Computing Skills progression

EYFS
Understanding the World ELG: Past and Present Children at the expected level of development will: - Talk about the lives of the people around them and their roles in society; - Know some similarities and differences between things in the past and now, drawing on their experiences and what has been read in class; - Understand the past through settings, characters and events encountered in books read in class and storytelling.

Key Concepts:

Subject National Curriculum KS1

- Recognise that simple 'big' questions can be answered in a variety of ways
- Scientific skills: Observing closely and over time
- Scientific skills: Identifying and classifying
- Using their observations, identifications and classifications to answer questions
- To be able to record data from testing

Year 1	Marvellous me	Time travels	All creatures great and small
Computers Recognise common uses of information technology in the home and school environment	Pupils will use the iPads to open and use the camera app.	Researching pictures of dinosaurs.	I can use technology to create and present ideas- see photos in bug hunt.
Using Computer Use technology purposefully to create digital content	Pupils to go outside and take a photo of their choice in the local area (Woodland area/Playgrounds/In school)	Use Busy Things – Busy Paint on ipads to colour Chinese dragons Investigate favourite dinosaurs and present as a graph.	
E-Safety Understand where to go for help and support when he/she has concerns about content or contact on the internet or other online technologies	Taught through various e-safety lessons	Taught through various e-safety lessons	Taught through various e-safety lessons

Coding Predict the behaviour of simple programs	Pupils will experiment with a programmable toy (Bee-Bot) and share how it works with the class Pupils will enter one or two instructions at a time to move the toy around the classroom. Pupils will then be asked to move the toy to specific locations around the room		
Coding Understand what algorithms are and how they are implemented on digital devices	Pupils will watch a number of instructions entered into the programmable toy and give feedback on their effectiveness		
KEY VOCABULARY: Area, location, travel, move, environment, pictures, bee-bot, program.			

Year 2	**Where do we belong?**	**Diary of a London kid**	**Journeys into the unknown**
Computers Recognise common uses of information technology beyond school		I can identify uses of technology.	
Using Computer Use technology purposefully to create, organise, store, manipulate and retrieve digital content		Save documents with information and pictures in a shared area titled the different **landmarks** I can use technology to find information in a shared area.	**Create a database of human achievement, use technology to create, organise and store digital content.** Virtual tour of the ocean
Using Computer Use technology purposefully to create digital content comparing the benefits of different programs			

Coding Use logical reasoning to predict the behaviour of simple programs	Understand what algorithms are Articulate an algorithm		
Coding Create simple programs	Create an algorithm and program (plan and enter a sequence of instructions on a bee bot)		
Coding Create and debug simple programs	Create an debug simple programs (watch a Logo program execut using 'allow programming' in 2Go, debug any problems)		
Coding Debug simple programs by using logical reasoning to predict the actions instructed by the code	Following objectives using simple logo program or simple games		
Coding Understand that programs execute by following precise and unambiguous instructions	Throughout whole programming topic.		
E-Safety Use technology safely and keep personal information private	Taught through various e-safety lessons	Esafety I can recognise how to keep safe online.	

Subject National Curriculum LOWER KS2

Year 3	**The Dawn of Mankind**	**Wild at Heart**	**Do Machines Dream of Electric Sheep?**
Computers Recognise familiar forms of input and output devices and how they are used	Through discussion and introduction to the topic.		

Computers Make efficient use of familiar forms of input and output devices			
Networks Understand that computer networks enable the sharing of data and information	Pupils will look at a set of pre-selected websites specifically for children about The Stone Age. Pupils will then discuss whether they could easily find out the answers to their questions		
Networks Understand that the internet is a large network of computers and that information can be shared between computers	Pupils will discuss suitable search terms and undertake a Google Custom Search on the selected websites		
Using Computer With support select and use a variety of software to accomplish goals	Pupils will save an image on a topic of their choice and record one slide of information using Microsoft PowerPoint. Pupils will then share the app's functionality with the class, including any new features they found		
E-Safety Use technology safely and respectfully, keeping personal information private	Taught via 'Be Internet Legends' curriculum		

E-Safety Use technology safely and recognise acceptable and unacceptable behaviour	Taught via 'Be Internet Legends' curriculum		
Net Searching Use simple search technologies	Pupils will watch a demonstration of how to choose UK only sites and ensure they ignore advertisements Pupils will enter their search terms and record further answers to their questions, ensuring they record where the information came from		
Net Searching Use simple search technologies and recognise that some sources are more reliable than others	Pupils will discuss suitable search terms and undertake a Google Custom Search on the selected websites		
Coding Design, write and debug programs that control or simulate virtual events Coding Use logical reasoning to explain how some simple algorithms work			
KEY VOCABULARY			

Year 4	The Revolting People of Planet Earth	The Age of Empire	Tales of the Bearly Believable
Computers Use other input devices such as cameras or sensors			Creating stopmotion films
Networks Understand what servers are and how they provide services to a network			Independent research and report creating – discussion beforehand?
Using Computer With support select and use a variety of software on a range of digital devices			IPAD using A.L.E.X to program software – compare this to scratch from previous term
Using Computer With support select and use a variety of software on a range of digital devices			Independent research and report creating
Using Computer With support select, use and combine a variety of software on a range of digital devices to accomplish given goals		Creating a Roman quiz	Creating stopmotion films
E-Safety Use technology responsibly and understand that communication online may be seen by others	Internet legends curriculum	Internet legends curriculum	Internet legends curriculum

E-Safety Understand where to go for help and support when he/she has concerns about content or contact on the internet or other online technologies	Internet legends curriculum	Internet legends curriculum	Internet legends curriculum
Net Searching Understand how results are selected and ranked by search engines			Independent research and report creating – discussion beforehand?
Coding Decompose programs into smaller parts	Pupils will record their own sounds to play at the start of the game, plus when collision detection occurs and set these to start at the correct time	Creating a Roman quiz	IPAD using A.L.E.X to solve programming problems
Coding Use logical reasoning to detect and correct errors in algorithms and programs	Pupils will play the games produced by their peers and highlight any areas for improvement / to debug	Creating a Roman quiz	IPAD using A.L.E.X to solve programming problems
Coding Select, use and combine a variety of software, systems and content that accomplish given goals	Creating Egyptian maze games	Creating a Roman quiz	
KEY VOCABULARY			

Subject National Curriculum UPPER KS2

Year 5	The Great Invaders	Clash of the Titans	The Adventures of My Other Self
KEY QUESTIONS			
Networks Begin to use internet services to share and transfer data to a third party	TTRockstars?	Searching for information during Space presentations.	Crating Avatars
Using Computer Independently select and use appropriate software for a task	Any given subject – "What software should we use for this?"	Any given subject – "What software should we use for this?"	Any given subject – "What software should we use for this?"
Using Computer Independently select, use and combine a variety of software to design and create content for a given audience	Creating Viking games on Scratch.		
E-Safety Understand the need to only select age appropriate content	Taught through Be internet Legends curriculum		Taught through Be internet Legends curriculum
Net Searching Use filters in search technologies effectively		Searching for information during Space presentations.	
Net Searching Use filters in search technologies effectively and appreciates how results are selected and ranked		Searching for information during Space presentations.	Discussion during cross curricular ICT use in lessons
Coding Design, input and test an increasingly complex set of instructions to a program or device	Pupils will examine possible game improvements		

	and add any further instructions. Suitable enhancements would be:		
Coding Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems	Pupils will play the games produced by their peers and highlight any areas for improvement / to debug, which should then be rectified		
Coding Design, write and test simple programs that follow a sequence of instructions or allow a set of instructions to be repeated	Pupils will examine possible game improvements and add any further instructions. Suitable enhancements would be:		
Coding Design write and test simple programs with opportunities for selection, where a particular result will happen based on actions or situations controlled by the user	Pupils will play the games produced by their peers and highlight any areas for improvement /		

	to debug, which should then be rectified		
Coding Use logical reasoning to explain how increasingly complex algorithms work to ensure a program's efficiency	Pupils will discuss how they can ensure the code works as intended (explain what each section does to a friend, or go through the code line by line) and examine their program to ensure it works as required		

Year 6	The Unexplained	Into the Forest	Battles That Have Shaped Our World
KEY QUESTIONS	?	?	?
Networks Understand how computer networks enable computers to communicate and collaborate			Explicitly taught in computing session
Networks Begin to use internet services within his/her own creations to share and transfer data to a third party			Use of J2E – look in depth about how data is stored and saved
Using Computer Independently select, use and combine a variety of software to design and create content for a given audience, including collecting, analysing, evaluating and presenting data and information	Creating newspaper articles based on the UFO sightings.	Creating prezi presentations about the Amazon rainforest.	
Using Computer Design and create a range of programs, systems and content for a given audience	Could use scratch/coding programs to 'recreate' or 'reenact' alien sightings	Hour of code sessions	
Using Computer Independently select, use and combine a variety of software to collect, analyse, evaluate and present data and information	Analyse online blogs/reports/sightings of unexplained things and assess their credibility.		
E-Safety Identify a range of ways to report concerns about content and contact in and out of school	During PSHE, assemblies and explicit E-safety lessons		
Net Searching Be discerning when evaluating digital content	Analyse online blogs/reports/sightings of unexplained things	Evaluating one another's presentations	

	and assess their credibility.		
Net Searching Use filters in search technologies effectively and is discerning when evaluating digital content	Searching for unexplained reports using credible/incredible web pages		
Coding Include use of sequences, selection and repetition with the hardware used to explore real world systems			
Coding Solves problems by decomposing them into smaller parts			Creating a scratch game/quiz/multimedia piece of their choice based on year's learning.
Coding Create programs which use variables			Creating a scratch game/quiz/multimedia piece of their choice based on year's learning.
Coding Use variables, sequence, selection, and repetition in programs			Creating a scratch game/quiz/multimedia piece of their choice based on year's learning.
Coding Use logical reasoning to explain how increasingly complex algorithms work and to detect and correct errors in algorithms and programs efficiently			Creating a scratch game/quiz/multimedia piece of their choice based on year's learning.
KEY VOCABULARY			