Overview Computing Year 1

-Computational Thinking -Digital Literacy and Online Safety -Computers and Hardware

	Autumn Term		Spring Term		Summer Term	
Big Question	What makes people special?		Where in the world am I?		Is it time for a Summer Holiday?	
Other Subject links	Explorers, special places to me, DT , materials, Seasonal Change		Local areas, climate zones, animals & their habitats, DT Moving pictures, Seasonal Change		Grace Darling, Seaside Past/Present, Weather, Plants, Seasonal Change	
	Autumn 1 - Improving Skills 	Autumn 2 - Algorithms Unplugged	Spring 1 - Rocket to the Moon 	Spring 2 - Programming: Beebots	Summer 1 - Digital Imagery 	Summer 2 - Introduction to Data 
National Curriculum	- 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. - Recognise common uses of information technology beyond school. - Use technology purposefully to create, organise, store, manipulate and retrieve digital content	- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions - Create and debug simple programs - Use logical reasoning to predict the behaviour of simple programmes.	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content	- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions - Create and debug simple programs	- 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. - Use logical reasoning to predict the behaviour of simple programmes. - Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content - Recognise common uses of information technology beyond school.

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Knowledge	**Know** how to log in and log out of a computer. **Know** how to save work on their account. **Know** how to use simple keywords in search engines	**Know** what to do if they come across something online that worries them or makes them feel uncomfortable. **Know** that decomposition means breaking a problem down into smaller parts. **Know** that an algorithm is a set of step-by-step instructions used to carry out a task in a specific order. **Know** that we can predict the behaviour of simple programs. **Know** how to follow a basic set of instructions (digital and unplugged). **Know** how to debug an algorithm in an unplugged scenario. **Know** how to program a Bee-bot to follow a planned route.	**Know** what to do if they come across something online that worries them or makes them feel uncomfortable **Know** how to use online paint tools to create digital art. **Know** how to represent data in tables, charts and pictograms	**Know** that there are some people online who can make us feel sad or embarrassed. **Explain** why it is important to be considerate and kind to people online. **Know** that decomposition means breaking a problem down into smaller parts. **Know** that an algorithm is a set of step-by-step instructions used to carry out a task in a specific order. **Know** that we can predict the behaviour of simple programs. **Know** how to follow a basic set of instructions (digital and unplugged). **Know** how to debug an algorithm in an unplugged scenario. **Know** how to program a Bee-bot to follow a planned route.	**Explain** the importance of a password. **Identify** some inputs and outputs of computers and devices. **Know** where keys are located on a keyboard. **Explain** that we can control a mouse to drag, click and resize images. **Know** how to switch on and operate a camera to take and edit photos. **Know** how to use online paint tools to create digital art. **Identify** where digital content can have advantages over paper when storing data. **Know** some uses of technology beyond that used in school.	**Know** how to search and download images from the internet safely. **Know** how to use online paint tools to create digital art. **Know** how to represent data in tables, charts and pictograms
Skills Online Safety	Online Safety a) I can word process ideas using a keyboard. b) I can use the spacebar, backspace, enter, shift and arrow keys.	Online Safety a) I can create a simple series of instructions - left and right. b) I can record my routes.	Online Safety a) I can capture images with a camera. b) I can print out a photograph from a camera with help. c) I can record a sound and play it back.	Online Safety a) I can create a simple series of instructions - left and right. b) I can record my routes. c) I understand forwards, backwards, up and down.	Online Safety a) I can capture images with a camera. b) I can print out a photograph from a camera with help.	Online Safety a) I can enter information into a template to make a graph. b) I can talk about the results shown on a graph.

		c) I understand forwards, backwards, up and down. d) I can put two instructions together.		d) I can put two instructions together.	c) I can record a sound and play it back.	
Vocabulary	Account, clipart, log on, log off, mouse, password, tool, username, folder, save, share, identity, rules, personal information.	Algorithm, bug, computer, debug, decompose, input, output, instructions, solution, Bee-bot, computing code, computer program (app), predict, tinker.	Computer, computer program, create, data, digital content, e-document, folder, list, save, sequence, share, spreadsheet, search engine.	Algorithm, bug, computer, debug, decompose, input, output, instructions, solution, Bee-bot, computing code, computer program (app), predict, tinker.	Camera, crop, delete, download, screen, drag and drop, editing, import, photograph, resize, save	Branching database, categorise, chart, computer, data, information, label, pictogram, record, sort, table, text, password
Computer program/s and/or devices needed	Mirrors iPads/Computers		Paint 2Simple	Bee-Bots	iPads/Cameras	j2E Data

Planning Ideas

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Week 1	Online Safety - Self Image and Identity Project Evolve - Helping Alex Objective: I can recognise that there may be people online who could make someone feel sad, embarrassed or upset.	Online Safety - Online Reputation Project Evolve - Information Time Travel Objective: I can recognise that information can stay online and could be copied.	Online Safety - Online Relationships Project Evolve - Is it okay to…? Objective: I can give examples of when I should ask permission to do something online and explain why this is important.	Online Safety - Online Bullying Project Evolve - Happiness Scale Objective:I can describe how to behave online in ways that do not upset others and can give examples.	Online Safety - Privacy and Security Project Evolve - Personal Information Objectives: I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.	Online Safety - Managing Online Information/Copyright and Ownership Project Evolve - Whose is this? Objectives:I can explain why work I create using technology belongs to me. I can say why it

	If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust and how they can help.				I can recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names).	belongs to me (e.g. 'I designed it' or 'I filmed it").
Week 2	**Prior Assessment Task** **To log into a computer.** Pupils login to school computers using personal login details.	**Prior Assessment Task** **To understand what an algorithm is.** Introduction to algorithms and then create their own to dress up a doll.	**Prior Assessment Task** **To recognise that digital content can be represented in many forms.** Children learn about different types of digital material and what would be needed to make a rocket.	**Prior Assessment Task** **To explore a new device.** Pupils predict what a Beebot does and try out the buttons.	**Prior Assessment Task** **To understand and create a sequence of pictures.** Children use photos to sequence and make their own stories.	**Prior Assessment Task** **To represent data in different ways.** The term 'data' is introduced through an animal-themed activity that involves identifying the number of animals at a zoo and developing visual ways to represent the numbers.
Week 3	**To develop mouse skills.** Pupils use Sketchpad to practice clicking and dragging skills with mouse - digital art	**To follow instructions precisely to carry out an action.** Children follow an algorithm to draw a picture.	**To design a rocket.** Children use online software to design rocket.	**To create a demonstration video.** Pupils make a video explaining what a Beebot does.	**To take clear photos.** Children go on a mini adventure to take their own photos	**To use technology to represent data in different ways.** Use online software to represent zoo data in pictogram or chart.
Week 4	**To use mouse skills to draw and manipulate shapes.** Pupils use click, drag and drop to make shapes into a piece of art.	**To understand that computers and devices around us use inputs and outputs.** Children act like Alexa and Siri etc. to develop understanding of inputs and outputs.	**To sequence a set of instructions.** Children use computational thinking to order a set of instructions to make a rocket	**To plan and follow a set of instructions precisely.** Pupils pretend to be Beebots and programmers and follow the instructions/set instructions.	**To edit photos.** Children edit photos with filters and effects.	**To collect and record data.** Children go on a minibeast hunt and use data to make a chart.
Week 5	**To use a range of tools to create desired**	**To understand and be able to explain**	**To build a rocket.** Follow instructions to make a rocket.	**To programme a device.** Programme Beebot	**To create a photo collage.**	**To sort data.** Children create branching database

	effects. Pupils use click, drag and drop to make images linked to a story.	**what decomposition is.** Children draw an image using shapes then break down the process step by step to replicate the drawing.		around a template mat.	Children add finishing touches to make a photo collage	to play guess who with animals.
Week 6	**To understand how to layer shapes to create an image.** Pupils use click, drag and drop to build a self portrait of themselves.	**To know how to debug an algorithm.** Children are given maps and instructions with mistakes in it - they need to debug them.	**To add data to a table or spreadsheet.** Launch rockets, measure distance and represent date in spreadsheet.	**To create a program.** Programme Beebot around a themed template mat.		
Week 7						
Evidence	Photos stuck in books	Photos stuck in books, Kapow resources stuck in to demonstrate unplugged activities.	Photos stuck in books, Rocket designs stuck in and labelled.			
How does it link to the big question?	Children will practice their basic computing skills. They will then combine everything they have learnt to make a digital self portrait.			Children will learn the skills needed to use a Bee-Bot and will build towards directing the bot around a map of Hebburn.	Photos could link to local area.	The zoo could be somewhere the children would choose to go when on holiday. Centre the work around a zoo they might visit.
Any other explicit computing links in other subjects?	Art	Geography	History and science		Geography Art	