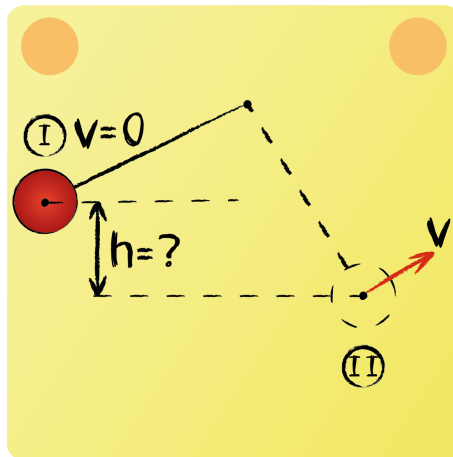




Lecture 01 - Energy 05

A pendulum moves from stillstand at position *I* towards position *II*, where it reaches a velocity v . Give an expression for the difference in height h between positions *I* and *II*.



Energy balance:

$$E_{\text{potential}} = E_{\text{kinetic}}$$

$$mgh = \frac{1}{2}mv^2$$

So:

$$\rightarrow h = \frac{1}{2} \frac{v^2}{g}$$