Topic	Forces and Magnets
Pre-school	• Comment and ask questions about aspects of their familiar world such as the place where they live or the natural world. (The World 30-50) • Talk about some of the things they have observed such as plants, animals, natural and found objects. (The World 30-50)
Reception	• Look closely at similarities, differences, patterns and change. (The World 40-60) • Children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to stories or events. (Understanding ELG)
Year 1	
Year 2	
Year 3	• Can they compare how things move on different surfaces? • Can they observe that magnetic forces can be transmitted without direct contact? • Can they observe how some magnets attract or repel each other? • Can they classify which materials are attracted to magnets and which are not? • Can they notice that some forces need contact between two objects, but magnetic forces can act at a distance? • Can they compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet? • Can they identify some magnetic materials? • Can they describe magnets have having two poles (N & S)? • Can they predict whether two magnets will attract or repel each other depending on which poles are facing? **Challenge** • **Can they investigate the strengths of different magnets and find fair ways to compare them?**
Year 4	
Year 5	• Can they explain that unsupported objects fall towards the earth because of the force of gravity acting between the earth and the falling object? • Can they identify the effects of air resistance, water resistance and friction that act between moving surfaces? • Can they recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect? **Challenge** • **Can they describe and explain how motion is affected by forces? (including gravitational attractions, magnetic attraction and friction)** • **Can they design very effective parachutes?** • **Can they work out how water can cause resistance to floating objects?** • **Can they explore how scientists, such as Galileo Galilei and Isaac Newton helped to develop the theory of gravitation?**
Year 6	