

**Curriculum Map**
**Subject**

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Unit	Summary	Skills	Assessment	British Values and SMSC	Career links	Cross-curricular links
Atomic structure	Lab safety recap atomic theory Periodic table ions compounds	Identify Hazard symbols and write risk assessments. Use models Explain Periodic table structure and history.	Atomic structure formative badger task  End of topic retrieval quiz	Fascination with understanding the world Recognise role of British scientists in understanding the atom Scientific community	Chemist Metallurgist Building and construction Research and development Material engineer/technician-	GCSE Chemistry GCSE Physics  DT  History
Materials	Properties Using properties Polymers Composite materials Recycling	Link properties to particle arrangement. Describe uses. Investigate variables to make polymers and composite materials and explain their properties. Evaluate recycling waste management.	Properties of polymers 6 mark question  End of topic retrieval quiz	Scientific community  Impact of our actions and how they affect others  Designing materials to help others & solve problems	Chemist Metallurgist Building and construction Research and development Material engineer/technician Environmental scientist Conservationist Waste management	GCSE Chemistry  DT  Geography
States of Matter	Particles and state Changing state Cooling and heating curves Pressure	Describe particle arrangement in each state. Investigate and explain particle changes with temperature. Link graph shape to change of state and particle energy. Investigate variables and explain how pressure is caused in gases	How does an ice cube melt/Particles formative badger task  Comparing solids and gases 6 mark question  End of topic retrieval quiz	Fascination with understanding the world  Scientific community	Chemist Building and construction Research and development Material engineer/technician Deep sea divers paramedics -pressure sickness Hydraulic engineering Aeronautical engineer Marine engineer	GCSE Chemistry GCSE Physics  DT  Maths
Electrical current and circuits	Circuit components Series and parallel Current and voltage Modelling Portable energy Electrolysis	Identify circuit symbols. Draw accurate circuits. Describe the 2 types of circuit. Investigate current and voltage in each circuit and explain rules. Use, compare and contrast models. Investigate variables and explain electrochemical cells. Explain electrolysis linking to ions.	How does a torch work formative badger task  Fruity battery exam question  End of topic retrieval quiz	Fascination with understanding the world around them Scientific community Understanding consequences and how actions impact on others Understanding the viewpoints of others	Electrician/electronics engineer Power plant operator Health and safety assessor Construction Cardiovascular technician	GCSE Physics GCSE Biology  DT
Energy transfers	Energy Sankey diagrams Energy calculations	Identify energy transfers. Draw accurate Sankey diagrams and use to explain efficiency. Use formulae to calculate energy and power.	Energy in devices and costs 8 mark exam question  End of topic retrieval quiz	Understanding consequences and how actions impact on others Understanding the viewpoints of others	Power plant operator Statistician Product design Mathematician	GCSE Physics Food tech PE Maths

Chemical reactions	Reactants and mass Combustion Thermal decomposition Oxidation Corrosion	Identify reactants and products in reactions. Explain conservation of mass. Investigate and compare complete and incomplete combustion. Investigate and explain thermal decomposition, oxidation and corrosion, uses and disadvantages. Write word and symbol equations.	Neutralisation formative badger task  End of topic retrieval quiz	Fascination with understanding the world around them Scientific community Understanding consequences and how actions impact on others Understanding the viewpoints of others	Biofuel technician Chemist Environmental scientist Conservationist Mechanic – rust prevention Formula one Incineration plant	GCSE Chemistry  Food tech
Acids and bases	Acids and alkalis Neutralisation Making salts Concentration Soluble and insoluble salts	Compare acids and alkalis and link to pH scale to explain neutralisation. Describe and carry out procedure to make salts and investigate and reaction rate. Plan and investigate variables on antacids	How do antacid tablets work formative badger task Making salts procedure 6 mark question End of topic retrieval quiz	Fascination with understanding the world around them Understanding consequences and how actions impact on others Understanding the viewpoints of others	Paramedic Burns unit nurse Soil technologist Food scientist Pharmacist Chemical plant operator Fertiliser manufacture Horticulturist	GCSE Chemistry  Food tech
Magnetism	Magnets Making magnets Electromagnets Using electromagnetism Motors Renewables	Identify magnetic materials. Describe magnetic fields. Explain permanent magnetism. Investigate variables and explain electromagnets. Describe uses of electromagnets, Explain how motors work. Link motor effect to generating electricity with renewable resources.	How to make a magnet 6mark question  Scrap heap magnet challenge formative badger task  End of topic retrieval quiz	Fascination with understanding the world around them Scientific community Understanding consequences and how actions impact on others Understanding the viewpoints of others	Power plant operator Navigation Robotic engineers MRI technician Mechanic Sea bed mapping/Oceanographer Electrician Scrap yard firm Nuclear engineer	GCSE Physics  DT  Geography
Static	Static Using electrostatics Van de Graff	Identify static charge build up. Describe uses and disadvantages Explain cause and effect. Invent new use	Explain how objects become charged 6 mark question  End of topic retrieval quiz	Fascination with understanding the world around them Understanding consequences and how actions impact on others	Paramedic Cardiovascular technician Burns unit nurse Mechanic/car design Clothes design Building and construction	GCSE Physics  DT  PE
Resistance	Electrical resistance Investigating and measuring resistance	Describe electrical resistance Use formula to calculate. Investigate variables	Resistance vs length practical procedure 6 mark question  End of topic retrieval quiz	Fascination with understanding the world around them Scientific community Understanding consequences and how actions impact on others	Electrician/electronics engineer Power plant operator Health and safety assessor Construction Cardiovascular technician	GCSE Physics  DT  Maths