Bellerive FCJ Catholic College

Department: Physics (Combined) **Year Group: 10**

Bold indicates building on previous knowledge

Term	Learning Focus	Key Knowledge and Skills	Assessment	Challenge and Enrichment
1	Conservation and dissipation of energy Energy Transfer by heat Electrical circuits	• **Develop understanding of forms of energy store and energy transfers.** Use equations to complete calculate answers to questions for gravitational potential energy, kinetic energy and elastic potential energy. Develop understanding of efficiency and power and use equations to calculate answers to questions. • **Develop understanding of forms of heat energy transfer. Explain how heat energy transfers through conduction and factors affecting this.** Develop understanding specific heat capacity and be able to use the specific heat capacity equation to calculate answer to questions. Complete specific heat capacity practical to develop understanding of how to find the specific heat capacity of different materials. • **Develop knowledge of circuit symbols and circuit diagrams. Develop understanding of current, potential difference and resistance.** Use equations to calculate answers to questions on current, potential difference, resistance and charge. Understand how to find resistance in a wire by completing the resistance in a wire practical. Understand how to find the component characteristics of different electrical components and complete the component characteristics practical. Develop understanding of what series and parallel circuit is and how this effects current, potential difference and resistance.	Energy End of topic assessments Paper 1 end of year assessment Electricity End of topic assessment Paper 1 end of year assessment	Booklets with additional questions. Physics padlet with links to additional resources GSCE Pod with videos and additional questions Kerboodle for textbook with additional questions. Booklets with additional questions. Physics padlet with links to additional resources GSCE Pod with videos and additional questions Kerboodle for textbook with additional questions.

	Electricity in the home	• Develop understanding the parameters of electricity in our homes. Understand the difference between AC and DC.		
2	Electricity in the home Particle model of matter Atomic structure	• Develop and understanding of how changing current and potential difference effect power. Use equations to answer questions on power calculations. • **Develop and understanding of density and how to find the density of different object through practical application. Develop understanding for the kinetic model being able to describe and explain different states of matter and changes in state**. Develop understanding of the internal energy of matter. Develop and understanding of specific latent heat and further develop understanding of specific heat capacity. Use equations to answer questions on energy changes. Develop understanding of the link between gas pressure and temperature. • **Develop an understanding of the structure of an atom** and how the nuclear model was developed. Develop and understanding of nuclear radiation and the properties of alpha, beta and gamma.	Particle model and atomic structure End of topic assessment Paper 1 end of year assessment	Booklets with additional questions. Physics padlet with links to additional resources GSCE Pod with videos and additional questions Kerboodle for textbook with additional questions.
3	Atomic structure Forces	• Develop and understanding of half life and how to analyse data to find half life of different unstable nuclei. • Develop and understanding of vectors and scalars. Develop and understanding for forces and resultant forces and how these effect an object. Develop and understanding for different methods of working out the resultant for from two forces. Develop an understanding of resolving one force into a vertical and horizontal force.	Force end of topic assessment Y11 March Paper 2 mock	Booklets with additional questions. Physics padlet with links to additional resources GSCE Pod with videos and additional questions Kerboodle for textbook with additional questions.