

## Homework



### Computing Kinetic Energy

Complete the following table using the formula  $K.E. = \frac{\text{mass} \times \text{velocity}^2}{2}$

| Object | Mass (kg) | Velocity (m/sec) | Kinetic Energy (J) |
|--------|-----------|------------------|--------------------|
| A      | 1         | 1                |                    |
| B      | 2         | 1                |                    |
| C      | 1         | 2                |                    |
| D      | 2         | 2                |                    |

**Bonus:** Which has the greater effect on the kinetic energy of a body, mass or velocity?

### Computing Gravitational Potential Energy

Complete the following table using the formula  $G.P.E. = \text{Weight} \times \text{Height}$

| Object | Weight (kg) | Height (m) | G.P.E. (J) |
|--------|-------------|------------|------------|
| E      | .5          | 5          |            |
| F      | .1          | 5          |            |
| G      | 1           | 5          |            |
| H      | 5           | 5          |            |

### Homework Answer Key

- A. 0.5 joules
- B. 1 joule
- C. 2 joules
- D. 4 joules

Bonus: Velocity has the greater effect on kinetic energy because its value is squared.

- E. 2.5 joules
- F. 0.5 joules
- G. 5.0 joules
- H. 25 joules