



SP3 Conservation of energy

Personal learning checklist | 1 of 1

GCSE Edexcel Separate Sciences | Physics Paper 1

Name _____ Class _____ Date _____

Tick one box for each statement. Red: need help. Amber: partly confident.
Green: can do independently.

I can	Red	Amber	Green
Stores and transfers			
Identify energy stores and transfer pathways and describe changes in everyday systems.	☐	☐	☐
Explain conservation and dissipation without describing energy as destroyed.	☐	☐	☐
Draw and interpret energy-flow and Sankey diagrams, accounting for useful and unwanted outputs.	☐	☐	☐
Calculations and efficiency			
Calculate gravitational energy changes using vertical height and rearrange the equation.	☐	☐	☐
Calculate kinetic energy, rearrange for speed and explain squared-speed dependence.	☐	☐	☐
Calculate efficiency, useful output and input as fractions or percentages.	☐	☐	☐
Explain how lubrication and insulation reduce unwanted transfers and improve efficiency.	☐	☐	☐
Thermal transfer			
Explain conduction, convection and infrared transfer and apply them to building insulation.	☐	☐	☐
Explain effects of thickness, conductivity and temperature difference on cooling rates.	☐	☐	☐
Energy resources			
Compare fossil and nuclear energy generation, including finite supplies, emissions, waste and extraction impacts.	☐	☐	☐
Describe renewable energy pathways and compare variability, predictability and suitable locations.	☐	☐	☐
Evaluate resources using costs, reliability, environmental effects and biofuel life-cycle emissions.	☐	☐	☐
Interpret resource-use data and trends without treating correlation alone as proof of causes.	☐	☐	☐

My next revision priority _____