Law of Conservation of Energy

Kinetic energy $\rightarrow$ [ ]

Potential energy of Spring $\rightarrow$ [ ]

Total mechanical energy $\rightarrow$ [ ]

Gravitational potential energy $\rightarrow$ [ ]

the law of conservation of mechanical energy $\rightarrow$ [ ]
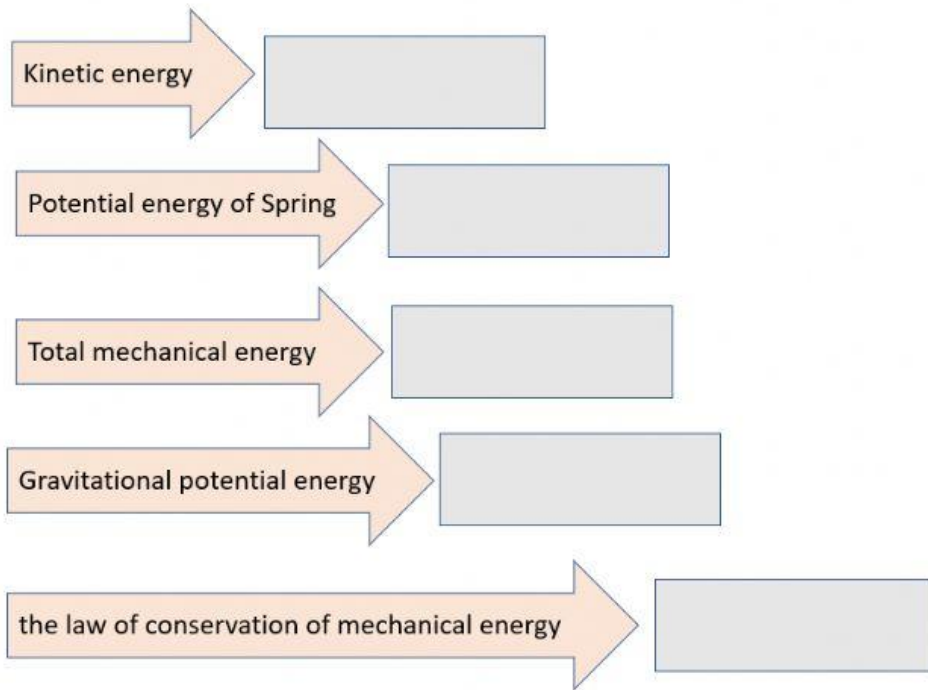
$$K + U = K_0 + U_0,$$

$$U_g = mgy.$$

$$E = K + U.$$

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

$$U_s = \frac{1}{2}kx^2,$$