Classroom 42

Triple Science, Higher Tier

P1 Energy Revision Checklist

Topic	Content	✓
Energy Changes in a System	Energy Stores and Systems – Define a system as an object or group of objects, describe different energy stores (kinetic, thermal, chemical, gravitational potential, elastic potential, nuclear).	
	Explain how energy is transferred between stores via heating, electrical work, mechanical work, and radiation, describe real-world examples of energy transfers	
	Changes in Energy – Calculate energy changes using equations for kinetic energy, gravitational potential energy, and elastic potential energy, explain the relationship between work done and energy transfer	
	Energy Changes in Systems – Explain how energy is stored or released when a system's temperature changes, use the specific heat capacity equation to calculate energy changes, describe how materials differ in energy storage due to specific heat capacity	
	Required Practical 1: Specific Heat Capacity	
	Definition of Power – Define power as the rate at which energy is transferred or work is done, use power equations to calculate energy transfer per unit time, compare power ratings of appliances to discuss efficiency	
Conservation and Dissipation of Energy	Principle of Conservation of Energy – Explain that energy cannot be created or destroyed, only transferred between stores, describe how energy is dissipated in less useful ways (wasted energy), impact of friction and air resistance on energy transfers	
	Energy Transfers and Efficiency – Describe how energy is transferred mechanically, electrically, by heating, and by radiation	
	Explain how insulating materials reduce unwanted energy transfers, discuss how efficiency can be improved	
	Required Practical 2: Thermal Insulation	
	Efficiency of Energy Transfers – Use efficiency equations to calculate efficiency of energy transfers, compare useful energy output to total input, improving efficiency.	
National and Global Energy Resources	Types of Energy Resources – Compare renewable and non-renewable energy resources, discuss the uses of energy in transport, heating, and electricity generation, explain why some energy resources are more reliable than others.	
	Environmental Impact and Sustainability – Evaluate the advantages and disadvantages of fossil fuels, nuclear power, and renewable energy sources, discuss environmental impact, sustainability, and the challenges of transitioning to renewable energy, consider political, social, ethical, and economic factors affecting energy resource use.	

Classroom 42

Triple Science, Foundation Tier

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Classroom 42

Double Science, Higher Tier

P1 Energy Revision Checklist

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	Required Practical 1: Specific Heat Capacity	
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	Required Practical 2: Thermal Insulation	
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	Environmental Impact and Sustainability – Evaluate the advantages and disadvantages of fossil fuels, nuclear power, and renewable energy sources, discuss environmental impact, sustainability, and the challenges of transitioning to renewable energy, consider political, social, ethical, and economic factors affecting energy resource use.	

Classroom 42

Double Science, Foundation Tier

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