Year 11

Physics

1	• SP8/9 Recall equations for work and power; describe force fields; represent forces in terms of free body diagrams; recall equation for moments.	• SP8/9 Calculate work and power; classify types of force and explain forces; resolve forces using scale diagrams; calculate moments in equilibrium.	• SP8/9 Calculate work and power; classify forces and explain force fields including diagrams; use vector diagrams to resolve forces; calculate moments and apply to gears and levers.
2	• SP10/11 Recall, calculate and describe energy transferred, charge, p.d., electrical power and describe electricity flow in circuits, d.c. and a.c., and modern wiring.	• SP10/11 Recall, calculate and explain energy transferred, charge, p.d., electrical pwer and explain electricity flow in circuits, and the effect of resistance in a circuit, the difference between d.c. and a.c. and explain how domestic circuits operate.	• SP10/11 Recall, calculate, manipulate and explain energy transferred, charge, p.d., electrical power and explain electricity flow in circuits, and the effect of resistance in a circuit, the difference between d.c. and a.c. and explain how domestic circuits operate & how to reduce unwanted energy transfer.
3	• SP12/13 Plot shape of magnetic field around a wire; explain role of transformers in the National Grid.	• SP12/13 Explain how current causes a magnetic field; apply Fleming's LH rule; explain role of transformers in the National Grid and use transformer equation.	• SP12/13 Explain how current causes a magnetic field and EM induction; apply Fleming's LH rule; explain role of transformers in the National Grid and use transformer equation.
4	• SP14 Recall kinetic theory model; describe temperature changes during changes of state; recall Kelvin scale.	• SP14 Explain heating curve and calculate energy changes; explain absolute zero in terms of kinetic energy and use Kelvin scale.	• SP14 Explain heating curve; calculate energy in relation to specific heat capacity and latent heat; calculate energy.
5	• SP15 Recall how pressure changes in air and water; describe force-extension graphs.	• SP15 Explain how pressure changes in air and water and link to upthrust; explain force-extension graphs.	• SP15 Explain pressure changes in air and water and calculate pressure and upthrust; explain force-extension graphs.