

# Potential Energy

Potential energy of the object, measured in joules.

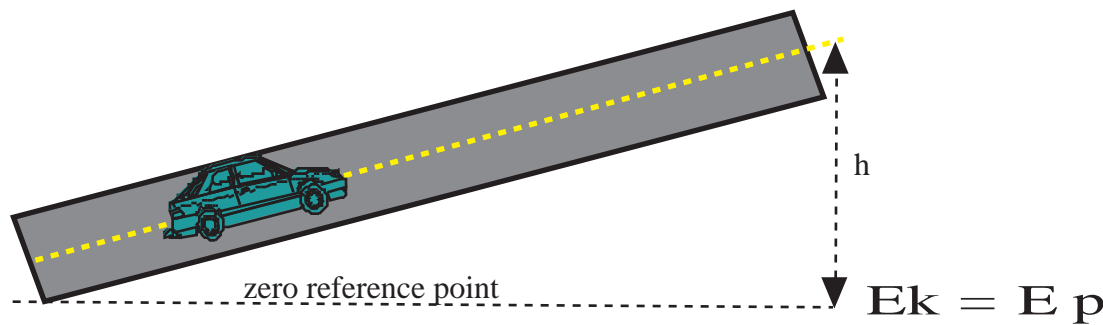
Acceleration of gravity at that point, measured in metres per second per second.

$$PE = E_p = m g h$$

The height the object is above the reference position, measured in metres.

The mass of the object, measured in kilograms.

If a 1000 kg car traveling with 386 kJ of kinetic energy coasts while traveling up hill, how high will the car rise if all the kinetic energy become potential energy?



NOTE: Any mass raised above its reference point has positive energy. if it lowered below that point it will have negative energy. The reference point can be set anywhere usually the zero point is a point where energy from one form to another starts or finishes.

$$386 \text{ kJ} = m g h$$

$$h = \frac{386 \text{ kJ}}{2 \times 9.8 \text{ 1m} / \text{s}^2 \times 1000 \text{ kg}}$$

$$h = 39.4 \text{ m}$$