Year 13

Subject: Physics

Fortnight	Topic Title EVA	Lesson title	Topic Title AHA	Lesson title
1	22 - Electric Fields	22.1 Electric fields, 22.2 Coulomb's Law, 22.3 Electric fields and capacitors	16 - Circular Motion	L1 & 2 Recap of Newton's laws of motion L3 Circular Motion
2	22 - Electric Fields	22.4 charged particles and electric fields, 22.5 Electric potential and energy	16 - Circular Motion	L4&5 Demonstrating Centripetal Force L5b More circular motion
3	23 - Magnetic Fields	23.1 Magnetic Fields, 23.2 Understanding magnetic fields, 23.3 Charged particles in mag fields	17 - Oscillations	L13 Circular motion and simple harmonic motion L14 & 15 SHM mathematically PAG 10.1
4	23 - Magnetic Fields	23.4 EM induction, 23.5 Faraday and Lenz's law, 23.6 Transformers and PAG 11.1	17 - Oscillations	L16 Energy in a SHM oscillator L17 & 18 Driving & Damping of a SHM oscillator and resonance
5	24 - Particle Physics	24.1 Alpha particle scattering, 24.2-3 The nucleus and antiparticles, 24.4 Quarks	18 - Gravitational fields	L6 Newton's law of Gravitation L8 Gravitational fields and potential energy
6	24 - Particle Physics / 25 - Radioactivity	24.5 Beta decay, 25.1 Radioactivity, 25.2 Nuclear decay equations PAG 7.2, 25.3 Half-life and activity	18 - Gravitational fields	L9 & 10 Orbits and gravitational potential L11 Gravitational potential and potential energy
7	25 - Radioactivity	PAG 7.3, 25.4 Radioactive decay calculations, 25.5 Radioactive dating	14, 15 - Ideal Gases and Thermal Physics	L20 Kinetic model of matter - The ideal gas model L21 Absolute zero PAG 8.1
8	26 - Nuclear Physics	26.1 Einstein's mass-energy equation	14, 15 - Ideal Gases and Thermal Physics	L22&23 Ideal gas equations, derivations and applications PAG 8.2 and 8.4

9	26 - Nuclear Physics	26.2 Binding energy, 26.3 Nuclear fission, 26.4 Nuclear fusion	14, 15 - Ideal Gases and Thermal Physics	L24-25 Kinetic model of solids and liquids and specific heat capacity L26&27 Specific latent heat of fusion and vaporisation PAG 11.2
10	Mocks		Mocks	
11	27 - Medical Imaging	27.1-2 X-rays, 27.3 CAT Scans	19, 20 - Stars and Cosmology	L29 Gas laws in stars and stellar nurseries L30&31 Life cycle of small and large stars
12	27 - Medical Imaging	27.4 The gamma camera, 27.5 PET Scans, PAG 12.2, 27.6 Ultrasound	19, 20 - Stars and Cosmology	L32 EM radiation from stars and the H-R diagram L33 – 34 Distances to stars
13	27 - Medical Imaging/Revision	27.7 Acoustic impedance, 27.8 Doppler imaging	19, 20 - Stars and Cosmology	L35 Spectral lines in starlight L36-37 The Doppler shift & red shift
14	Revision		19, 20 - Stars and Cosmology	L37-38 The Universe's expansion and Hubble's Law L39 Expansion of the Universe and the latest ideas
15	Revision		Revision	
16	Revision		Revision	
17	Revision		Revision	
18	Revision/Exams		Revision/Exams	
19	Exams		Exams	