Subject	Physics		
	Interpretation of National Curriculum into Year group Endpoints		
Year	**Term 1**	**Term 2**	**Term 3**
10	Students will desribe and explain the concepts of: **P2 Electricity** • measuring resistance using p.d. and current measurements • exploring current, resistance and voltage relationships for different circuit elements; including their graphical representations • quantity of charge flowing as the product of current and time • drawing circuit diagrams; exploring equivalent resistance for resistors in series • the domestic a.c. supply; live, neutral and earth mains wires, safety measures • power transfer related to p.d. and current, or current and resistance **P4 Atomic structure** • the nuclear model and its development in the light of changing evidence • masses and sizes of nuclei, atoms and small molecules • differences in numbers of protons, and neutrons related to masses and identities of nuclei, isotope characteristics and equations to represent changes • ionisation; absorption or emission of radiation related to changes in electron orbits • radioactive nuclei: emission of alpha or beta particles, neutrons, or gamma rays, related to changes in the nuclear mass and/or charge • radioactive materials, half-life, irradiation, contamination and their associated hazardous effects, waste disposal • nuclear fission, nuclear fusion and our Sun's energy	Students will desribe and explain the concepts of: **P5 Forces** • forces and fields: electrostatic, magnetic, gravity • forces as vectors • calculating work done as force x distance; elastic and inelastic stretching • pressure in fluids acts in all directions: variation in Earth's atmosphere with height, with depth for liquids, up-thrust force (qualitative). • speed of sound, estimating speeds and accelerations in everyday contexts • interpreting quantitatively graphs of distance, time, and speed • acceleration caused by forces; Newton's First Law • weight and gravitational field strength • decelerations and braking distances involved on roads, safety.	Students will desribe and explain the concepts of: **P6 Waves** • amplitude, wavelength, frequency, relating velocity to frequency and wavelength • transverse and longitudinal waves • electromagnetic waves, velocity in vacuum; waves transferring energy; wavelengths and frequencies from radio to gamma-rays • velocities differing between media: absorption, reflection, refraction effects • production and detection, by electrical circuits, or by changes in atoms and nuclei • uses in the radio, microwave, infra-red, visible, ultra-violet, X-ray and gamma ray regions, hazardous effects on bodily tissues. **Revision for, taking and review and intervention after Y10 PPEs**