Year 3 – Forces (& Magnetism)

Working Scientifically	Sticky Knowledge	Linked Texts	Key Scientists
- Recall and use specific scientific vocabulary accurately (year group key vocabulary) - Ask relevant questions and use different types of scientific enquiries to answer them, include making their own questions - Set up simple practical enquiries, comparative and fair tests, aiming to do so independently with their own decisions. - Gather, record, classify and present data in a variety of ways to help in answering questions - Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions - Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions - Use straightforward scientific evidence to answer questions or to support their findings.	• Magnets exert attractive and repulsive forces on each other. • Magnets exert non-contact forces, which work through some materials. • Magnets exert attractive forces on some materials. Magnet forces are affected by magnet strength, object mass, distance from object and object material. First time Magnets are taught in school. Materials are taught through KS1 and materials will have been tested for magnetic properties.	The Iron Man (Ted Hughes) Mrs Armitage: Queen of the Road (Quentin Blake) Mr Archimedes' Bath (Pamela Allen)	William Gilbert (Theories on Magnetism) Andre Marie Ampere (Founder of Electro-Magnetism)

Key Question(s):	Key Question(s):	**WS vocabulary**
What does magnetic mean? Can you name three examples of magnetic materials or objects? If two N poles on a magnet were facing each other would they attract or repel? Explain. Which poles of a magnetic attract and which will repel? What happens when a magnet attracts another magnet or magnetic material? What is the difference between a strong magnet and a weaker magnet?	What are magnetic materials? How can we find out? Can I make a magnetic material non-magnetic? How far away does a magnet have to be before it attracts a magnetic material? How far away can the magnetic attraction between two magnets be experiences? How is the magnetic attraction of repulsion force affected by putting materials between the magnets? Are bigger magnets stronger?	Investigation, enquiry, prediction, variable, dependent variable, independent variable, constant, patterns, equipment, apparatus, method, results, conclusion, graph, patterns, distance, data, theory, fair test, reasoning

Teaching suggestions in Enquiry types					
Comparative tests	Identify & Classify	Observation over time	Pattern Seeking	Research	BIG Question – Problem solving
How does the mass of an object affect how much force is needed to make it move? Which magnet is strongest? Which surface is best to stop you slipping 	Which materials are magnetic? 	If we magnetise a pin, how long does it stay magnetised for? 	Do magnetic materials always conduct electricity? Does the size and shape of a magnet affect how strong it is? 	How do submarines sink if they are full of air? 	How do submarines sink if they are full of air? (Also use EXPLORIFY) Assessment Opportunity