Computing Medium Term Curriculum Map

Differentiation by input **see the weekly planning sheet**/ *-Resources* **-see the weekly planning** from Kapow scheme *Minimum Assessment for Learning strategies* for all topics
- Long term memory development strategies= Recapping pervious learning at the start of each new topic / Long term memory strategy linked to the objectives on this sheet for each week Computing Cultural Capital = Have a clear understanding of how to create documents, print, save and retrieve .

	Autumn term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term2
Ruby Class Reception/Nursery		**Computer Systems and Networks-Using a computer** LO 1: **Keyboards**-Learning what a keyboard is and locating relevant keys. LO 2: **Logging in and out**-Learning to log in and out. LO 3**: Mouse control-** Learning what a mouse is and developing control when using a mouse. LO 4: **Mouse control-clicking-** Developing basic mouse skills including moving and clicking and using the online paint tool. LO 5: **Mouse control-clicking and dragging**-Further developing mouse skills to include the ability to click and drag	**Programming 1: All about instructions** LO 1: **Following instructions-**The class follow instructions as part of practical activities and games. LO 2: **Giving simple instructions-**Children guide a partner through an obstacle course to develop an understanding of giving simple instructions**.** LO 3: **Dressing up instructions-** The children follow instructions as part of a dressing up game and learn to give simple instructions. LO 4: **Debugging Instructions (washing hamds)-** Children follow instructions as part of a practical handwriting activity and to learn to debug when things go wrong. LO 5: **Predictions-**Pupils learn that an algorithm is a set of instructions to carry out a task, in a specific order. They use logical reasoning to read simple instructions and predict the outcome	**Computing systems and networks: Exploring hardware**. LO 1: **Exploring hardware tinker tray-**Pupils explore and tinker with different hardware and are introduced to the relevant vocabulary LO 2: **Real world tinker tray**-Children explore and tinker with hardware and identify where technology is used in places that they are familiar with, such as home and school. LO 3: **Pictures of play**-Children learn to operate a basic camera to take photographs of their independent play. Lo 4: **Picture walk:** Children further develop their photography skills, taking photographs of their discoveries on a walk around the school grounds. LO 5: **Class photo album**-Working with an adult, children take selfie photographs to create a class gallery.	**Programming 2: Programming Bee-Bots** LO 1: **Understanding arrows-**Children learn the meaning of directional arrows and follow a simple sequence of instructions. LO 2: **Introducing the Bee-Bot-**Children experiment with programming a Bee-Bot and tinker with hardware to develop familiarity and introduce relevant vocabulary. LO 3: **Simple Bee-Bot Programming**-Children experiment with programming a Bee-Bot and to learn how to give simple commands. LO 4: **Understanding Algorithms**-Children follow an algorithm as part of an unplugged game and learn to debug instructions when things go wrong. LO 5: **Programming a Bee-Bot-** The children experiment with programming a Bee-Bot and learning how to give simple commands. The children learn how to debug instructions, with the help of an adult, when things go wrong.	**Introduction to data** Lo 1: **Loose parts play-**Children sort and categorise objects. Lo 2: **Sorting Ourselves-**Children sort themselves into groups based on given categories before undertaking this activity independently. LO 3: **Yes or No?-** Children respond to yes/no questions as an introduction to branching databases LO 4: **Creating a branching database**-Children learn branching databases through physical sorting and categorising. Lo 5: **Exploring pictograms-**Children learn to interpret a basic pictogram.
Sapphire Class Year 1/2	**Bee Bots** LO 1: **Getting to know a Bee-Bot-**To explore a new device LO 2: **Making a Bee-Bot video-**To create a demonstration video LO 3: **Precise instructions-**To plan and follow a precise set of instructions LO 4: **Bee-Bot world-**To program a device LO 5: **Three little pigs**-To create a program that tells a story. LO 6: Review and evaluate	**Digital Imagery** LO 1: **Planning a photo story-**To understand and create a sequence of pictures. LO 2: **Taking photos-** To take clear photos LO 3:**Editing photos-Sketchpad-**To edit photos LO 4:**Searching for images-**To search for and import images. LO 5:**Photo collage**-To create a photo collage. LO 6: Review and evaluate.	**Introduction to data** LO 1: **Zoo data**-To show data in different ways. **LO 2: Picture data**-To use technology to represent data. LO 3: **Minibeast hunt**-To collect and record data LO 4: **Animal branching databases**-To sort data into a branching database LO 5: **Inventions**-To design an invention to gather data LO 6: Review and evaluate	**Scratch JR** LO 1: **Using Scratch Jr**-To explore a new application LO 2: **Creating an animation-** To create an animation. LO 3:.**Making a musical instrument**-To use characters as buttons LO 4:.**Programming a joke-**To follow an algorithm LO 5: **The Three little pigs' algorithm-**To plan and use code to create an algorithm. LO 6: Review and evaluate.	**Stop Motion-Using Tablets** LO 1: **What is animation? -**To understand what animation is. LO 2: **My first animation-**To create a stop motion animation LO 3: **Planning my project-**To plan my stop motion animation. LO 4: **Creating my project-**To create a stop motion animation. LO 5: **Creating my project-**To create a stop motion animation. LO 6: Review and evaluate.	**International Space Station** LO 1: **Homes in Space-** To understand how computers can help humans survive in space LO 2: **Space bug-**To create a digital drawing of essential items for life in space. LO 3: **Warmer; colder-**To understand the role of sensors on the ISS LO 4: **Experiments in space-**To create an algorithm for growing a plant in space. LO 5: **Goldilocks planets-**To interpret data LO 6: To review and evaluate.
Diamond Class Year 3/4	**Networks and the Internet – Computing systems and networks** LO 1:.**What is a network?-** To recognise what a network is. LO 2: **A file's journey**-To demonstrate how information moves around a network LO 3: **How a website works-**To demonstrate how a website works. LO 4: **Routers-**To explore the role of a router LO 5: **What is packet data?-**To identify the role of packet data LO 6: Review and evaluate	**Comparison cards databases – Data Handling** Lo 1: R**ecords, fields and data-**To understand the terminology around data. LO 2: **Race against the Computer-**To compare paper and computerised databases. Lo 3: **Sorting and filtering-Google-**To sort, filter and interpret data LO 4: **Representing Data-Google-**To represent data in different ways. Lo 5: **Planning a holiday-**To sort data for a purpose Lo 6: Review and evaluate	**Journey inside a computer – Computing systems and Networks** LO 1: **Inputs and outputs-To recognise basic inputs and outputs** LO 2: **Building a paper laptop-**To identify the components inside a laptop Lo 3: **Following instructions-**To understand the purpose of computer parts. LO 4: **Computer memory-**To understand the purpose of computer parts LO 5: **Dismantling a tablet**-To decompose a tablet computer Lo 6: Review and evaluate	**Collaborative Learning – Computing systems and networks** LO 1**: Teamwork-**To understand that software can be used to work online collaboratively. LO 2: **Sharing a document-**To understand how to contribute to someone else's work effectively. **LO 3: Microsoft Forms 1-**To understand how to create a digital survey LO 4: **Microsoft Forms 2** To create and share a Microsoft Form LO 5: **Shared spreadsheets-**To analyse data LO 6: Review and evaluate	**Investigating Weather** LO 1: **What is the weather? -**To log data taken from online sources on a spreadsheet LO 2: **Weather stations-**To design a weather station LO 3:.**Extreme weather-**To design and automated machine to respond to sensor data. LO 4: **Satellites and forecasts-**To understand how weather forecasts are made. LO 5: **Presenting forecasts-**To use tablets or digital cameras to present a weather forecast. LO 6: Review and evaluate.	**HTML** LO 1: **What is HTML?-** To recognise the role of HTML in a website. LO 2: **Remixing HTML-**To change HTML code for a specific purpose. LO 3: **HTML unplugged-**To recognise the basics of HTML. LO 4: **Website hacking-**To alter the HTML on a live website LO 5: **Replacing images-**To alter an image on a webpage LO 6: Review and evaluate.
Emerald class Year 5/6	**Programming music - Programming** Lo 1: **Tinkering with Sonic PI** – To tinker with a new piece of software. LO 2: **Sonic Soundtracks**-To create a program that plays themed music. LO 3: **Musical storytelling**-To plan a soundtrack program. Lo 4: **Live Loops**- To program a soundtrack LO 5: **Battle of the Bands-**To program music for a specific purpose. LO 6: **Review and evaluate**	**Stop Motion Animation – Creating Media** LO 1: **Animation explored** – To understand what animation is Lo 2: **Exploring stop motion-**To understand what stop motion animation is. LO 3: **Planning my stop motion project**-To plan a stop motion video LO 4: **Stop motion creation-** To create a stop motion animation LO 5: **Editing my stop motion project-**To edit my stop motion animation LO 6: **Review and evaluate**	**Search Engines – Computing systems and networks** LO 1: **Searching basics-**To understand what a search engine is and how to use it. LO 2: **Inaccurate info.-**To be aware that not everything online is true LO 3:.**Webquest-**To search effectively LO 4: **Information poster-**To create an informative poster LO 5:.**Web crawlers-**To understand how search engines work. LO 6: Review and evaluate	**Big Data 1 – Data handling** Lo 1: **Barcodes-**To identify how barcodes and QR codes work LO 2: **Transmitting Data-**To know how infrared waves transmit data. **LO 3: RFID-**To recognise how RFID is used. LO 4: **Using RFID-**To input and analyse real-world data LO 5: **Transport Data-**To analyse and evaluate data LO 6: Review and evaluate	**Big Data 2 – Data handling** LO 1: **Transferring Data-** To explain how data can be safely transferred. LO 2: **Data Usage-**To investigate the data usage of different online activities. LO 3 **The Internet of Things-**To identify how data collections can improve city life. LO 4: **Designing a smart school-**To design a system for turning a school into a smart school. LO 5: **Smart School Presentation-** To present ideas for turning a school into a smart school. LO 6: Review and evaluate	**Introduction to Python - Programming** LO 1:.**Tinkering with Logo-** To tinker with a new piece of software. LO 2: **Nested Loops-**To understand nested loops LO 3: **Using Python-**To understand basic Python commands LO 4:**Using loops in Python-** To use loops when programming. LO 5:**Coding Mondrian-**To understand the use of random numbers LO 6: Review and evaluate