

Falling Ball Example

- Ball falls a distance 5 meters, What is final speed?

Only force/work done by gravity

$$\Sigma W = \Delta KE$$

$$W_g = \frac{1}{2} m(v_f^2 - v_i^2)$$

$$F_g h \cos(0) = \frac{1}{2} m v_f^2$$

$$mgh = \frac{1}{2} m v_f^2$$

$$V_f = \text{sqrt}(2 g h) = 10 \text{ m/s}$$

