Post 16 Personal Learning Checklist (PLC)

NAME:

SUBJECT: **Physics**

LEVEL: **AS**

Area of Specification	Topic	Paper	Red	Amber	Green
Understand and use the terms *amplitude*, *frequency*, *period*, *speed* and *wavelength*	2.3 Waves	Unit 2 : Physics at Work			
Identify the different regions of the electromagnetic spectrum and describe some of their applications	2.3 Waves	Unit 2 : Physics at Work			
Use the wave equation $v = f\lambda$	2.3 Waves	Unit 2 : Physics at Work			
Recall that a sound wave is a longitudinal wave which can be described in terms of the displacement of molecules	2.3 Waves	Unit 2 : Physics at Work			
Use graphs to represent transverse and longitudinal waves, including standing waves	2.3 Waves	Unit 2 : Physics at Work			
Explain and use the concepts of wavefront, coherence, path difference, superposition and phase	2.3 Waves	Unit 2 : Physics at Work			

Area of Specification	Topic	Paper	Red	Amber	Green
Recognise and use the relationship between phase difference and path difference 35 explain what is meant by a *standing (stationary) wave*, investigate how such a wave is formed, and identify nodes and antinodes	2.3 Waves	Unit 2 : Physics at Work			
Recognise and use the expression for refractive index $_1\mu_2 = \sin i/\sin r = v_1/v_2$, determine refractive index for a material in the laboratory, and predict whether total internal reflection will occur at an interface using critical angle	2.3 Waves	Unit 2 : Physics at Work			
Investigate and explain how to measure refractive index	2.3 Waves	Unit 2 : Physics at Work			
Discuss situations that require the accurate determination of refractive index	2.3 Waves	Unit 2 : Physics at Work			
Investigate and explain what is meant by *plane polarised light*	2.3 Waves	Unit 2 : Physics at Work			
Investigate and explain how to measure the rotation of the plane of polarisation	2.3 Waves	Unit 2 : Physics at Work			
Investigate and recall that waves can be diffracted and that substantial diffraction occurs when the size of the gap or obstacle is similar to the wavelength of the wave	2.3 Waves	Unit 2 : Physics at Work			
Explain how diffraction experiments provide evidence for the wave nature of electrons	2.3 Waves	Unit 2 : Physics at Work			
Discuss how scientific ideas may change over time, for example, our ideas on the particle/wave nature of electrons	2.3 Waves	Unit 2 : Physics at Work			

Area of Specification	Topic	Paper	Red	Amber	Green
Recall that, in general, waves are transmitted and reflected at an interface between media	2.3 Waves	Unit 2 : Physics at Work			
Explain how different media affect the transmission/reflection of waves travelling from one medium to another	2.3 Waves	Unit 2 : Physics at Work			
Explore and explain how a pulse-echo technique can provide details of the position and/or speed of an object and describe applications that use this technique	2.3 Waves	Unit 2 : Physics at Work			
Explain qualitatively how the movement of a source of sound or light relative to an observer/detector gives rise to a shift in frequency (Doppler effect) and explore applications that use this effect	2.3 Waves	Unit 2 : Physics at Work			
Explain how the amount of detail in a scan may be limited by the wavelength of the radiation or by the duration of pulses	2.3 Waves	Unit 2 : Physics at Work			
Discuss the social and ethical issues that need to be considered, eg, when developing and trialling new medical techniques on patients or when funding a space mission	2.3 Waves	Unit 2 : Physics at Work			