Intervention – AQA Trilogy Physics paper 1 – Higher

P1Energy - Conservation & dissipation of energy

Name the nine energy stores.	Name the four ways in which energy can be transferred.	What is a system?	What is a closed system?	What is work done?
What is the unit for energy?	What is one joule of work?	Describe the energy transfer when a moving car slows down.	Describe the energy transfer when an electric kettle is used to heat water.	Describe the energy transfer when a ball is fired using an elastic band.
Describe the energy transfer when a battery powered toy car is used.	Describe the energy transfer when a falling apple hits the ground.	Name the unit that represents one joule transferred per second.		

Intervention – AQA Trilogy Physics paper 1 – Higher

P1 Energy - Energy transfer by heating

What does a material's thermal conductivity tell you?	Which materials have low thermal conductivity?	Give three factors that determine the rate of thermal energy transfer through a material.	What factors affect the rate of heat loss from a building?
Define specific heat capacity.	What is the equation for calculating specific heat capacity?	What factors affect the temperature rise of a substance?	What is the unit for specific heat capacity?
Give three methods of reducing the rate of energy transfer from a house.	What type of material make the best conductors of energy?		

Intervention – AQA Trilogy Physics paper 1 – Higher

P1 Energy - Energy resources

What is a non-renewable energy resource?	What is a renewable energy resource?	What are the main renewable and non-renewable resources available on Earth?	What are the main advantages of using coal as an energy resource?	What are the main disadvantages of using coal as an energy resource?
What are the main advantages of using nuclear fuel as an energy resource?	What are the main disadvantages of using nuclear fuel as an energy resource?	What are the main advantages of using solar energy?	What are the main disadvantages of using solar energy?	What are the main advantages of using tidal power?
What are the main disadvantages of using tidal power?	What are the main advantages of using wave turbines?	What are the main disadvantages of using wave turbines?	What are the main disadvantages of using wind turbines?	
What are the advantages and the disadvantages of using geothermal energy?	What are the main advantages and disadvantages of using biofuels?	What are the main advantages and disadvantages of using hydroelectric power?		

Intervention – AQA Trilogy Physics paper 1 – Higher

P1 Energy - Energy

Intervention – AQA Trilogy Physics paper 1 – Higher **P2 Electricity - Electric circuits**

What is electric current?	What units are charge, current, and time measured in?	What is the same at all points when charge flows in a closed loop?	What must there be in a closed circuit so that electrical charge can flow?	Which two factors does current depend on and what are their units?
What happens to the current if the resistance is increased but the p.d. stays the same?	What is an ohmic conductor?	What happens to the resistance of a filament lamp as its temperature increases?	What happens to the resistance of a thermistor as temperature increases?	
What happens to the resistance of a light-dependent resistor when light intensity increases?	What are the main features of a series circuit?	What are the main features of a parallel circuit?		

Intervention – AQA Trilogy Physics paper 1 – Higher **P2 Electricity - Electricity in the home**

Why is the current provided by a cell called a direct current (d.c.)?	What is an alternating current (a.c.)?	What kind of current is supplied by mains electricity?	What is the frequency and voltage of mains electricity?
What colours are the live, neutral, and earth wires in a three-core cable?	What is the function of the live wire in a three-core cable?	What is the function of the neutral wire in a three-core cable?	What is the function of the earth wire in a three-core cable?
When is there a current in the earth wire?	Why is the live wire dangerous?	What is the National Grid?	What are step-up transformers used for in the National Grid?
What are step-down transformers used for in the National Grid?	How does having a large potential difference in the transmission cables help to make the National Grid an efficient way to transfer energy?	What two things does energy transfer to an appliance depend on?	What are the units for power, current, potential difference, and resistance?

Intervention – AQA Trilogy Physics paper 1 – Higher P2 Electricity -

Intervention – AQA Trilogy Physics paper 1 – Higher P3 Particle Model of Matter

Which two quantities do you need to measure to find the density of a solid or liquid?	What happens to the particles in a substance if its temperature is increased?	Why are changes of state physical changes?	Why is the mass of a substance conserved when it changes state?
What is the internal energy of a substance?	Why does a graph showing the change in temperature as a substance cools have a flat section when the substance is changing state?	What is the name given to the energy transferred when a substance changes state?	What is the specific latent heat of a substance?
What is the specific latent heat of fusion a substance?	What is the specific latent heat of vaporisation of a substance?	On a graph of temperature against time for a substance being heated up or cooled down, what do the flat (horizontal) sections show?	What property of a gas is related to the average kinetic energy of its particles?
What causes the pressure of a gas on a surface?	Give two reasons why the pressure of a gas in a sealed container increases if its temperature is increased.	Define specific heat capacity	

Intervention – AQA Trilogy Physics paper 1 – Higher P3 Particle Model of Matter

Intervention – AQA Trilogy Physics paper 1 – Higher P4 Atomic Structure

Describe the basic structure of an atom.	Describe the plum pudding model of the atom.	What charges do protons, neutrons, and electrons carry?	Why do atoms have no overall charge?	What is the radius of an atom?	What is meant by the half-life of a radioactive source?
How small is a nucleus compared to a whole atom?	How can an electron move up an energy level?	What is ionisation?	What is formed if an atom loses an electron?	How does an atom become a negative ion?	What is irradiation?
What is the atomic number of an element?	What is the mass number of an element?	Which particle do atoms of the same element always have the same number of?	What are isotopes?	What were the two main conclusions from the alpha particle scattering experiment?	What is radioactive contamination?
What are the three types of nuclear radiation?	What is gamma radiation?	Which type of nuclear radiation is the most ionising?	What is the range in air of alpha, beta, and gamma radiation?	Which materials can stop alpha, beta, and gamma radiation?	
Which type of nuclear radiation does not cause a change in the structure of the nucleus when it is emitted?	What are the equation symbols for alpha and beta particles?	What is radioactive activity?	What unit is used to measure the activity of a radioactive source?	What is ‘count-rate’?	