BHSA- ICT and Computing skills map

Year group	Basic Computer use	Research and the internet	Digital Media and animation	Spreadsheet graphing and databases.	Presentation	Programming	E-safety
FS	Press buttons and move things on interactive whiteboard to make things happen. Control a mouse/mousepad and use it to make the cursor move.	Understand that you can send email messages to people using the internet which is like a letter on the computer. As a class send an email message to your Head teacher (?) which she could reply to. (Recognise common uses of information technology beyond school)	**Audio Recording-**Use play, record, stop and on a variety of hardware to play/record sounds such as digital mikes and talking pegs. (Use technology purposefully to **create,** organise, **store,** manipulate and **retrieve** digital content) As a class take pictures and put them in an order to create a photo story. (Windows Photo story) Next step is for girls to suggest words which the teacher could type on each picture to tell their story. (Use technology purposefully to **create, organise**, store, **manipulate** and retrieve digital content.) Watch videos in expresso as a class. Use education city games and resources as a class.	.	Paint/Colour magic: Drawing pictures.	BeeBot • Decide where you would like your BeeBot to go and program the BeeBot to reach the desired position. • Correct mistakes in your programming, (Create and debug simple programs) • Listen to the programming instructions a teacher has given to a BeeBot and decide where the BeeBot will stop. (Use logical reasoning to predict the behaviour of simple programs.) Below is an example of use of the BeeBots which achieves the above. http://www.itass.newham.gov.uk/curriculum/fssow/topic.aspx?topic=6&resource=8	Understand that computers are very useful but that we need to use them with an adult/the permission of an adult. (Use technology safely and respectfully, keeping personal information private; know where to go for help and support when they have concerns about material on the internet.)

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Y1	Control a mouse and use it to make things happen. Log onto the school network (infant log in) Use basic punctuation keys and locate letters on the QWERTY keyboard. Use the backspace and delete keys Save and retrieve work from MS word, textease or photostory. (Use technology purposefully to create, organise, **store,** manipulate and **retrieve** digital content) Write information in sentences onto a single page document on MS Word or Textease. (Use technology purposefully to **create**, organise, store, manipulate and retrieve digital content.) Print work	Open internet explorer Search for a single piece of information Search the internet for a picture (google images) Use a given website to find information **(KS1 pushing the more able readers-a raiseonline priority)** Explain how/why you might want to do all of the above outside of school. (Recognise common uses of information technology beyond school)	**Audio Recording, Creating music**-Use play, record, stop and pause on a variety of hardware to play/record pictures, sound and video. - digital mics, tuff cams. (Use technology purposefully to **create,** organise, **store,** manipulate and **retrieve** digital content) Take a digital photo Review digital photographs and order photos to create a simple photo story (PHOTOSTORY) (Use technology purposefully to **create, organise**, store, **manipulate** and retrieve digital content) Change the size of photos and pictures in my work-MS word. (Use technology purposefully to **create, organise**, store, **manipulate** and retrieve digital content) BEEBOT-Shell designer (Use technology purposefully to **create, organise**, store, **manipulate** and retrieve digital content.) **Pivot Stick-**make a stick figure animation. Plan a sequence of actions. Set a challenge and talk about the algorithm and steps necessary to achieve it.-Single character, changing colour and size. AND/OR use of Foldflip app on IPads-draw stick man and plan sequence of actions, changing colour and size.		Use the keyboard to add words (Textease Paint CT) Use different pen and brush sizes on a computer (Textease Paint CT) Use the straight line and geometric shape tools (Textease Paint CT) **(KS1 pushing the more able mathematicians-a raiseonline priority)** Use stamp, fill and spray tools (Textease Paint CT)	Simple simulation: (this is just an example of a simulation activity but anything like this is appropriate) • BBC growing plants. Role play-unplugged robots. (see ICT folder) (Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Give BEEBOT instructions and fix mistakes-including the use of Beebots:1 computer programme/Ipad app- (Create and debug simple programs.) Look at BeeBot instructions and say what you think will happen (Use logical reasoning to predict the behaviour of simple programs.) Understand that a computer program is just a set of instructions for the computer to follow. Control, follow, use and understand instructions (BEEBOTS) (Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.) Suggested IPad use: • BeeBot App • Daisy the dinosaur-use of repeat and when functions. • Kodable give instructions through use of arrows and correct mistakes. • Expresso coding units 1a 'on the move' and 1b 'simple inputs.'	Give examples of personal and impersonal information and know not share my personal information Know what to do if we meet a stranger (in real life or on the internet). Know what to do if we see something not nice on the internet Colour/Create an E-safety poster (CEOPS/ Kidsmart/SID) (All above-Use technology safely and respectfully, keeping personal information private; know where to go for help and support when they have concerns about material on the internet)

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Year group	Basic Computer use	Research and the internet	Digital Media and animation	Spreadsheet graphing and databases.	Presentation	Computing-control and simulation	E-safety
Y2	Log onto the school network (personal log in) Use the space bar, backspace and enter keys Use copy and paste. Write in text boxes Correct mistakes as I go along. Save my work in my own folder. Find and open saved work, make changes and resave from MS word, textease and photostory. (Use technology purposefully to **create, organise, store, manipulate and retrieve** digital content)	Use a selection of given websites to find information. **(KS1 pushing the more able readers-a raiseonline priority)** Locate a website using the address bar. Open links and play games on the internet Explain why you might do the above outside of school. (Recognise common uses of information technology beyond school.) Use copy and paste to insert pictures or text into a word document/PPT presentation. (Use technology purposefully to **create, organise, store, manipulate and retrieve** digital content.)	Change the size of photos and pictures in my work and text wrapping in MS WORD. (Use technology purposefully to create, **organise,** store, **manipulate and retrieve** digital content) BEEBOT-Shell designer (Use technology purposefully to create, **organise,** store, **manipulate and retrieve** digital content) Create a simple photostory presentation with text and photos. (Use technology purposefully to **create, organise, store, manipulate and retrieve** digital content) **Pivot Stick-** make a stick figure animation. Plan sequence of actions. Set a challenge and talk about the algorithm and steps. Multiple characters, changing colour and size, editing characters, additional objects AND/OR use of Foldflip app on IPads-draw stick man and plan sequence of actions with multiple characters, changing colour and size with a voiceover. Suggested IPad use: • Foldflip • KomaKoma animation through photos of moving figures.	I can search a database (textease) I can add data to a database and show it as a graph (textease) I can make a pictogram (textease)	Change the size, type and colour of the font. Use bold, italic and underline buttons. Insert a relevant clipart in Word/Paint/Te xtease/PowerP oint. (Use technology purposefully to **create, organise, store, manipulate and retrieve** digital content) Create and play a basic PowerPoint presentation of several pages combining text and images-Images either cliparts or from file created by teacher. (Use technology purposefully to **create, organise, store, manipulate and retrieve** digital content)	Simulation: Maze games using arrow keys http://www.primarygames.com/puzzles/mazes/mazerace/ Half and quarter turns: http://www.iboard.co.uk/iwb/Controlling-Round-a-Route-693 **(KS1 pushing the more able in maths-a raiseonline priority)** Code it-sandwich making algorithm (see ICT folder) Give BEEBOT 2 step instructions and fix mistakes-including the use of Beebots:2 computer programme/IPad app (Create and debug simple programs) Look at BeeBot instructions and say what you think will happen. (Use logical reasoning to predict the behaviour of simple programs.) Control, follow, use and understand instructions. SCRATCH -Dressing up game (ICT folder) -Scratch activity cards for children to work through at their own pace. **(KS1 pushing the more able-a raiseonline priority)** (Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions) Suggested IPad use: • BeeBot App • Kodable give instructions through use of arrows and correct mistakes. • Hopscotch app-basic movement, leaving a trail, investigate the when function. • Expresso coding units 2a 'different sorts of input' and 2b 'buttons and instructions'	Explain why some people online may not be reliable. Know what to do if we meet a stranger (in real life or on the internet). What to do if we see something not nice on the internet. Explain why some information online may not be reliable. (CEOPS/ Kidsmart/SID) (All above-Use technology safely and respectfully, keeping personal information private; know where to go for help and support when they have concerns about material on the internet)

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Y3	Use punctuation keys including those requiring the use of the shift key. Use scroll bars and arrow keys. Find folders on the network. Use minimise and maximise buttons for multiscreens Use the cut button as well as copy and paste.	Understand that the internet is out there and not inside your computer. Understand that you need to be connected to the internet for it to work- (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 a search engine (e.g. Google) to find information on a topic- (Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content) (KS2 reading-a raiseonline priority) Save pictures from the internet to use in my work. Add websites to your favourites list and refind using favourites.	Create a photostory with effective narration and music.-Photostory /MovieMaker (Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.) Use software to take video and photos.-Tuffcams/digital cameras-advanced skills such as zoom/angles. Record my voice. (Digital Mics) Design and create images-E.g. for a card-MSWORD/MSPAINT. (Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.) Suggested Ipad use: Lego Movie Maker-plan out sequence of actions using lego character, set to appropriate music to accompany the story.	Create and format a bar chart after collecting appropriate data.-textease-Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information. (KS2 maths-a raiseonline priority)	Custom animate each box or picture on a PowerPoint. Add transitions between slides. Insert sounds and music into a PowerPoint Change the position of a picture in my work (text wrap) Change text position (left, right, centre) Use software to crop, resize and rotate photos and pictures.	Write down then program a robot with instructions to complete a route. Review and adjust my instructions as necessary- Textease turtle. (Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts) **Computer simulation is a program which attempts to mimic a real-life scenario** (unlike a computer game which often has an imaginary setting they let you try things out which would be too: difficult, dangerous or expensive to do in real life) Use online simulations e.g. http://pbskids.org/dragonflytv/games/aerial_v4.swf Or http://www.idodogtricks.com/index_flash.html Or download the duck game http://www.simonhaughton.co.uk/2010/06/the-duck-builder-simulation.html (Use sequence, selection, and repetition in programs; work with variables and various forms of input and output) Control a character (virtual), follow, use and understand instructions. Decompose complex problems into simple steps. SCRATCH (see I can statements in ICT folder for assessment.) -**Smoking car** (see ICT folder) -**Music machine** (see ICT folder) -**Basic Conversation** (see ICT folder) Suggested IPad use: • Hopscotch app-drawing a trail, movement, repeat control, changing costume. • Expresso coding units 3a 'sequence and animation' and 3b 'conditional events-selection.'	Know what to do if we meet a stranger (in real life or on the internet). Know what to do if we see something not nice on the internet. Say the SMART rules and know why each one is important. CEOPs/Kidsmart All above- Use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour.

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Y4	Use keyboard shortcuts to perform tasks quickly. (Ctrl C,V) Use spellcheck and thesaurus tools.	• Understand that the internet is thousands of connected computers, each having different pieces of information on them. • Understand that computers need to be 'connected' (be able to send messages) to each other for the internet to work. (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) • Understand that search engines collect and store information about what is on the internet. • Understand that a search engine helps to find information that we are looking for. • Understand that not all information on the internet is true. • Use a search engine to find information, cross referencing several websites and other sources to find the most relevant website for the information I require. (Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content) Log into moodle and find my year group resources. Send and receive messages to someone in my class. (KS2 reading-a raiseonline priority) (Use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour)	Combine still life images and words - Written or spoken to tell a story MSPhotostory Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information. Suggested IPad use: • iMovie combine stil life images and spoken words to tell a story (compare with photostory which do you prefer?)	Create tables, bar charts and pie charts MSExcel/TEXTEASE Database Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information. Know what databases are and what they are used for. Help design a class database and questionnaire (textease) Load, prepare, save and print a database. Enter, add and remove data into a database. (KS2 maths-a raiseonline priority)	Add frames and borders to a word document. Create a hyperlink between slides on PowerPoint presentation.	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output . Getting up algorithm (see ICT folder) • Control a character (virtual) • Follow, use and understand instructions. Decompose complex problems into simple steps. SCRATCH (see I can statements in ICT folder for assessment.) -**Maths Quiz** (see ICT folder) (KS2 maths-a raiseonline priority) -**Pupil Quiz** (see ICT folder) -**Broadcast Conversation** (see ICT folder) Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs Suggested IPad use: • Hopscotch app-drawing a trail, movement, repeat control, changing costume and multiple characters. • Lightbot • Expresso coding units 4a 'introduction to variables' and 4b 'repetition and loops'	What to do if we meet a stranger (in real life or on the internet). What to do if we see something not nice on the internet Identify situations online when I need to be aware of my safety. All above- Use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour.

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Y5	Insert headers and footers. Change and adjust margins Enhance my photos by adding effects and colour washes.	• Understand that the internet is not the same thing as a web browser. (A web browser allows you to view the internet, but you can open a browser even when not connected to the internet.) • Understand that the internet is a very big computer network, but there are lots of smaller networks in schools, businesses and even homes. A network is just a collection of connected computers that can send messages to each other. • Understand that when we save files (work) on in school that it is not saved on that machine but saved to a server. The information sent to the server when you save means you can get it from another computer. Servers normally stay on all of the time so the work is always accessible. • Share information over the school network (Email and using the network drives) **(KS2 reading-a raiseonline priority)** 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 • Know that not all information on the internet is true. • Understand that some information, images and videos on the internet are copyright protected and we need to check with the owner before we use them. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Create a movie with title page, credits and music/recordings. Movie Maker All above- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information. Suggested IPad use: iMovie combine video with voice over/music and transitions. (compare with moviemaker-which do you prefer?)	Use online tools such as surveymonkey to collect data. Presenting numerical data and creating graphs MS Excel Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information. **(KS2 maths-a raiseonline priority)**	Create a well presented piece of writing.(MS Word) Create a convincing presentation PowerPoint using skills listed in previous years. All above- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	• Control a character (virtual) • Follow, use and understand instructions. Decompose complex problems into simple steps. SCRATCH (see I can statements in ICT folder for assessment.) -**Crab maze** (see ICT folder) -**Space lander game** (see ICT folder) -**Counting machine** (see ICT folder) **(KS2 maths-a raiseonline priority)** Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Suggested IPad use: • A.L.E.X. • Cargobot • Expresso coding units 5a 'speed, direction and coordinates' and 5b 'random numbers and simulations.' •	What to do if we meet a stranger (in real life or on the internet). What to do if we see something not nice on the internet Identify situations online when I need to be aware of my safety. All above- Use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour.

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Y6		Log into moodle and find my year group resources. Send and receive messages to someone in my class. Use email and other forms of electronic communication. Use and organise inbox. Reply to sent messages. (Use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour) (KS2 reading-a raiseonline priority)	During Music Lessons Load music software. Try different instruments, sounds. Make a tune for two or more instruments. Electronic keyboard Try different sounds Mix and play sounds Use saved tunes with my work Record a tune for one or more instruments, Create a movie with title page, credits and music/recordings. Movie Maker. Add transitions and visual effects enhance the movie. (Movie maker.) Suggested IPad use: • Use IMovie to create a trailer.	-Understand what a spreadsheet is used for. -Enter data into a spreadsheet (excel) -Convert table to a graph -Use basic formula in rows and columns. -Align data within a cell. -Change the width of columns and height of rows. -Insert and delete columns and rows. -Add legend, axes titles etc. All above- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information. (KS2 maths-a raiseonline priority)	Create a well presented piece of writing.(MS Word) Create a convincing presentation PowerPoint using skills listed in previous years. Make a TV show/News broadcast Windows Movie Maker/ Visualiser webcam Digi microphones) All above- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Control a character (virtual) or machine (physical). • Follow, use and understand instructions. • Decompose complex problems into simple steps. SCRATCH (see I can statements in ICT folder for assessment.) -Coin Program (see ICT folder) (KS2 maths-a raiseonline priority) -Perimeter Program (see ICT folder) (KS2 maths-a raiseonline priority) -Grab a snack (see ICT folder) 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 Suggested IPad use: • Logo draw-2D shapes (draw by working out angles etc.) • A.L.E.X. • Cargobot • Expresso coding units 6a 'more complex variables' and 6b 'object properties.'	Communicate safely on the internet focus on social networking, chatrooms and other online communication) www.thinkuknow.co.uk cyber cafe Describe strategies for issues of personal safety online. Discuss and demonstrate good online etiquette. Understand the pros and cons (uses and misuses) of social media. All above- Use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour.