

Kinetic Energy: Motion

- Apply constant force along x-direction to a point particle m .

$$\begin{aligned}W &= F_x \Delta x \\ &= m a_x \Delta x \\ &= \frac{1}{2} m (v_f^2 - v_0^2)\end{aligned}$$

$$\text{recall} \quad : a_x \Delta x = \frac{1}{2} (v_x^2 - v_{x0}^2)$$

- Work changes $\frac{1}{2} m v^2$
- Define Kinetic Energy $K = \frac{1}{2} m v^2$

$$W = \Delta K \quad \text{For Point Particles}$$