

**The Physics of Energy, Explained Simply
&
The Physics of Energy For Beginners**

Gravitational Potential Energy Questions - Answers

Equation: **GPE = mgh**

m = mass (kg), h = height above the ground (m)

(Gravitational Field Strength $g = 9.8 \text{ N/kg}$)

(Also called the Acceleration due to Gravity $g = 9.8 \text{ m/s}^2$)

1. $\text{GPE} = 2 \text{ kg} \times 9.8 \text{ N/kg} \times 1.5 \text{ m} = 29.4 \text{ J}$
2. $\text{GPE} = 0.6 \text{ kg} \times 9.8 \text{ N/kg} \times 2 \text{ m} = 11.76 \text{ J}$
3. $\text{GPE} = 3 \text{ kg} \times 9.8 \text{ N/kg} \times 4 \text{ m} = 117.6 \text{ J}$
4. $\text{GPE} = 4.5 \text{ kg} \times 9.8 \text{ N/kg} \times 0.8 \text{ m} = 35.28 \text{ J}$
5. $\text{GPE} = 5 \text{ kg} \times 9.8 \text{ N/kg} \times 1.2 \text{ m} = 58.8 \text{ J}$
6. $\text{GPE} = 30 \text{ kg} \times 9.8 \text{ N/kg} \times 2.5 \text{ m} = 735.0 \text{ J}$
7. $\text{GPE} = 10 \text{ kg} \times 9.8 \text{ N/kg} \times 3 \text{ m} = 294.0 \text{ J}$
8. $\text{GPE} = 0.3 \text{ kg} \times 9.8 \text{ N/kg} \times 2.5 \text{ m} = 7.35 \text{ J}$
9. $\text{GPE} = 1.5 \text{ kg} \times 9.8 \text{ N/kg} \times 10 \text{ m} = 147.0 \text{ J}$
10. $\text{GPE} = 12 \text{ kg} \times 9.8 \text{ N/kg} \times 2 \text{ m} = 235.2 \text{ J}$

