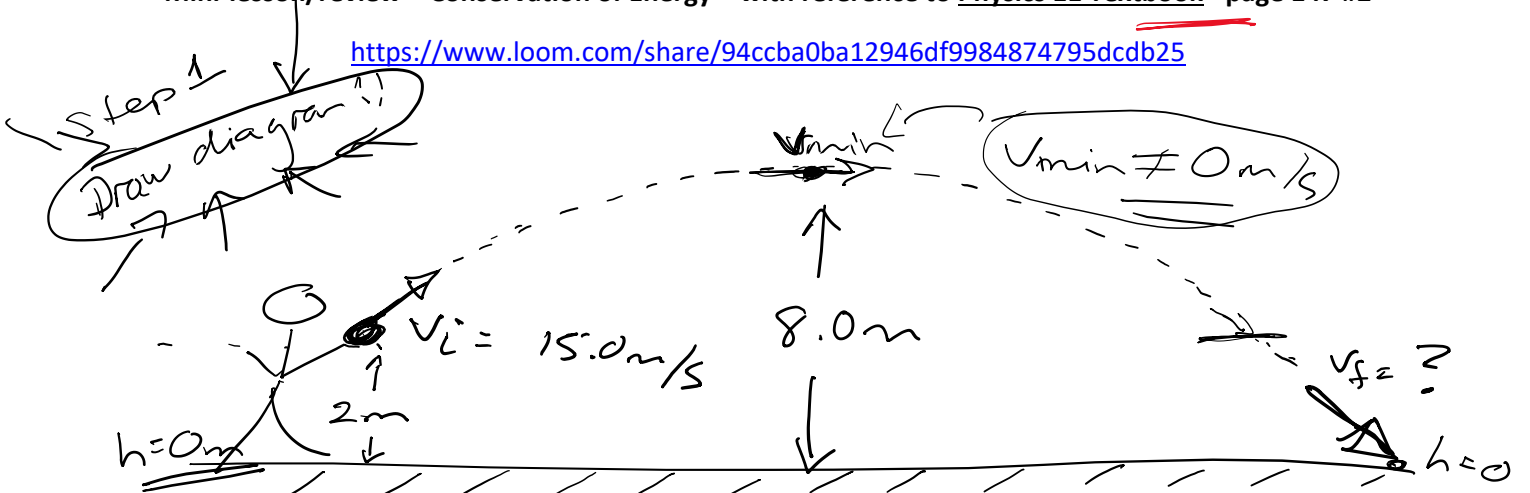


<https://www.loom.com/share/94ccba0ba12946df9984874795dcd25>



Analysis is for flight (not in the hand or after striking ground)

F_g is the only force

mass = known = 7.26 kg

$v_i = 15.0$

$h_i = 2.0$

$h_{max} = 8.0$

$$(a) E_{pi} = mgh_i = \frac{(\quad \text{kg})(\quad \text{m/s}^2)(\quad \text{m})}{\quad \text{J}}$$

$$(b) E_{ki} = \frac{1}{2}mv_i^2 = \quad \text{J}$$

$$\star (c) \underline{E_{total i}} = E_{pi} + E_{ki} = \quad \text{J}$$

$$(d) E_{total} = (\text{same as (c)}) = \quad \text{J}$$

$$(e) E_{p(\text{at max height})} = mgh = \frac{(\quad \text{kg})(9.8 \text{ m/s}^2)(8.0 \text{ m})}{\quad \text{J}}$$

(f) ~~$E_k = 0J$~~ wrong!

$$E_{\text{total}} = \underline{E_k} + E_p$$

$$E_k = E_{\text{total}} - E_p$$

(same as (c)) - (same as (e))

$$= \underline{\hspace{2cm}} J$$

(g) instant before it hits ground

$$\underline{E_{\text{total}}} = E_k + \cancel{E_p}$$

$h_f = 0m$

$$\underline{\text{(part (c))}} = \underline{E_k}$$

(h) Use energy methods \star

at ground

$$E_T = \underline{E_k} = \frac{1}{2}mv_f^2$$

$$E_p = 0J$$

because $h = 0m$

solve for v (speed)

Show your work! (algebra)

$$v_f = \underline{\hspace{2cm}} ??$$