



Eduqas Physics – Component 1

Module 4: Energy Concepts

This topic covers the relationship between work, energy and power. It develops the conservation of energy, and the link between work and energy via the work-energy relationship.

You should be able to demonstrate and show your understanding of:	Progress and understanding:			
	1	2	3	4
The idea that work is the product of a force and distance moved in the direction of the force when the force is constant				
The calculation of the work done for constant forces, when the force is not along the line of motion (work done = $Fx\cos\theta$)				
The principle of conservation of energy including knowledge of gravitational potential energy ($mg\Delta h$), elastic potential energy ($\frac{1}{2}kx^2$) and kinetic energy ($\frac{1}{2}mv^2$)				
The work-energy relationship: $Fx = \frac{1}{2}mv^2 - \frac{1}{2}mu^2$				
Power being the rate of energy transfer				
Dissipative forces for example, friction and drag cause energy to be transferred from a system and reduce the overall efficiency of the system				
The equation $efficiency = \frac{\text{useful energy transfer}}{\text{total energy input}} \times 100\%$				

