Answer on Question # 74531, Chemistry, General Chemistry

An object rests 32.5 m above the Earth's surface. If its potential energy is equal to 637 kJ, determine the object's mass.

Solution:

Gravitational potential energy can be estimated as:

$$E = m \times g \times h$$

Therefore:

$$m = \frac{E}{g \times h} = \frac{637000\,J}{9.8\,m/s^2 \times 32.5\,m} = 2000\,kg$$

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