Post 16 Personal Learning Checklist (PLC)

NAME: SUBJECT: **Physics** **LEVEL: AS**

Area of Specification	Topic	Paper	Red	Amber	Green
understand and use the terms density, laminar flow, streamline flow, terminal velocity, turbulent flow, upthrust and viscous drag, for example, in transport design or in manufacturing	Unit 1; Topic 3	Unit 1 Physics on the go			
recall, and use primary or secondary data to show that the rate of flow of a fluid is related to its viscosity	Unit 1; Topic 3	Unit 1 Physics on the go			
recognise and use the expression for Stokes's Law, $F = 6\pi\eta rv$ and upthrust = weight of fluid displaced	Unit 1; Topic 3	Unit 1 Physics on the go			
investigate, using primary or secondary data, and recall that the viscosities of most fluids change with temperature. Explain the importance of this for industrial applications	Unit 1; Topic 3	Unit 1 Physics on the go			
obtain and draw force-extension, force- compression, and tensile/compressive stress-strain graphs. Identify the limit of proportionality, elastic limit and yield point	Unit 1; Topic 3	Unit 1 Physics on the go			

Area of Specification	Topic	Paper	Red	Amber	Green
investigate and use Hooke's law, $F = k\Delta x$, and know that it applies only to some materials	Unit 1; Topic 3	Unit 1 Physics on the go			
explain the meaning and use of, and calculate tensile/ compressive stress, tensile/ compressive strain, strength, breaking stress, stiffness and Young Modulus. Obtain the Young modulus for a material	Unit 1; Topic 3	Unit 1 Physics on the go			
investigate elastic and plastic deformation of a material and distinguish between them	Unit 1; Topic 3	Unit 1 Physics on the go			
explore and explain what is meant by the terms brittle, ductile, hard, malleable, stiff and tough. Use these terms, give examples of materials exhibiting such properties and explain how these properties are used in a variety of applications, for example, safety clothing, foodstuffs	Unit 1; Topic 3	Unit 1 Physics on the go			
calculate the elastic strain energy E_{el} in a deformed material sample, using the expression $E_{el} = 1/2\ Fx$, and from the area under its force/extension graph	Unit 1; Topic 3	Unit 1 Physics on the go			