

Topics in this cycle: Magnets and magnetic fields	Taught: Summer 2	Year Group: 8
Key knowledge/concepts to be learnt ('Tell me about...')		Websites/blogs/YouTube links and further reading to deepen and consolidate learning
• What is a magnetic field? • Describe how magnets interact. • Describe how magnetic field diagrams you about the direction and strength of a magnetic field. • Explain observations about navigation using the Earth's magnetic field. • What are electromagnets? • Describe how to make an electromagnet. • Use a diagram to explain how to make an electromagnet and how to change its strength. • Describe how the strength of an electromagnet changes with distance. • How do we use electromagnets? • Explain why you choose an electromagnet rather than a permanent magnet for a purpose. • Describe how electric bells, circuit breakers and loudspeakers work.		Magnetism video Magnets and Magnetic Fields - YouTube Electromagnets video Electromagnets - YouTube Magnets information Magnets and magnetic materials - BBC Bitesize Electromagnets information Electromagnetism and magnetism - KS3 Physics - BBC Bitesize

Home-School Learning Collaboration – Science

Key Vocabulary and Definitions To Be Learnt		What Will The Assessment Look Like?
Magnet	A material with a magnetic field around it in which a magnetic material experiences a force.	Extended writing – Draw the *pattern of magnetic field lines around attracting and repelling magnets and use them to explain why the magnets attract or repel. End of Unit test: 25 marks • Short answer questions • Multiple choice • Extended writing
Magnetic poles	The ends of a magnetic field, called north-seeking and south-seeking poles.	
Magnetic field	A region in which there is a force on a magnet or magnetic material.	
Magnetic force	Non-contact force from a magnet on a magnetic material.	
Magnetic field lines	Imaginary lines that show the direction of the force on a magnetic material.	
Permanent magnet	An object that is magnetic all of the time.	Family Learning Opportunities
Solenoid	Wire wound into a tight coil, part of an electromagnet.	Draw magnetic field lines using a bar magnet and compass. Plotting Magnetic Field Lines GCSE Physics Required Practical - YouTube Practical ideas for magnets from the institute of Physics. Magnet IOPSpark Electromagnetism ideas from the institute of physics. Electromagnet IOPSpark Devise a quiz on magnetism and test your family.
Electromagnet	A non-permanent magnet turned on and off by controlling the current through it.	
Core	Soft iron metal which the solenoid is wrapped around.	
Magnetise	To make a material magnetic.	
Electric bell	A device that uses an electromagnet to make sound using a 'make or break' circuit.	
Circuit breaker	A device that uses an electromagnet to break a circuit if the current is too big.	
Loudspeaker	A device that uses an electromagnet to make sound from a varying potential difference. Turns an electric signal into a pressure wave of sound.	
Magnetic materials	Iron, cobalt, nickel and steel.	
Attract/repel	Like poles attract, unlike poles repel.	