Eduqas Physics – Component 1

Module 1: Basic Physics

This topic covers units, dimensions, basic ideas on scalar and vector quantities and the differences between them. The basic physics in this unit gives learners the ideas and skills they need to progress to further study of Newtonian mechanics, kinetic theory and thermal physics.

You should be able to demonstrate and show your understanding of:	**Progress and understanding:**			
	1	**2**	**3**	**4**
The 6 essential base SI units (kg, m, s, A, mol, K)				
Representing units in terms of the 6 base SI units and their prefixes				
Checking equations for homogeneity using units				
The difference between scalar and vector quantities and to give examples of each – displacement, velocity, acceleration, force, speed, time, density, pressure etc				
The addition and subtraction of coplanar vectors, and perform mathematical calculations limited to two perpendicular vectors				
How to resolve a vector into two perpendicular components				
The concept of density and how to use the equation $\rho = m / V$ to calculate mass, density and volume				
What is meant by the turning effect of a force				
The use of the principle of moments				
The use of centre of gravity, for example in problems including stability: identify its position in a cylinder, sphere and cuboid (beam) of uniform density				
When a body is in equilibrium the resultant force is zero and the net moment is zero, and be able to perform simple calculations				

You should be able to demonstrate and show your understanding of:	Progress and understanding:			
	1	2	3	4
SPECIFIED PRACTICAL WORK				
Measurement of the density of solids				
Determination of unknown masses by using the principle of moments				