Computing Solo Taxonomy

Brindley Heath Academy
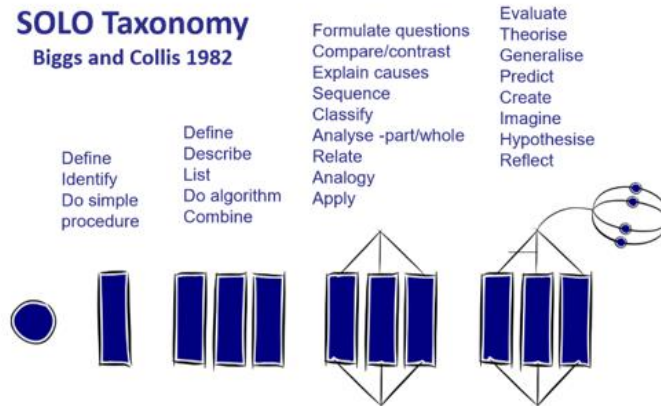
Lower Key Stage 2

Computing Lower KS2		*Uni-structural*	*Multi-structural*	*Relational*	*Extended Abstract*
Computing Skills		**Emerging**	**Developing**	**Secure**	**Exceeding**
Computer Systems and Networks	**Navigating online**	**Identify** digital devices in terms of inputs, processes and outputs	**Describe** a computer network as being made up a number of devices that are connected with one another using infrastructure devices like routers and switches **Recognise** that the world wide web (WWW) is part of the internet which is a network of networks. **Recognise** that information/content/media can be shared via the WWW **Recognise** that not everything you find online can be trusted to be honest and accurate	**Explain** the need for security on the internet **Analyse** the reliability of content online and **discuss** the consequences of unreliable content	**Evaluate** the benefits and disadvantages of a computer network such as the WWW
Programming	**Sequencing**	**Define** programming as a set of instructions that are designed to complete a task **Define** sequencing in programming **Identify** the basic principles of programming design	**Understand** that sequencing is the process of programming a series of instructions (combining motion, sounds and events) in order to perform a set goal. **Understand** the link between events and actions	**Create** a program that achieves a set goal through the principles of sequencing.	**Design** and code a program which uses the principles of sequencing.
	Repetition and Loops	**Define** repetition in programming **Define** loops in programming	**Explain** why repetition and loops are used to program in an efficient manner	**Apply** their understanding of repetition and loops to modify existing programs.	**Design** and code a program which uses the principles of repetition and loops, **modifying** their program in order to achieve a set goal in the most efficient manner.

Creating Media	Animation	**Identify** animation as a form of digital media	**Explain** how an animation works. **Understand** that animations are designed using a sequence of frames.	**Design** and **create** a simple animation using a sequence of frames.	**Evaluate** their animations in order to **modify** their product in a **justified** manner.
	Desktop Publishing	**Define** publishing as a method of communicating effectively online	**Understand** that 'texts' (font size, colour and type) and 'images' are combined to communicate messages. **Understand** how templates, orientation and placeholders are used in layout design.	**Create** their own piece of work using desktop publishing software	**Evaluate** different page layouts and consider how and these can be used in the real world.
	Audio Editing	**Identify** devices capable of recording digital audio including input (microphone) and output (speaker/headphone) devices.	**Recognise** that they can create their own podcasts by combining multiple tracks together **Recognise** the implications of ownership of digital audio and copyright implications.	**Create** a podcast for a specific purpose that combines multiple tracks together.	**Evaluate** the effectiveness of their work and make appropriate edits as appropriate.
	Photo Editing	**Identify** changes that can be made to digital images	**Recognise** the effect different colours and filters can have on an image **Recognise** that editing images (editing colours, filters, retouching) can be done to achieve different purposes with different goals	**Use** an image editing software to make changes to a digital image with a specific purpose in mind	**Reflect** upon the effectiveness of the edits they made and the impact they had in achieving their desired goal
Data and Information	Branching Databases	**Identify** branching database in terms of real-life contexts	**Recognise** how a branching database is useful in terms of sorting information **Understand** what attributes are and how to use them in order to sort groups of objects by yes/no questions	**Create** physical and on-screen branching databases for a specific purpose	**Evaluate** the effectiveness of branching databases and decide what types of data should be presented as a branching database.
	Data Logging	**Identify** the use of data loggers in real-life contexts	**Consider** how and why data is collected over time **Recognise** that computers can use sensors to monitor the environment and collect data (data logging)	**Collect** data collected using a data logging device considering data points, data sets and logging intervals	**Analyse** data collected considering the effectiveness of data collected in terms of answering a set of questions

Upper Key Stage 2

Computing Upper KS2		*Uni-structural*	*Multi-structural*	*Relational*	*Extended Abstract*
Computing Skills		**Emerging**	**Developing**	**Secure**	**Exceeding**
Computer Systems and Networks	**Collaboration and Communication**	**Define** a system as a number of things (parts, components, people) that work together to complete or perform a task **Define** communication	**Recognise** that connections between networks such as the internet allow us to work together in different locations (collaborate) **Describe** the different methods of communicating online	**Compare** and **contrast** the benefits of working online and offline **Categorise** the different forms of online communication and **analyse** the benefits of them	**Evaluate** different ways of working together **Evaluate** which methods of online communication could be used for different purposes
Programming	**Selection** (including the use of physical devices)	**Identify** the physical devices (inputs and outputs) that can be used with a programming environment (e.g. crumble kits) **Define** selection in programming	**Recognise** the way in which devices are connected (e.g. how a microcontroller connects to a crumble kit) **Explain** the concept of selection in computer programming through the use of the if, then structure **Explain** how selection can be used to control the operation of a physical device	**Create** programs and algorithms that utilise the concept of selection **Create** programs and algorithms that ask questions and use selection to control the outcomes based on the given	**Evaluate** their program by identifying how it meets the requirements of the task and the ways they could have improved it
	Variables (including the use of physical devices)	**Identify** the physical devices (inputs and outputs) that can be used with a programming environment (e.g. micro:kit) **Define** what variables are in programming and **identify** the use of them within real-world examples	**Modify** variables within a program to achieve different goals **Explain** the affect changing variables has upon a program	**Create** their own programs and algorithms that utilise the concepts of sequencing, loops, selection and variables to achieve a set goal	**Evaluate** their program by identifying how it meets the requirements of the task and the ways they could have improved it

Creating Media	**Vector Drawing**	**Identify** vector images as being made up of different shapes	**Understand** that images are created in layers that can be grouped and duplicated in order to make more complex pieces of work.	**Compare** and contrast the way in which vector drawing differs from paper-based drawings **Use** techniques learnt to create a vector drawing for a specific purpose	Suggest and implement improvements to vector drawings in order to achieve a set goal effectively
	Video Editing	Identify the ways in which videos are used as a tool for online communication Identify the different devices that can be used to create video based digital media	**Understand** how to capture, edit and manipulate video using video editing software	**Create** a video for a specific purpose and audience combining the skills of capturing, editing and manipulation	**Reflect** on and assess their progress in creating a video.suggesting improvements that could have been made
	3D Modelling	**Identify** 3D computer modelling as a form of graphical representation	**Examine** the differences between working digitally with 2D and 3D graphics **Combine** 3D objects together to make simple representations	**Design** and **create** accurate 3D models of physical objects	**Evaluate** the effectiveness of their 3D models and suggest improvements that could be made
	Website Design	**Understand** that web-pages are a form of online communication	**Recognise** the features of a good web page **Use** tools to create online web pages (e.g. Using Google Sites)	**Design** and **create** their own website showing an awareness of their audience	**Evaluate** the effectiveness of their website paying specific attention to copyright, fair use of media, the aesthetics of the site, and navigation paths.
Data and Information	**Flat-file Databases**	**Identify** flat-file databases in terms of real-life contexts	**Recognise** that flat-file databases can be used to organise data **Recognise** that tools within a database can be used to order data and answer questions about data	**Create** graphs and charts from their data in order to solve problems	**Evaluate** the effectiveness of flat-file databases in terms of representing data
	Spreadsheets	**Identify** the use of spreedsheets in real-life contexts	**Consider** how and why data is collected over time **Recognise** that computers can use sensors to monitor the environment and collect data (data logging) **Recognise** spreadsheets can be used to organise and sort data **Recognise** that formulas can be used to produce calculated data	**Create** a spreadsheet to plan an event and answer questions **Create** graphs and charts that enable to visualise their information	**Evaluate** their results in comparison to questions asked