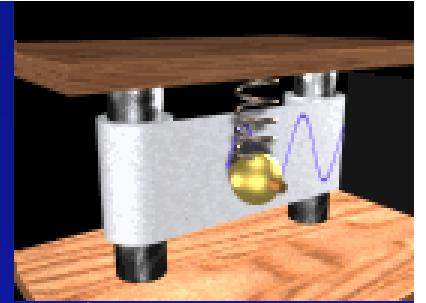


Example



A 3 kg mass is attached to a spring ($k=24 \text{ N/m}$). It is stretched 5 cm. At time $t=0$ it is released and oscillates.

What is the total energy of the block spring system?

A) 0.03 J

B) .05 J

C) .08 J

$$E = U + K$$

At $t=0$, $x = 5 \text{ cm}$ and $v=0$:

$$E = \frac{1}{2} k x^2 + 0$$

$$= \frac{1}{2} (24 \text{ N/m}) (5 \text{ cm})^2$$

$$= 0.03 \text{ J}$$