

Unit	Summary	Skills	Assessment	British Values and SMSC	Career links	Cross-curricular links
Chemical reactions	<i>Safety recap, reactions of: metals and water, metals and acids, oxide reactions, carbonate reactions, neutralisation, predicting salts, flame tests and tests for gases.</i>	Writing equations Balancing equations (+) Safe practical work observations	Retrieval quiz End of topic. Topic included on the end of term Ks3 test points.	Fascination with understanding the world around them. Scientific community Understanding consequences and how actions impact on others.	Metallurgy, materials handling, engineer,	
Reactivity	<i>Displacement reactions, extracting metals, electrolysis (explaining and using)</i>	Writing equations Balancing equations (+) Safe practical work observations	Retrieval quiz End of topic. Topic included on the end of term Ks3 test points.	Fascination with understanding the world around them. Scientific community Understanding consequences and how actions impact on others.	Metallurgy, materials handling, mining,	Link to Geography in extracting metals- environmental impact
Sound	<i>Sound waves, speed of sound, ultrasound and uses of.</i>	Using a formula to calculate. Use of units.	Retrieval quiz End of topic. Topic included on the end of half term Ks3 test points.	Fascination with understanding the world around them. Scientific community Understanding consequences and how actions impact on others.	Medicine, construction, dentistry (ultrasound uses)	Maths- Speed formula
Pressure and density	Calculating pressure, pressure in gases and liquids, hydraulics, density required practical, floating.	Using a formula to calculate. Use of units. Balancing forces	Retrieval quiz End of topic. Topic included on the end of term Ks3 test points.	Fascination with understanding the world around them. Scientific community Understanding consequences and how actions impact on others.	Hydraulics, Deep sea research, atmospheric research, weather, hydrologist	Maths: Formula uses
Forces	Balanced and unbalanced forces, resultant forces, friction, drag, terminal velocity and Hooke's Law	Using a formula to calculate. Use of units. Analysing results	Retrieval quiz End of topic. Topic included on the end of term Ks3 test points.	Fascination with understanding the world around them. Scientific community Understanding consequences and how actions impact on others.	Construction Collision forensics Material design engineer	Maths: Resolving forces with algebra and scale diagrams
Rates of Reaction	Measuring the rate of reaction, collision theory, factors affecting rate: temperature, surface area, concentration. Catalysts	Using graphs to analyse results. Drawing conclusions from data. Safe and accurate practical work.	Retrieval quiz End of topic. Topic included on the end of term Ks3 test points.	Fascination with understanding the world around them. Scientific community Understanding consequences and how actions impact on others.	Materials handling (e.g. powders) Health & safety Industrial chemical engineer	Maths: Analysing graphs- gradient
Energetics	States of matter recap, exothermic reactions (RP), comparing and explaining endothermic and exothermic reactions Calculating bond energy	Using graphs to analyse results. Drawing conclusions from data. Negative numbers Safe and accurate practical work.	Retrieval quiz End of topic. Topic included on the end of term Ks3 test points.	Fascination with understanding the world around them. Scientific community Understanding consequences and how actions impact on others.	Chemical engineer Health & safety	Maths: calculating bond energies