# 2B Kinetic & Potential Energy

Kinetic Energy:

(Gravitational) Potential Energy

1. A particle of mass 0.3kg is moving at a speed of 9ms$^{-1}$. Calculate its kinetic energy.

2. A box of mass 1.5kg is pulled across a smooth horizontal surface by a horizontal force. The initial speed of the box is ums$^{-1}$ and its final speed is 3ms$^{-1}$ in the same direction. The work done by the force is 1.8J. Calculate the value of u.

3. A bus of mass 2000kg starts from rest at some traffic lights. After travelling 400m the bus's speed is 12ms$^{-1}$. A constant resistance of 500N acts on the bus. Calculate the driving force, P, which can be assumed to be constant.

4. A load of bricks of mass 30kg is lowered vertically to the ground through a distance of 15m. Find the loss in potential energy.