Physics: Curriculum Overview

Year 9

Term	Topic studied	What will I learn?	How will I be assessed?
Year 9 Autumn	Energy Heat	*Radiation* *Kinetic Theory and conduction* *Convection* *Condensation and Evaporation* *Rate of Heat Transfer* *Energy Efficiency in the Home* *Specific Heat Capacity* *Energy Transfer* *Efficiency of Machines* *Energy Transformation Diagrams* *The Cost of Electricity* *Choosing Electrical Appliances*	*Practical assessment - Specific Heat Capacity* *Practical assessment - Specific Heat Capacity* *Equations assessment - Specific Heat Capacity* *Equation assessment – Efficiency* *Equations assessment – Cost of Electricity* *Test assessment - Objective test* *Test assessment - Structured Questions Test*
Year 9 Spring	Energy Sources	*Non-Renewable that is NOT being replaced by natural means* *Fossil fuels – Coal, Oil and Gas* *Renewable that is being replaced by natural means* *Most can be traced back to the Sun – Solar, Wind, Wave, Hydro Electric (HEP), Biofuel* *Exceptions – Tidal from Moon and Geothermal from Atomic energy in Earth* *Pump Storage* *Compare advantages and disadvantages of both* *Environmental effects, CO2* *National Grid (NG)*	*Practical assessment -* *Practical assessment -* *Equations assessment -* *Equation assessment -* *Test assessment - Objective test* *Test assessment - Structured Questions Test*
Year 9 Summer	Waves	*Wave basics - Wavelength, Amplitude & Frequency* *Wave properties – Reflected (i=r), Refracted, & Diffracted* *EM Waves & Communication* *EM order, uses, details* *Sound as a wave* *Origins of the Universe* *Doppler Effect* *Red-shift & Blue-shift.* *Majority of galaxies red-shifted so universe is expanded* *Cosmic Microwave Back Ground (CMBG)* *CMBG says universe is expanding independently of Red-Shift so Big Bang best explanation. Means universe had a beginning 13.7 billion years ago.*	*Practical assessment – Ripple Tanks* *Practical assessment – Mirrors* *Practical assessment – Refraction blocks* *Equations assessment – $v=f\lambda$* *Equation assessment – $v=d/t$* *Test assessment - Objective test* *Test assessment - Structured Questions Test*