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YEAR 9 CURRICULUM INFORMATION – Physics		
	Autumn 1	Autumn 2
What will students be learning?	**Molecules and Matter** • Density • States of Matter • Changes of State • Internal Energy **Energy Transfers** • Conduction • Convection • IR Radiation • The Greenhouse Effect	**Molecules and Matter** • Specific Latent Heat • Gas Pressure and Temperature • Gas Pressure and Volume **Energy Transfers** • Specific Heat Capacity • Heating and Insulating Buildings
How will students be assessed?	1. Milestone test at the end of the topic 2. In-class formative review each lesson 3. Required Practical – Density	1. Milestone test at the end of the topic 2. In-class formative review each lesson 3. Required Practical – Specific Heat Capacity
Literacy – What keywords will be taught?	Volume, mass, density, substance, material, state of matter, condense, freeze, evaporate, boil, melt, heat, temperature, Celsius, kinetic energy, internal energy, potential energy Conduction, particle, vibration, energy transfer, convection, convection current, infra-red radiation, emission, absorption, surface, black body, greenhouse effect, average	Specific latent heat, heat, temperature, change of state, vaporisation, solidify, melt, fusion, pressure, volume, expand, contract, compress, work done Specific heat capacity, mass, temperature, heat, transfer, insulation, cavity wall, double glazing, draught excluder, payback time

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What employability skills are being developed?	• Problem solving (finding how to measure the volume of irregular objects and balancing societal needs with causes of the greenhouse effect) • Numeracy (calculating energy transfers) • Literacy (reading greenhouse effect evidence) • Extended writing (discussing the greenhouse effect) • Practical skills (measuring/calculations on density)	• Problem solving (balancing cost/savings in improving building insulation) • Numeracy (calculating latent heat and pressures) • Literacy (reading about house insulation methods) • Extended writing (comparing and contrasting house insulation methods) • Practical skills (measuring/calculations on specific heat capacity)
Wider Curriculum Links?	• Chemistry – Molecules and matter topic is 70% overlapped knowledge with chemistry learning. • Global warming / climate crisis – the concepts covered here are given as the foundational basis of GCSE learning and apply directly to understanding the causes, consequences and remedies for the global climate crisis and global warming generally. • Engineering principles – foundational knowledge and career links to heating / cooling engineering, aerodynamics, aerospace engineering, meteorology and architecture.	• Chemistry – Molecules and matter topic is 70% overlapped knowledge with chemistry learning. • Global warming / climate crisis – the concepts covered here are given as the foundational basis of GCSE learning and apply directly to understanding the causes, consequences and remedies for the global climate crisis and global warming generally. • Engineering principles – foundational knowledge and career links to heating / cooling engineering, aerodynamics, aerospace engineering, meteorology and architecture.
What useful websites are there for this topic? **Click links for more info**	 Free Science Lessons  Primrose Kitten  GCSE Pod  BBC Bitesize  Oak National Academy *Select KS4 Science (Triple)*	
What wider reading could be done for this topic? **Click links for more info**	**Textbook** *(separate sciences)*: AQA GCSE Physics Student Book (3rd Ed) **Textbook** *(combined science)*: AQA GCSE Physics for Combined Science (Trilogy) Student Book (3rd Ed) **Revision Guide** *(separate sciences)*: AQA GCSE 9-1 Physics All-in-One Complete Revision and Practice *(available on ParentPay)* **Revision Guide** *(combined science)*: AQA GCSE 9-1 Combined Science Higher All-in-One Complete Revision and Practice *(available on ParentPay)*	

What else can students be doing independently to develop their understanding of this topic? **Click links for more info**	**Exam Question Practice** *(matches the revision guides on ParentPay)*: Collins AQA GCSE 9-1 Physics Workbook **Exam Question Practice** *(Separate Higher Tier)*: CGP GCSE Physics AQA Exam Practice Workbook - Higher **Exam Question Practice** *(Combined Higher Tier)*: CGP GCSE Combined Science AQA Exam Practice Workbook – Higher **Exam Question Practice** *(Separate Foundation Tier)*: CGP GCSE Physics AQA Exam Practice Workbook - Foundation **Exam Question Practice** *(Combined Foundation Tier)*: CGP GCSE Combined Science AQA Exam Practice Workbook - Foundation