Becoming digitally confident

How do we learn about computing? – A progression of skills regarding digital literacy, information technology and computer science

Areas of computing				Key Stage					
	EYFS	KS1		LKS2			UKS2		
Key Vocab		save/ save as background foreground narration	KS1 Bronze Level Challenge	save/ save as background foreground narration	onion skin capture area audio usage rights	LKS2 Silver Level Challenge	save/ save as background foreground narration	onion skin capture area audio usage rights	frames per second stage composition	UKS2 Gold Level Challenge
Digital animator	Fine motor skills: Begin to show accuracy and care when drawing. Expressive arts and design: Invent, adapt and recount narratives with peers and their teacher Share their creations, explaining the process they have used Speaking: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary	Create a shared plan. Create content which includes text images and audio Open, upload and edit images. Select and save content Add simple movement to an animation.	Show a confident technique of the touchpad and mouse in order to create a character which has a successful outline but also contains finer detail too. Animation is deliberately chosen to develop impact specific to the story.	Create a plan in small groups. Create content which includes text, images, audio (backing track via iMovie) and 3D objects Search for, save, edit and upload images. Use correct usage rights for images. Understand how to animate fluidly using onion-skinning. Manipulate a range of objects for stop-frame animation.		The fluidity and clarity of the animation is seamless: hands are not in the shot; characters are consistently fluid throughout the whole animation and the transitions between scenes are cohesive too (jumping of the capture area is minimal).	Create well-organised storyboard using word processing skills. Plan for the 'tweening' slides to understand how to create transitions between scenes. Create content which includes text, images, a range of audio and 3D objects Safely search for, edit, design and create images to use Understand terminology such as 'stage', 'capture area', and 'composition' when organising animation. Manipulate the speed (FPS) and fluidity (onion-skinning) confidently to create successful motion. Manipulate a range of objects for stop-frame animation			Ensure the motion of the animated character matches the pulse of the classical music perfectly. Manipulate this through the speed as well as the actions chosen. The transitions between the scenes using the tweening are seamless (character moves off and then back on the stage or the camera pans out/in). The position of the iPad and the stage is consistently spaced and stationary.
Key Vocab		pulse rhythm backing track problem	KS1 Bronze Level Challenge	pulse rhythm backing track problem	dynamics notation pitch appraise	LKS2 Silver Level Challenge	pulse rhythm backing track problem	dynamics notation pitch appraise	structure composition timbre texture	UKS2 Gold Level Challenge
Digital musician	ELG: Listening, Attention and Understanding: Make comments about what they have heard and ask questions to clarify their understanding Speaking: Participate in small group, class and one-to-one discussions, offering their own ideas. Show an ability to follow instructions involving several ideas or actions. Self regulation: Set and work towards simple goals	To find and show the term 'pulse' digitally. To find and show the term 'rhythm' digitally To understand that music can be organised into sections called 'bars'. To speed up or slow down the temp by changing the 'beats per minute'. Children can identify a problem with the pulse and rhythm and debug it.	Children can match the pulse of the music to the dance perfectly and with little support. Children can clap an additional rhythm and then work with little support to replicate this digitally using 2sequence in Y2 and 2beat in y1. They can then repeat this another 2 times with 2 more complimentary rhythms to create a whole composition.	To find and show the term 'pulse' and 'rhythm' digitally. To create more than one rhythm. To identify where the 'pitch' and 'dynamics' change/ need to change. To change the instrument being used to change the 'pitch' and 'dynamics' accordingly. Children can identify a problem with the pulse, rhythm, pitch or dynamics and debug it.		Children can find and show more than 2 rhythms heard in a well-known song confidently and recreate these using a beat sequencer. Children choose the instruments and edit the volume of these depending on the dynamics heard in order for the backing track to be a sound fit.	Children to find and show the pulse and rhythm using a range of digital devices Discuss and identify the timbre, pitch and texture and emotion created by a range of digital instruments. Create a song on Garageband which uses a variety of layered rhythms. Create music which develops a specific emotion using timbre, pitch and texture to help.			Children can clearly identify where they have used the interrelated dimensions of music via Garageband in order to successfully depict a given emotion. This piece of music has been digitally planned and composed through an acute awareness of notation and photo-editing software,
Key Vocab		operate order problem solving instructions/algorithm prediction	KS1 Bronze Level Challenge	operate order problem solving instructions/algorithm prediction	sprites repetition sequence debugging costumes backdrop program	LKS2 Silver Level Challenge	operate order problem solving instructions/algorithm prediction	sprites repetition sequence debugging costumes backdrop program	variable if (Y5)/if else (Y6) coding blocks (all) decomposition	UKS2 Gold Level Challenge

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Digital coder								
Participate in small groups, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary Set and work towards simple goals, being able to wait for what they want and control their immediate impulses when appropriate Have a deep understanding of number to 10, including the composition of each number Verbally count beyond 20, recognising the pattern of the counting system Negotiate space and obstacles safely	Predict and articulate how an algorithm will work Use simple algorithms to make a robot work. Create a simple algorithm to make a robot move forwards, backwards and turn (left and right). Use an understanding of 'sequence' to move a robot around a specific course. Debug an algorithm to allow a robot to complete a specific course.	The Beebot follows a code which enables it to move effortlessly from the start to the end of the course whilst also avoiding more than 3 obstructions successfully. If the created o a given code is in need of debugging, it is solved through logical thinking: children test, retest and create a systematic response to the problem (e.g. starting from the beginning code/step-by-step) with little support.	Predict and explain how an algorithm works and what it can and can't allow them to do. Understand and use the term repetition and sequence. Use sequence to edit and refine an algorithm to make it more efficient. Explain, identify and manipulate key vocabulary in programming: events, control, movement, change, sound and look. Create a simple program which uses multiple instructions.		*Children can successfully complete a program which using a range of algorithms in order to accomplish a program which is cohesively tied together.* *This might be in the form of a story or a journey but the change of size, costumes, backdrops and movements are all links together within a chosen theme or idea.* *Debugging is managed through successful decomposition with little support.*	Children can decide on what the most logical sequence is and why. Use sequence and repetition to edit and refine an algorithm to make it more efficient. Children can use the 'if' instruction. Children know how to use a variable. Children can focus on different kinds of programming blocks: motion, looks, sound, sensing, operators and pen. Create a computer program that uses a range of programming blocks including a variable and an 'if' instruction. Children understand the process of debugging through logical reasoning and decomposition.		Children can efficiently use logical reasoning to understand what a given code is saying and predict what this would enable the sprite to do or how a sprite may change. Children can develop an end program which has a strong and cohesive link running throughout whilst also being interesting and exciting for the player. The program uses an example of each coding block successfully: motion, look, sound, sensing and operators.

Key Vocab								
		attribute **data** **sort** **organise** **tally** **chart** **grouping**	**KS1 Bronze Level Challenge**	**attribute** **data** **sort** **organise** **tally** **chart** **grouping**	**Y3: network, content, routers, spiders, webpage, websites, network, devices, ownership and copyright.** **Y4: branching key, structure, order, database, comparison, divide**	**LKS2 Silver Level Challenge**	**attribute** **data** **sort** **organise** **tally** **chart** **grouping** / **branching key structure** **order** **database** **comparison** **divide** / **spreadsheet formula cells format input output**	**UKS2 Gold Level Challenge**

Digital informer/data handler								
I can identify a chart. (I can sort physical objects, take a picture and discuss what I have done. I can present simple data on a digital device.)	Contribute to the collection of class data. Sort and organise data using an understanding of 'attributes'. Label data correctly. Answer simple questions using pictograms and bar charts. Represent data using a chart and a graph. Edit and refine any graphical errors between the chart and graph.	To be able to construct several comparison statements using data which has been organised and present digitally- moving beyond simple questions e.g. There are ___ more ___ than ___. The difference between ___ is ___. If I were to add 2 more ___ the total would be ___ Children will be able to create appropriate heading and for their tally charts and appropriate labels for their charts independently.	**Year 3- links to managing online information (summer 1)** To understand the setup and limitations of the WWW Understand that the internet is made up of a network of networks. Understand how information can be shared. Understand how to be a use search technologies effectively Understand why it is important to be discerning in evaluating digital content **Year 4** Group and sort objects using their understanding of attributes. Plan and represent data using a branching database Understand what makes an efficient and manageable database (structure). Compare and evaluate different ways of presenting data.		**Y3** Children will be able to clearly articulate what the WWW is, how it can be used, who owns it and why it is important to be discerning in not only a clear and succinct way but also using a range of tier 3 vocabulary correctly. **Y4** Children can create a branching key which sorts the objects from one whole group into separate items in the fewest questions possible using both logical thinking and a clear idea of structure.	Use and understand the words 'cell' and 'formula' in a spreadsheet. Understand how to use formula and how different inputs will generate different outputs. Use labels, columns and rows in an organised way to create a well-structured database. Use formula to answer questions about a set of data. Use logical thinking to understand when and when not to duplicate formulas Plan and represent data using a spreadsheet, formulas and a well-chosen graph to help.		Children create a database which shows a clear understanding of input, output and formula. They can create a database which is not only efficient in terms of the formulas used (use of colons to add a range of data and duplicate formulas where necessary) but also effectively structured. They can then use this database and turn specific data into a chart in order to answer questions confidently.

Key Vocab								
		moving image **still image** **editing**	**KS1 Bronze Level Challenge**	**moving image** **still image** **editing**	**crop** **tilt** **trim** **titles** **snipping** **transitions**	**LKS2 Silver Level Challenge**	**moving image** **still image** **editing** / **crop** **tilt** **trim** **titles** **snipping** **transitions** / **shots** **angles** **effect** **impact**	**UKS2 Gold Level Challenge**

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Digital film maker	**I know the difference between a photography and video.** (I can record a short film using the camera. I can record and play a film. I can watch films back.)	Know the difference between a still image and a moving image. Explain the advantages and disadvantages of a still image and a moving image. Join a still and moving image together using video editing software. Work collaboratively to reach a particular goal (shared script) Record a moving image. Children can download or save an image (screen capture). Edit an image for a specific purpose (title screen).	Children can create a still image which includes a great deal of finer detail through the use of a range of colour, shape and pen/line weight. Children can record a moving image which is refined to limit the movement (shaking) and ensures the sound quality is clear. Children, with little support after the initial instructions, can amalgamate the moving and still image together. The volume of the moving image is clear and the duration of the still image allows the audience to be clear of the films content.	Children can amalgamate more than one still image together using tools such as crop, snip and arrangement. Edit still images (crop, tilt, filter) for a specific purpose (impact, mood). Use video editing software to combine moving and still images together. Use transitions to flow between different images fluidly. Trim and snip images in order to enable an effective flow. Add background, music and text to a film. Add narration to film using audio recording equipment. Use zoom to ensure the focus of the moving image.	Children can explain very confidently how they have edited images in order to specifically impact on the mood. Every single aspect of their film has been chosen in order to build a specific impact on the audience.	Identify the different angles and shots in moving and still images. Explain why different shots may be used (impact). Children use duration of shots to have an effect on the audience. Record multiple still and moving images using different angles and shots for a specific purpose. Children use video editing software to edit a narrative film, using a variety of techniques: trimming clips, splitting clips, adding images, transitions between shots, transitions between scenes and music.	Every scene is recorded using a variety of shots and angles. The timing and length of the shots is considered in order to develop a specific emotion/mood/impact. These shots and angles are amalgamated in an order that builds a specific emotion in each scene which is tangible. This emotion is further developed through video editing software.
Key Vocab		*slides* *persuade* *opinion* *eye catching* *sequence*	**KS1 Bronze Level Challenge**	*slides* *persuade* *opinion* *eye catching* *sequence* / attention modify cohesion flow transitions	**LKS2 Silver Level Challenge**	*slides* *persuade* *opinion* *eye catching* *sequence* / attention modify cohesion flow transitions / *hyperlinks* *motion paths* *animation*	**UKS2 Gold Level Challenge**
Digital presenter	**I can play on a touch screen game and use computers/keyboards/mouse in role play** (I can type letters with increasing confidence using a keyboard and tablet. I can dictate short, clear sentences into a digital device.) I can speak clearly to someone I know (skills builder- speaking) I can work with others in a positive way (skills builder- teamwork)	Create a presentation with 3 slides. Add a film to one of their presentational slides (using summer 1). Edit an image to make it more visually appealing. Add edited images to their slides. Create a shared, persuasive script. Practise moving from one slide to the next. Combine a digital presentation and a verbal presentation. Share their presentation with other learners in the class.	**Step 2: skills builder target** Learners speak clearly to individuals and small groups they do not know **Step 3: skills builder target** Learners speak effectively by making points in a logical order Images have been edited showcasing a confident control of the touchpad/mouse. The additions made to the image are so precise and well-linked that the edited parts are less obvious.	Create a persuasive and eye-catching presentation. Add film, images and text to their slides to make it more visually appealing. Edit a range of images. Add animation to develop excitement in their presentation and draw attention to certain images. Use transitions between slides to create a fluid presentation. Ensure the order of the slides is well sequenced to develop the persuasive impact. Add statistical information (bar chart) to support factual information. Combine a digital presentation and a verbal presentation confidently Share their presentation with other learners in the class.	**Step 4: skills builder target** Learners speak effectively by thinking about what their listeners already know **Step 5: skills builder target** Learners speak effectively by using appropriate language. Each image is enhanced in a subtle yet effective way. It is difficult to locate all the ways the image has been enhanced as it has been developed so well and with such fine detail. Each image has been developed in a different way each time.	**Using PP** Create a persuasive, eye-catching and well-timed presentation. Add film, edited images, text, animation and transitions to the presentation. Add statistical information (using spreadsheet) to support factual information. Add hyperlinks to presentations (link to film). Y6- use motion paths for animation. Y6- use timings and effect options Ensure the order of the slides is well sequenced to develop the persuasive impact. Combine a digital presentation and a verbal presentation independently and confidently. Share their presentation with other learners in the class and the wider school community.	**Step 6: skills builder target** Learners speak effectively by using appropriate tone, expression and gesture. **Step 7: skills builder target** Learners speak engagingly by using facts and examples to support their points. Y6- the timings of the presentation precisely to the timings of the speech. Ensure the added animation is perfectly added and they are used to enhance a particular aspect of the persuasive speech rather than be added to simply show animation. Is it purposeful? Does it develop a persuasive impact?