MGL Scheme Overview

DL = Digital Literacy CS = Computer Science IT = Information Technology

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	DL		IT		CS	
NURSERY	**Using Technology Safely** Pupils learn to recognise who we can trust with information and how that links to the online world.		**Understanding the parts of a computer** Pupils learn to recognise the different parts of a computer.		**Using Programming Devices** Pupils use different types of devices & to give and follow instructions.	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EARLY YEARS	IT & DL		IT		CS	

FOUNDATION STAGE	I Am a Super Surfer Pupils will learn to recognise on and offline technology and how to use it safely with the help of trusted adults.		Look What I Can Do Pupils will learn that information can be used and created using technology.		I Am a Computer Scientist Pupils will learn cause and effect in computing. *(I press this button – this is the result)*	
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	IT	DL	CS	CS	IT	IT
YEAR 1	**1.1 Basic Computing Skills** Pupils will learn how to log in and shut down a computer accurately and begin to understand the importance of a password.	**1.2 Digital Text and Images** Pupils will learn how to use a word processing program to write and format text. They will add digital images and consider the audience for their work.	**1.3 Using Algorithms** Pupils learn what an unplugged algorithm is and create and apply them to an on-screen program.	**1.4 Programming, coding & Robotics** Pupils explore how to control both physical and virtual robots with a sequence of commands.	**1.5 Digital Painting** Pupils will explore how to use the different tools and features in a computer based paint program to create a variety of effects.	**1.6 Presenting Information** Pupils will consider a variety of ways to present cross curricular information digitally, and compare the advantages and disadvantages with paper-based content.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
YEAR 2	IT / DL	CS	CS	IT	IT	IT/DL

	2.1 What is a Computer? Pupils will learn how to identify a computer's different parts and talk about the role computers play in our society.	**2.2 Coding & Algorithms** Pupils build on their knowledge of what an algorithm is and how we can program computers to use algorithms. They will use a variety of block based coding programs to create algorithms, solve programs and debug errors.	**2.3A Programming using Scratch Jr** Pupils will use the Scratch Jr app to write their own block code for several different projects. These can easily be made cross curricular.	**2.4 Data collection and representation** Pupils will explore how to transfer physical data from a tally chart into a digital pictogram. They will compare the difference with creating a physical pictogram.	**2.5 Modifying Text and Images** Pupils will look at software they can use to present their work. They will expand on previous skills such as using a keyboard, formatting text and how to use images in their work.	**2.6 Staying Safe Online** Pupils will use the CEOP Jessie & Friends materials to explore using the online world safely, including sharing pictures and online gaming. They will use the skills developed in other units to create digital content about online safety.
Alternative Units & AI Content	**Spot the AI: Identifying AI devices**		**2.3B Programming using Sphero Indi** Pupils will learn to code using the Sphero Indi robots.			

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
YEAR 3	IT/DL	CS	CS	IT	CS/DL	IT/CS

	3.1 Online Communication Pupils will explore the different ways we communicate online including instant messaging, online gaming and emails. They will identify examples of phishing scams, cyberbullying and know what to do if they encounter these dangers.	**3.2 Introduction to Scratch** Pupils will learn how to program sprites using a range of blocks to add animation, sound and other effects.	**3.3A Prediction and Debugging** Pupils will learn how to use prediction when coding to test and debug written programs.	**3.4 Altering Media** Pupils will look at the skills behind taking a good photograph and how images can be edited in various ways.	**3.5 Inside a computer** Pupils will identify the different parts of a computer and explore how computers have evolved over the last 100 years.	**3.6 Creating Music with Code** Pupils will use a variety of music software to create digital music, comparing the sounds they are able to create with different software.
Alternative Units			**3.3B Introduction to Sphero** Pupils will learn how to code and debug the Sphero robots. They will produce block based code in order to move the Spheros in different ways.			
AI Unit Content (optional)		**Prompt Power: Understanding how AI responds to prompts**	**Bug Busters: Can AI help us with bugs?**	**Picasso to AI- AI & images**	**Can robots make mistakes? Is AI always correct?**	**Dancing with robots: Using AI to generate dance movements.**

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	IT	CS	CS	IT	DL	IT
YEAR 4	**4.1 Branching Databases** Pupils learn about the concept of a branching database and create their own using presentation software.	**4.2A Repetition and Forever Loops (Scratch)** Pupils learn to use repetition and loops when coding, calculating how to draw different shapes.	**4.3 Designing a Game (Scratch)** Pupils use their knowledge of Scratch to create simple games using variables.	**4.4 Making a Special Effects movie** Pupils create their own videos and apply special effects to them.	**4.5 Smarter Searching and Online Safety** Pupils to gain awareness of the best ways to use a search engine and to continue to develop awareness of online dangers.	**4.6A Pixel Art** Pupils create and design their own pixel art before programming it into their own Scratch game.
Alternative Units		**4.2B Repetition and Forever Loops (Sphero)** Pupils will learn how to draw shapes with repetition and forever loops using the Sphero.				**4.6B Pixel Art (Apple Pencil)** Pupils will use Apple Pencils and the Procreate app to design pixel art.
AI Additional Content (Optional)	**AI vs Databases: Comparing Databases and AI**	**Algorithm Adventures: Can AI create algorithms?**		**Lights, Camera & AI: Using Magic Movie to create a short film**		

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	IT	CS	CS	IT	CS	IT
YEAR 5	**5.1 Create & Search A Database** Pupils will use Excel to create and search a flat file database.	**5.2A Using Variables (Scratch)** Pupils identify different types of variables, what conditionals are and understand how variables are used in computer programming.	**5.3A Coding Using Micro:Bits** Pupils will program Micro:Bits to make a variety of practical and usable devices.	**5.4 Stop Motion Animation** Pupils will learn about all aspects of stop motion animation. They will storyboard their own story before using a software package to create their own stop motion animation.	**5.5 The Internet & The World Wide Web** In this unit, children will learn about different computer networks and the difference between the world wide web and the internet. They will also understand what is meant by IP address.	**5.6 3D Modelling** Children will learn to design 3D models using online CAD software.
Alternative Units		**5.2B Introduction to Co-Spaces** Pupils will be introduced to the basics of Co-Spaces and create programs using variables and conditionals.	**5.3B Coding Using Crumbles** Pupils will use the Crumble kits to make a variety of practical and usable devices.			
AI Additional Content (Optional)			**Motion Masters: Can AI detect movement?**	**AI Paints: Text to image generator**	**The smart web: How the web & AI work together**	

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	IT	CS	CS	IT	IT	IT & DL
YEAR 6	**6.1 Creating Formula in Excel** Pupils will learn how to organise data and make calculations using a spreadsheet application such as Google Sheets or Microsoft Excel.	**6.2 Edublocks- Introduction to Python** Pupils will learn how block-based programming compares to written code. Pupils will be introduced to Python as a text-based method of programming.	**6.3A Programming a Game (Scratch)** Using the application Scratch, pupils will create an interactive, playable game using conditionals, variables, and operators.	**6.4 Creating a Podcast** Pupils will produce a podcast based on a piece of writing from another curriculum area or aspect of school life.	**6.5A Creating a website (Google Sites)** Pupils will learn how to design a multi-page informational website, considering the layout, user experience and key features including home page, links and images.	**6.6 Social Media & Online Gaming** Pupils will learn about ways to stay safe while using online games and social media, and develop their awareness of sponsored content, influencers and PEGI games ratings.
Alternative Units			**6.3B Programming a Game (Co-Spaces)** Using the Cospaces website, pupils will create an interactive, playable game using conditionals, variables, and operators.		**6.6B Coding with HTML** Pupils will learn how to use html coding to create a range of mini website projects. They will use html coding to add images, text and links as well as program font style, size and colour.	

AI Additional Content (Optional)	Data Detectives: Using AI to interpret data	Algorithm Adventure: Predicting Algorithms	The AI Eye: AI face recognition in Scratch		Talk to the web: AI Chatbots	