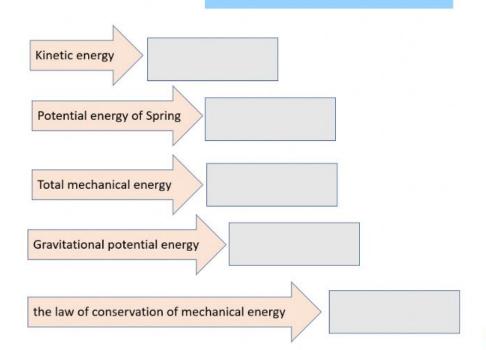
Law of Conservation of Energy



$$K+U=K_0+U_0,$$

$$U_{\rm g} = mgy$$
.

$$E=K+U.$$

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

$$U_{\rm s}=\frac{1}{2}kx^2,$$

