count (Purple Mash)</a>.</p>
<p><b>E-Safety</b></p> <p><a href="http://www.thinkuknow.co.uk">www.thinkuknow.co.uk</a> (CEOP)</p>	<ul style="list-style-type: none"> <li>• <b>Can they understand that some information is personal and should not be shared online?</b></li> </ul>	<p>Discuss what children know about internet safety. Demo lesson to cover e-safety 'basics' - keeping info private, pop-ups, acting upon something they don't feel comfortable with ... stress how this applies at home as</p>

	<ul style="list-style-type: none"> <li>• Can they understand that things sometimes happen on computers that are not their fault? E.g, pop-ups)</li> <li>• Do they know how to act if they find inappropriate content online?</li> </ul>	<p>well as at school.</p> <p>This will now be ongoing through the summer term also.</p>
<p><b>Communicating / Presentation</b></p>	<ul style="list-style-type: none"> <li>• Can they enter text using a keyboard?</li> <li>• Can they draw on screen image?</li>   <li>• Can they capture &amp; download images from a camera/device?</li> <li>• Can they record a sound and play it back?</li> <li>• Can they record video?</li> <li>• Can they record people's voices as a voice over?</li> </ul>	<p>Simple typing activities eg. typing name on work, typing usernames / passwords, typing simple sentences</p> <p>Simple colouring activities (for mouse control) eg. <b>Purple Mash (Paint Projects)</b>.</p> <p>Simple drawing activities eg. <b>Purple Mash (2Paint a Picture)</b> drawing scene from The Great Fire of London, rockets for Space topic</p> <p>Children take topic-related photos using iPad.</p> <p>Children work with their talk partners to film each other doing a simple weather report (links to Geography). Use iPads to film, recording images as well as voices and sounds.</p>

**Year 1 - Summer Term - COMPUTING**

**Pupils should be taught:**

- to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- to create and debug simple programs
- to use logical reasoning to predict the behaviour of simple programs
- to use technology purposefully to create, organise, store, manipulate and retrieve digital content
- to recognise common uses of information technology beyond school
- to 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.

Programme of Study	Knowledge, Skills and Understanding	Activity/ Link to scheme of work
Using Technology	<p><b>* Can they select the appropriate program by finding and retrieval through the school network? (ongoing)</b></p> <p><b>* Can they use keyboard skills to type a simple username and password into a given program? (ongoing)</b></p> <p><b>* Do they know how to safely use technology by opening and closing a piece of equipment safely? (ongoing)</b></p>	<p>Explore how to log on and off computers, and touch technologies. Teach children why we have a password-link to e-safety (ongoing)</p> <p>Explore a variety of programs, apps and algorithms and be able to drag and move images using these eg. apps on iPads</p>

<p>Algorithms and Programs</p>	<p>* Can they begin to develop computational thinking by following instructions to move around a course and create a series of instructions for others to follow?</p> <p>* Do they know that commands affect algorithms?</p> <p>* Can they understand that computers and technology can be used to represent and model situations?</p>	<p>Recap use of Bee Bot last term. <i>Ch. continue to use Bee Bot app as a free choice activity.</i></p> <p>Further work on direction using <b>Purple Mash 2Go</b> - ch. to attempt independently.</p> <p>Teach algorithms via <b>Purple Mash 2code</b> - step by step. <i>Again, recap work done on simulations last half term.</i></p>
<p>Data Retrieving and Organising</p>	<ul style="list-style-type: none"> <li>• Can they enter information into a template to make a graph and pictogram?</li> <li>• Can they answer questions relating to a graph and pictogram?</li> </ul>	<p>Children carry out their own survey and then create their own pictograms using 2Count (Purple Mash) or <b>TES iBoard</b>.</p>
<p>E-Safety</p>	<ul style="list-style-type: none"> <li>• Can they understand that some information is personal and should not be shared online?</li> <li>• Can they understand that things sometimes happen on computers that are not their fault? E.g, pop-ups)</li> <li>• Do they know how to act if they find inappropriate content online?</li> </ul>	<p>Ongoing e-safety reminders / 'top tips'</p>
<p>Communicating / Presentation</p>	<p><b>E-mail:</b></p> <ul style="list-style-type: none"> <li>• Do they recognise what an email address looks like?</li> <li>• Can they join in sending a class email?</li> </ul> <p><b>Video Clips:</b></p>	<p>Email head teacher- or other member of staff/ person of interest linked to topic or current class learning using <b>Purple Mash 2Email</b>.</p> <p>Create a musical sequence - <b>Purple Mash (2 Sequence)</b></p>

	<ul style="list-style-type: none"> <li>• Can they record a sound and play it back?</li> </ul> <p><u>Ongoing typing / drawing activities:</u></p> <ul style="list-style-type: none"> <li>• Can they enter text using a keyboard?</li> <li>• Can they draw on screen image?</li> </ul>	<p>Ongoing typing activities eg. typing name on work, typing usernames / passwords, typing simple sentences</p> <p>Simple colouring activities (for mouse control) eg. <b>Purple Mash Paint Projects</b> castles</p> <p>Simple drawing activities eg. <b>Purple Mash Paint 2pinat a Picture</b> drawing London landmarks</p>
Ongoing: children continue to take topic-related photos using iPads		

**Year 1 - examples of suggested hardware:**

Programme of Study	Examples:
Using Technology	iPads/ipods, cameras, photocopier, printers, phones, weighing scales, video recorders, alarms, microwave, cooker Smart Learning
Algorithms & Programs	Bee bots (including app on iPads), Daisy the dinosaur app, Blockly, simulations (eg. flight, rollercoaster, driving/racing, boats), Purple Mash (2Explore, 2Beat, 2Sequence), Smart Learning
Data Retrieving & Organising	Purple Mash (eg. 2Graph, 2Count, Espresso, TES iBoard, Smart Learning)
E-Safety	CBBC Stay safe website, <a href="http://www.thinkuknow.co.uk">www.thinkuknow.co.uk</a>

Communicating & Presentation	Purple Mash (2Paint, 2Paint a Picture, 2Draw), TES iBoard, iPads, Smart Learning
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		Year 2- ongoing	
Programme of Study	Knowledge, Skills and Understanding	Activity or Unit	Suggested Hardware / Software
<p>Using Technology</p> <p>Most of this strand can be linked in a cross curricular way across the curriculum.</p>	<ul style="list-style-type: none"> <li>Do they know some uses of a wide range of technology and can describe how it works in a variety of different contexts?</li> <li>Can they select the appropriate piece of technology for a particular purpose and communicate this?</li> <li>Can they save their work to a folder and retrieve it when needed?</li> <li>Can they understand how to edit and copy information using a variety of media?</li> <li>Can they film short scenes &amp; edit with others?</li> </ul>	<p>Explore technology in a range of jobs and look at the purpose of their uses and why they are needed for a variety of roles. If possible visit professional place of work or invite visitors from local shops to discuss the technology used and why. (PSHCE link)</p> <p>Be able to select between touch technology, laptops, control equipment such as bee-bots and choose the right piece of technology for the right job and purpose. Know how to predict from this how programs can be made.</p> <p>Look at a variety of ways to save and retrieve work.</p> <p>Use video recording devices to film short scenes. Edit films, add voice recording , sound effects or music.</p>	<p>Ipads/ipods, cameras, photocopier, printers, phones, weighing scales, video recorders, alarms, microwave, cooker, tills.</p>
<p>Algorithms and Programs.</p> <p>This area of the curriculum is a main area of the new curriculum.</p>	<ul style="list-style-type: none"> <li>Can they continue to explore floor turtles, combining sequences of instructions to follow a pattern or create a shape.</li> <li>Can they explore an on screen turtle and navigate it around a course or grid and/or draw shapes by</li> </ul>	<p>Explore using bee bots further using more complex courses, including drawing shapes or patterns. Begin to use the terminology quarter, half and full turn.</p> <p>Children explore using different methods of recording their instructions. (bee bot cards,</p>	<p>Bee bots, Bee bot pyramid. on screen turtle apps. terry the turtle.</p>

<p>Children should be taught this strand discreetly in order to fulfil the new requirements.</p>	<p>inputting a sequence of instructions?</p> <ul style="list-style-type: none"> <li>• Can they begin to understand that the on screen turtle can be directed through the use of text?</li> <li>• Can they enter information into a basic computer simulation and explore the effects of changing the variables in simulations and discuss the benefits of using these simulations?</li> <li>• Can they discuss their use of simulations and compare with reality?</li> </ul>	<p>drawn arrows and written instructions). children to continue exploring the Bee bot app and other software. Children to create simple shapes with 2GO/logo software.(written commands, eg, fd10, rt90)</p> <p>Continue to Teach algorithms via Espresso coding or 2code.</p> <p>Tellagami is identified as a good simulation method to present information. Morfo is also a similar IOS app to Tellagami</p>	<p>Logo</p> <p>ALEX</p> <p>Hardware and software.</p> <p>Daisy the dinosaur app.</p> <p>Morfo Blockly</p> <p>Simulations Tellagami Flight Rollercoaster Driving/racing Boats</p>
<p>Data Retrieving and Organising Main teaching strands: Creating a graph using data collected in class.</p>	<ul style="list-style-type: none"> <li>• Can they produce simple graphs using ICT?</li> <li>• Can they use a branching database to answer questions?</li> <li>• Can they amend teacher prepared graphs?</li> </ul>	<p>Switched on Computing Unit 2.6 We are zoologists. Bug hunt data. Independently create graph from data collected, eg favourite Christmas presents, favourite seaside destinations. use purplemash/2simple - 2connect /2investigate to create and use a branching database.</p>	<p>2Graph, 2Count</p> <p>2Graph 2connect 2investigate</p>
<p>E-Safety</p>	<ul style="list-style-type: none"> <li>• Can they follow the school's safer internet rules?</li> <li>• Can they begin to understand the term web address?</li> </ul>	<p>Design a class E-safety poster at the start of the year. Demonstration of how to type in a web</p>	<p><a href="http://www.thinkuknow.co.uk">www.thinkuknow.co.uk</a> k Hector's World cartoon.</p>

<p>This forms a critical part of the curriculum, which should link through all your sessions. This could be linked to your PSHCE.</p>	<ul style="list-style-type: none"> <li>• Can they evaluate websites and know that everything on the internet is not true?</li> <li>• Can they recognise that there are other people on the internet and this affects how they should use it?</li> <li>• Do they know how to act if they find inappropriate content online?</li> <li>• Can they tell a trusted adult if someone they don't know tries to contact them via the internet?</li> <li>• Can they understand that they should only open an email from someone they know?</li> <li>• Can they send and receive an email safely as a class?</li> <li>• Do they understand why passwords shouldn't be shared?</li> <li>• Can they use the internet safely for learning and communicating with others?</li> <li>• Can they recognise advertising on website and learn to ignore it?</li> </ul>	<p>address. Start with the schools web address and other different learning sites. Play detectives! Change details or pictures on the school website e.g class teacher. Children to list all of the false information. Hectors world cartoons. Discussion about correct procedure. Following the schools internet safety policy. Receive an unknown class email, open dialogue about whether or not we should open the email.</p>	<p>CBBC Stay safe website</p>
<p>Communicating / Presentation.</p> <ul style="list-style-type: none"> <li>- Create simple emails.</li> <li>- Create an ebook using copy/paste images.</li> <li>- Word processing</li> </ul>	<ul style="list-style-type: none"> <li>• Are they aware that email is used beyond school?</li> <li>• Can they send group/individual email in a controlled environment and reply?</li> <li>• Can they name and use the keyboard safely?</li> <li>• Do they know how to use the simple functions of a tool bar?</li> <li>• Can they develop speed when typing and use a simple document with increasing control?</li> <li>• Can they word process work, changing the font, font size, colour?</li> <li>• Can they add images and use text boxes, word art?</li> </ul>	<p>Send email to another group in class/school and reply. Teacher demonstrate how email can be used beyond school e.g library, author, planned trip, linking school.</p> <p>Using a office based programme - Microsoft word / pages to produce and edit documents.</p> <p>Topic presentations Presentation about themselves or their class/school</p>	<p>Fingertips web mail (See technicians- due to be launched), VLE</p> <p>Microsoft word</p> <p>Microsoft Powerpoint, I-Pads-</p>

<p>skills - speed typing.</p>	<ul style="list-style-type: none"> <li>• Can they cut, copy and paste on to a document?</li> <li>• Can they create basic presentations?</li> <li>• Can they format their text to refine and improve? e.g underline, italics, bold.</li> </ul>	<p>Create a picture score</p> <p>Literacy- storytelling</p> <p>word processing skills - 2type</p>	<p>key note</p> <p>Microsoft Powerpoint, Microsoft word</p> <p>audacity, 2simple music toolkit</p> <p>2animate, Moviemaker, Digital Blue, Monkeyjam</p>
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				Year 3- ongoing			
Programme of Study	Knowledge, Skills and Understanding		Activity or Unit		Suggested Hardware / Software		
<p><b>Using Technology</b></p> <p>Most of this strand can be linked in a cross curricular way.</p>	<p>Do they know how to use a wide variety of technology to suit a particular purpose?</p> <p>Do they understand how to navigate the internet simply? Can they contribute to an online class blog?</p> <p>Can they find relevant information by browsing a menu?</p> <p>Can they search by keyword using a child friendly search engine?</p> <p>Can they bookmark a page into "your favourites"?</p>		<p>Understand computer networks including the internet, how they can provide multiple services such as the World Wide Web and the opportunity they offer for communication and collaboration. Learn email/skype/text/chat/ FaceTime and how they can be used.</p> <p>Select a variety of software and know how to use it to communicate to others for a range of purposes e.g desktop publishing, Pages, Powerpoint, creating a comic strip, weather report etc.</p>		<p>Email, text, skype, forums.</p> <p>PowerPoint, Comic Life, Publisher, iMovie.</p>		
<p><b>Algorithms and Programs.</b></p> <p>This is a main area of the new curriculum. Children should be taught this strand discretely in order to fulfil</p>	<p>Can they begin to plan more complex sequences of instructions for on-screen turtles and floor turtles and test and amend these instructions for different purposes?</p> <p>Can they use a computer to create basic applications, investigating how different variables can be changed?</p> <p>Can they explore simulations as appropriate and discuss the benefits of using these simulations?</p>		<p>Replace turns with angles, eg. right turn = rt90. Understand that forward and backward movements are represented in CM using Bee Bot cars. Use on screen turtles to create more complex shapes and patterns. Use scratch to create instructions to draw a shape or pattern (using the repeat command).</p> <p>continue to Teach algorithms via</p>		<p>City creator Duck builder</p> <p>Beebot cars</p> <p>Move the turtle app IOS</p> <p>TES Iboard 2simple</p>		

<p>the new requirements.</p>	<p>Can they use simulations to make and test predictions?</p>	<p>Espresso Coding or 2Code.</p> <p>Explore a range of simulation software which allow you to change variables and predict the outcomes. E.g.. Duck Builder, change variables like wing span to help the duck jump of the cliff.</p>	<p>Simulations Flight Rollercoaster Driving/racing Boats</p>
<p>Data Retrieving and Organising</p> <p>Main teaching strands: Creating a graph using data collected in class.</p>	<p>Can they input data into a prepared database and can they search and sort a database to answer simple questions?</p> <p>Can they create a graph or chart to present classified data from a database?</p> <p>Can they create a simple branching database, identifying objects and questions to classify data?</p>	<p>Switched on Computing Unit 3.4 "We are opinion pollsters."</p> <p>Children input data into a pre-prepared collaborative database linking to topic using 2Investigate. Teacher poses questions which children use the database to answer.</p> <p>Using the previously prepared database, children create graphs on specific elements as stated by the teacher. Eg, How many girls and boys? Favourite football teams or eye colour.</p> <p>Paper demonstration of a branching database big enough to "walk through"</p>	<p>2investigate Survey Monkey Inspire Data Textease data</p> <p>2connect 2sequence</p>
<p>E-Safety</p> <p>This forms a critical part of</p>	<p>Can they understand that once an online message has been sent it cannot be taken back and understand that there might be consequences of this?</p>	<p>Link to PSHE lesson. As children come into class have a derogatory message about class teacher blu taced on the board, over the top of the same</p>	

<p>the curriculum, which should link through all your sessions. This could be linked to your PSHCE.</p>	<p>Can they recognise that people on the internet are not always who they say they are?  Can they understand that if they make personal information available online it may be seen by others?  Can they understand the need to keep personal information and password private?</p> <p>Do they know how to respond if asked for personal information or feel unsafe about the content of a message?</p> <p>Can they recognise that information on the internet may not be complete, accurate or reliable?</p> <p>Can they understand the need for caution when using the internet to search for images and what to do if they find an unsuitable image?</p> <p>Can they explain the difference between online communication tool used in school and those used at home? Can they understand the outcome of internet searches at home may be different at home than at school?</p> <p>Can they explain how to use email safely?</p>	<p>message. Discuss how inappropriate messages of this type are and rip up the paper. Discuss that message still exists and they have all seen it. Apply to online messages.</p> <p>Lee and Kim cartoon and activities- Think you Know Use VLE as an example/demonstration.</p> <p>Create a poster communicating key messages from Lee and Kim cartoon.</p> <p>Thinkuknow Lesson 3 (Google search)  <a href="http://factsaboutoldham.webs.com/">http://factsaboutoldham.webs.com/</a></p> <p>Class rules for using the internet and what to do if inappropriate information is found.</p> <p>Class discussion and explain about firewall.</p> <p>Revisiting school internet safety policy. Make a leaflet/presentations about email safety. Thinkuknow lesson 4.</p>	
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<p>Communicating / Presentation.</p> <p>Creating and recording a power point presentation.</p> <p>Creating a class blog and contributing to this.</p>	<p>Can they use the email address book and can they open and send an attachment?</p> <p>Can they contribute to blog &amp; wiki/forum etc? (linked to E safety)</p> <p>Can they understand the difference between word processing and desktop publishing tools?</p> <p>Can they use the publishing tools to create posters, leaflets etc?</p> <p>Can they create a presentation using PowerPoint changing the layout of slides and adding images and sound?</p> <p>Can they refine and improve work by using spell checker, thesaurus etc?</p> <p>Can they use a computer to sequence short pieces of music using a small selection of pre-record sounds?</p> <p>Can they independently record video for a range of purpose, paying attention to the quality of the video capture?</p>	<p>Send work to peers to assess</p> <p>Use blog in VLE to share learning Debates</p> <p>Set the same task to groups one using word, one using publisher and compare</p> <p>Create poster, leaflet linked to current learning or specific audience</p> <p>Create presentation linked to current learning or specific audience</p> <p>Use 2Sequence to create a piece of music.</p> <p>Video presentations-topic based Storytelling</p>	<p>Fingertips web mail VLE</p> <p>Google</p> <p>Primary blogger, media wiki</p> <p>iCloud, Microsoft Cloud, Sky Drive</p> <p>Microsoft word. Microsoft Publisher</p> <p>Microsoft PowerPoint</p> <p>IPads, Flip Cams, Digital Cameras, Video Recorders</p>
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		Year 4 - ongoing	
Programme of Study	Knowledge, Skills and Understanding	Activity or Unit	Suggested Hardware / Software
<p><b>Using Technology</b></p> <p>Most of this strand can be linked in a cross curricular way across the curriculum.</p>	<p>Do they know what the term browser is and can they use it to navigate a variety of programmes?</p> <p>Can they use tabbed browsing to open two or more web pages at the same time?</p> <p>Can they open a variety of links and use them?</p> <p>Do they know how to open and view a PDF and can they describe how it works?</p> <p>Can they use a range of digital devices and combine a variety of software?</p> <p>Can they make accurate predictions about the outcome of a programme they have written?</p>	<p>Use search engines effectively to collect, Analyse, evaluate and present data and information. Can children create a survey to present and collect/analyse data?</p> <p>Present a slide show of photographs for a particular purpose.</p> <p>Explore and add music to a relevant presentation.</p>	<p>Excel, google docs, survey monkey.</p> <p>Powerpoint</p> <p>Garage band/audacity.</p>
<p><b>Algorithms and Programs.</b></p> <p>This area of the curriculum is a main area of the new curriculum. Children should</p>	<p>Can they use programming software EG scratch. to plan, design and make their own game,, controllable by external inputs, changing parameters and responses?</p> <p>Can they begin to use software to represent 3D objects</p>	<p>Teach algorithms via Espresso coding or 2code.</p>	<p>sweetcad 3d. purple mash 3d creation. TES iboard tinkercad Espresso coding Terry turtle. sketch up,</p>

<p>be taught this strand discreetly in order to fulfil the new requirements.</p>	<p>or items?</p> <p>Can they explore some simulations and evaluate them?</p>	<p>Plan and design a simple building and create in Blockify.</p>	<p>Lego nxt Lego rcx with robolab/ mindstorms IOS apps Game press Kudo- 3d environment Mozilla thimble - html 2simple sweetcad 3d</p> <p>Simulations Flight Rollercoaster Driving/racing Boats</p>
<p>Data Retrieving and Organising Main teaching strands: Creating Databases and Spreadsheets.</p>	<p>Can they work as a group to collect data on a pre-prepared data collection template?</p> <p>Can they create a database template? Can they input data , using previously collected information, on their database template?</p> <p>Can they use a database to answer questions by constructing queries?</p>	<p>Switched on Computing Unit 4.4 We are Historians, then and now databases</p> <p>Children collect data on a pre prepared data sheet relating to topic.</p> <p>Use 2investigate to create their own database..</p> <p>Children pose their own questions to answer using their database.</p>	<p>Excel Survey Monkey 2Investigate (Purple Mash) Google Docs</p>

	<p>Can they explain what a spreadsheet is? Can they use the terms cells, rows and columns?</p> <p>Can they enter data highlighted to make bar charts?</p>	<p>Show pre prepared spreadsheet. Explain cell, row and column. Answer questions relating to these.</p> <p>Using pre prepared spreadsheet, children highlight given data to create graphs.</p>	
<p>E-Safety</p> <p>This forms a critical part of the curriculum, which should link through all your sessions. This could be linked to your PSHCE.</p>	<p>Can they understand and articulate that social networking sites carry risk? Do they understand the benefit of developing a nickname for online use?</p> <p>Can they behave appropriately online?</p> <p>Can they understand that copyright exists on most digital images, video and recorded music?</p> <p>Can they recognise that cyber bullying is unacceptable?</p> <p>Do they know how to report an incident of cyber bullying?</p> <p>Can they identify when emails should not be opened and when an attachment may not be safe?</p> <p>Can they recognise the dangers of communicating via a variety of devices such as Xbox live, PSP, phones etc?</p> <p>Can they understand that there are means of reporting unpleasant online data e.g. Ceop ?</p>	<p>Lesson 9 Thinkuknow (Google search) Fictional Facebook page to demonstrate risks.</p> <p>Produce a school charter of online rights.</p> <p>Discussion and research. Sam's story <a href="http://www.bbc.co.uk/cbbc/topics/stay-safe">http://www.bbc.co.uk/cbbc/topics/stay-safe</a></p> <p>Cyber café (thinkuknow) Discussion Lesson 5 Thinkuknow</p> <p>Cyber café (thinkuknow) Introduction to CEOP</p> <p>Discussion <a href="http://www.bbc.co.uk/cbbc/topics/stay-safe">http://www.bbc.co.uk/cbbc/topics/stay-safe</a></p>	<p>VLE <a href="http://www.thinkuknow.co.uk">www.thinkuknow.co.uk</a> k (Cyber café) CEOP CLC workshops Sam Story <a href="http://www.allaboutexplorers.com">www.allaboutexplorers.com</a></p>

<p>Communicating / Presentation.</p> <p>Editing videos/ creating presentation.</p> <p>Creating a piece of music using software.</p> <p>.</p>	<p>Can they send e-mails between people within their school domain using the 'cc' and 'bcc' fields?</p> <p>Can they use e-mail to e-mail work completed in school to their teachers and peers?</p> <p>Can they collaborate with peers on a project to produce a finished piece to support topic work- using the cloud? Can they contribute/edit/refine contributions to a shared document and understand that all changes are visible?</p> <p>Can they insert sound recordings into a multi- media presentation?</p> <p>Can they capture images using a variety of technology eg webcams, screen capture, scanning, visualizer and internet?</p> <p>Can they choose images and download into a file?</p> <p>Can they transfer graphics from a range of sources and use them in a desktop publishing program?</p> <p>Can they edit video, applying basic effects and transitions?</p>	<p>Switched on Computing Unit 4.6 We are travel presenters, Switched on Computing Unit 4.3 We are Musicians,</p> <p>Send an email copy/blind copy the head or other staff into it</p> <p>Peer assess learning Email teachers the powerpoint presentations before presenting to class</p> <p>Class research project-linked to topic, each group contribute to one working document</p> <p>Powerpoint presentations (linked to email)</p> <p>Creating a presentation related to topic</p> <p>Photos from Educational visit, exciting lesson, class assembly or other experience, choose 3 to put into own file and import into a word document, eg news report, leaflet, poster or letter.</p> <p>Create and edit a movie using imovie on ipads.</p>	<p>VLE</p> <p>I-cloud, Microsoft Cloud, Sky Drive</p> <p>Digital Blue, I-Pads- Stop Motion, Lego Movie, Moviemaker, scratch, snap, Powerpoint</p> <p>Moviemaker, Photostory</p> <p>Garage Band, Jam Studio, Audacity</p> <p>Zanimate</p>
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	<p>Can they create an extended piece of music using pre-recorded samples for a specific audience then evaluate this?</p> <p>Can they create a stop motion animation using ICT software?</p>	<p>Create a piece of music using <i>Garage Band</i> for a specific audience and purpose.</p> <p>istopmotion and <i>Lego Movie Maker</i> software on ipads</p>	
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		Year 5 - ongoing		
Programme of Study	Knowledge, Skills and Understanding	Activity or Unit	Suggested Hardware / Software	
<p><b>Using Technology</b></p> <p>Most of this strand can be linked in a cross curricular way across the curriculum.</p>	<p>Do they know how to download a document and save it to a computer or given device?</p> <p>Can they decide which sections are appropriate to copy and paste from a variety of web pages?</p> <p>Can they explain the meaning of different domain names and common website extensions? E.g. .co.uk, .com, .ac, .sch, .org, .gov, .net. to support validation of information</p> <p>Do they know how a variety of information is stored and can describe why information is useful to be stored in this way, e.g remote access and collaborative working.</p> <p>Do they know what a variety of file formats are and can they save an image document as a gif or jpeg file format using the save as command?</p>	<p>Pupils access an appropriate document to download and save into their own, or a shared, folder.</p> <p>Pupils use the internet to locate relevant information, copying and pasting to create their own document. They then use this as a source to create their own document, using the information they collated. Include discussion around the importance of copywrite, plagiarism and the need to cross-check with a variety of different sources to validate information.</p> <p>Retrieve information from a file.</p> <p>Pupils to identify different file formats, then use 'Save as' command to save documents in these formats eg. PDF, gif jpeg etc</p>	<p>Blogger, google Docs, the Cloud, VLE- Learnanywhere.</p>	

<p><b>Algorithms and Programs.</b> This area of the curriculum is a main area of the new curriculum. Children should be taught this strand discreetly in order to fulfil the new requirements.</p>	<p>Can they understand that software relies on codes to run and that a range of different coding languages exist? can they name some?</p> <p>Can they explore different ways in which computer software can be created?</p> <p>Can they use a range of assisted programming software (e.g Scratch and/or Kodu) to plan, design and create basic software (for example a simple game), which interact with external controllers (e.g. keyboard and/or mouse).</p> <p>Using software can they control the movement and responses of different commands on screen?</p> <p>Can they use software to create models of 3D objects, landscapes or items?</p> <p>Can they explore a range of increasingly complex simulations, exploring the effect of changing variables and recording the results?</p>	<p>Talk about a range of different apps and the programme language they use. Java - hakitzu, Html - mozilla thimble, khan academy.</p> <p>Teach algorithms via Espresso coding or 2code.</p> <p>Plan and design a simple building and create in tinkercad or Blockify,.</p>	<p>TES iboard Ikea room planner 3d crafter Google sketchup Espresso coding Terry turtle. Lego nxt Lego rcx with robolab/mind storms 2simple enchanted</p> <p>IOS apps Game press Alice Python Simulations Flight Rollercoaster Driving/racing Boats</p>
Notes:			

<p><b>Data Retrieving and Organising</b></p>	<p>Can they create their own data collection sheet using data validation?</p> <p>Can they create databases, planning the fields, rows and columns taking into consideration data collected?</p> <p>Can they search spreadsheets using symbols = &lt; &gt; ?</p> <p>Can they create a formula in a spreadsheet and check for accuracy and plausibility?</p> <p>Can they interrogate their data to create graphs and tables which they can copy and paste into other documents?</p>	<p>Using an appropriate topic, e.g. weather, food, school trips, pupils collect and validate data, using it to create their own spreadsheet.</p> <p>Pupils use their spreadsheet to create graphs and tables, using these to demonstrate and present their findings.</p>	<p>Excel, Google Docs, Word, Textease Data Loggit</p>
<p><b>Notes:</b></p>			
<p><b>E-Safety</b></p>	<p>Do they understand the need for privacy settings in social networking sites?</p> <p>Can they judge when to answer a question online and when</p>	<p>Facebook privacy video to be viewed by pupils. Cyber Café (thinkuknow)</p>	<p><a href="http://www.allaboutexplorers.com">www.allaboutexplorers.com</a> <a href="http://www.thinkuknow.co.uk">www.thinkuknow.co.uk</a></p>

<p>This forms a critical part of the curriculum, which should link through all your sessions. This could be linked to your PSHCE.</p>	<p>not to?</p> <p>Can they recognise the specific dangers associated with online gaming?</p> <p>Can they understand that information found on the internet should be viewed critically?</p> <p>Can they use various sources to double check information found?</p> <p>Can they discuss the positive and negative impacts of using ICT?</p> <p>Can they recognise that some material on the internet is copyright and may not be copied or downloaded?</p> <p>Can they understand that they should not publish other people's picture or tag them on the internet?</p> <p>Do they know that content put online is extremely difficult to remove?</p> <p>Can they create a strong password and recognise the need to regularly update them?</p>	<p>All about explorers - Fake information website.</p> <p>E-safety talks and videos.</p> <p>E-safety posters.</p>	<p>k (Cyber café)</p> <p>CEOP</p> <p>CLC workshops</p>
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Notes:

<p>Communicating / Presentation.</p> <p>Podcast Multimedia presentation.</p>	<p>Can they use instant messaging to communicate?</p> <p>Can they conduct a video chat with someone elsewhere in school?</p> <p>Can they use a range of presentation applications, using a range of digital devices?</p> <p>Can they make a home page for a website that contains links to other pages?</p> <p>Can they locate and access streaming audio such as online radio? Can they download and listen to podcast?</p> <p>Can they produce and upload a podcast, selecting and importing already existing sound effects and music as well as recording their own?</p> <p>Can they select and download music from open sources?</p> <p>Can they use a range of software to create/manipulate music and sound samples and sequence these?</p> <p>Can they create a film for a given audience incorporating a range of different scenes and carefully selected effects?</p> <p>Can they use technology to create images using layers</p>	<p>Send a message to pupils/teacher e.g PSHE/SEAL</p> <p>Reading stories Buddies with another year group Webcam chat-linked to topic</p> <p>Introduction to the school for new parents.</p> <p>Class web pages</p> <p>Pupils use this music/sound to incorporate into multi-media presentation.</p> <p>Create a video animation using clay/lego/play doh</p>	<p>First class, Fingertips</p> <p>Face time, video conferencing</p> <p>Smart notebook, Powerpoint, Keynote</p> <p>Digital Blue, I-Pads- Stop Motion, Lego Movie, Moviemaker, scratch, snap</p> <p>Audacity</p> <p>Google sites, PB Works, Mediawiki</p> <p>Jam studio, Garage Band, LMMS</p> <p>Digital Blue, I-Pads- Stop Motion, Lego Movie, Moviemaker, scratch, snap</p>
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	<b>e.g. Photoshop?</b>		

		Year 6 - ongoing	
Programme of Study	Knowledge, Skills and Understanding	Possible Activity or Unit	Suggested Hardware / Software
<p><b>Using Technology</b></p> <p>Most of this strand can be linked in a cross curricular way across the curriculum.</p>	<p>Can they conduct a video chat with more than one person at a time?</p> <p>Can they save and retrieve information online e.g. using Cloud technology?</p> <p>Can they develop and use their own QR codes?</p> <p>Can they use tabs to make a comparison of a website?</p> <p>Can they use a variety of symbols such as + and - and "" to refine and scale down internet searches.</p>	<p>QR Treasure Hunt, with each code giving them the next clue. Develop QR code to link to class webpage.</p> <p>Learn how to use google to create shortcuts to a website.</p> <p>Pupils add and remove tabs during web searches..</p>	<p>Google Search 'search operators google'</p> <p>Geo-cashing, QR apps, GPRS.</p> <p>Prezi, powerpoint</p>
<p><b>Algorithms and Programs.</b></p> <p>This area of the curriculum is a main area of the new curriculum. Children should be taught this strand discreetly in order to fulfil the new requirements.</p>	<p>Do they know how to use a range of visual based Programming software (e.g Scratch and Kodu) to plan and design basic software (for example a simple game), controlling the movement and responses of different elements on screen?</p> <p>Can they use a range of visual programming software to plan and design a game?</p> <p>Can they control an on-screen icon using text based controls, and respond to sensors and repeating written algorithms (e.g. Robomind)?</p>	<p>Teach algorithms via Espresso coding or 2code.</p> <p>Plan and design a simple building and create in, tinkercad or Blockify,.</p> <p>Electronic circuit building simulation, traffic light control. (flowal)</p>	<p>sweetcad 3d sketch up</p> <p>Google Sketch up</p> <p>Auto desk inventor</p> <p>Ikea room planner</p> <p>3d crafter</p> <p>logi blocks</p> <p>Espresso coding</p> <p>Terry turtle.</p> <p>Lego nxt</p> <p>Lego rcx with</p>

	<p>Can they begin to explore text based programming languages and create basic scripts ?</p> <p>Can I Use software to create models of 3D objects, landscapes or items, including creating to scale ?</p> <p>Can they use a range of more complex simulations, exploring the link to 'real life' and the impact of changing variables?</p>		<p>robolab/mindstorms python alice crocodile clips - electronics flowal - flow charts programming</p> <p>IOS Apps Welbourneprimary.co m/lin</p>
<p>Data Retrieving and Organising Main teaching strands: Create a simulation in excel? Use data logging?</p>	<p>Can they collect live data using data logging equipment and present this data in different ways?</p> <p>Can they identify data error, patterns and sequences?</p> <p>Can they use the formula bar to explore mathematical scenarios. For example, that quick and easy changes can be made to different variables once the spreadsheet is set up?</p>	<p>Pupils identify and de-bug errors within spreadsheets.</p> <p>Pupils add, edit and change formulae within their spreadsheets.</p>	<p>Loggit</p> <p>Excel</p> <p>Publisher, Word, Google Docs,</p>
<p>E-Safety</p> <p>This forms a critical part of the curriculum, which should link through all your</p>	<p>Can they use and amend their own privacy settings to keep themselves safe on social networking sites?</p> <p>Can they understand that some malicious adults may use varies techniques to make contact and elicit personal information?</p> <p>Can they understand the dangers of chatting or meeting</p>	<p>Jigsaw video.</p> <p>Fictional facebook profile and privacy settings video.</p> <p>Make their own presentations, ebook, comic strip, video about keeping themselves, and</p>	<p>CEOP CLC workshops</p>

<p>sessions. This could be linked to your PSHCE.</p>	<p>up with an online friend?</p> <p>Can they share their own knowledge of e-safety with others?</p> <p>Can they understand the term peer pressure and how powerful an emotion of feeling left out can be?</p> <p>Can they explain why people may publish content on the internet that is not accurate?</p> <p>Can they identify and recognise the potential risks of scamming and phishing?</p>	<p>others, safe.</p> <p>Pupils create &amp; publish their own fake website</p>	
<p>Communicating / Presentation.</p>	<p>Can they confidently use text formatting tools, including heading and body text?</p> <p>Can they compare and contrast different image creation and editing tools across a range of platforms?</p> <p>Can they develop a web-site which contains more than one page?</p> <p>Can they create a web based application for a smart-phone or tablet for a variety of audiences?</p> <p>Can they explore the menu bar and experiment with images (colour effects, options, snap to grid, grid settings etc)?</p> <p>Can they Save as gif or jpeg to make the file smaller for emailing or downloading?</p>	<p>Creating posters/ letters/non-chronological reports and presentations.</p> <p>Pupils to create a website that other children could use, relating to a specific subject or topic, e.g. link school.</p> <p>Create own App for a younger class.</p>	<p>Microsoft word, Microsoft Publisher</p> <p>Microsoft word, Microsoft Publisher, Powerpoint</p> <p>Google sites, PB Works, Mediawiki</p>

	<p>Can they create a multimedia presentation that contains sound, animation, video and buttons to navigate taking into consideration good design principles, making independent choices about the best media to use and considering the needs of the audiences and the impact the presentation will have?</p> <p>Can they create a non-linear presentation?</p> <p>Can they regularly use word processing and desktop publishing to present their work, making choices about programs and features to use and justifying these choices to others?</p>	<p>Pupils create a powerpoint with two different outcomes- adding hyperlinks. E.g 'Who wants to be a millionaire'</p> <p>Create presentation relating to topic</p> <p>Pupils create a interactive Yearbook, e.g using video.</p>	<p>App Inventor, App shed, Phoneygap, Codea</p> <p>Microsoft Powerpoint, Prezi</p> <p>Microsoft Word, Microsoft Publisher</p>
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