

$$e = - \frac{v_2}{u_2}$$

$$\cancel{\frac{1}{2} m v_2^2} = \frac{1}{2} m g h_1$$

$$e = - \frac{\cancel{\frac{1}{2} m v_2^2}}{\cancel{\frac{1}{2} m v_1^2}}$$

$$= \frac{\sqrt{2 g h_1}}{\sqrt{2 g h_0}} = \sqrt{\frac{h_1}{h_0}}$$