

- 1 Recall the equation for the kinetic energy
- 2 What does ' E_k ' represent?
- 3 What does ' m ' represent?
- 4 What does ' v ' represent?
- 5 What are the units for: **a) E_k b) m c) v**
- 6 Calculate the **kinetic energy (E_k)** store of a:
 - a) vehicle of mass 500 kg moving at a speed of 20 m/s
 - b) vehicle of mass 1000 kg moving at a speed of 20 m/s
 - c) vehicle of mass 1000 kg moving at a speed of 10 m/s
 - d) ball of mass 0.6 kg moving at a speed of 15 m/s
- 7 Rearrange the equation for **mass**
- 8 Calculate the **mass** of the following objects with a:
 - a) Object with a **E_k of 6,000 J** travelling at **20 m/s**
 - b) Object with a **E_k of 6,000 J** travelling at **40 m/s**
 - c) Object with a **E_k of 3,000 J** travelling at **40 m/s**
 - d) Object with a **E_k of 20 kJ** travelling at **10 m/s**
 - e) Object with a **E_k of 40 kJ** travelling at **30 m/s**
 - f) Object with a **E_k of 120,000 kJ** travelling at **2,000 m/s**
- 9 Rearrange the equation for **speed (v , not v^2)**
- 10 Calculate the **speed** of the following objects
 - a) A **6 kg** object with a **E_k of 6,000 J**
 - b) A **12 kg** object with a **E_k of 12,000 J**
 - c) A **1,000 g** object with a **E_k of 300 J**
 - d) A **20 g** object with a **E_k of 150,000 J**
 - e) A **2,500,000 g** object with a **E_k of 70 kJ**
 - f) A **2,500,000 kg** object with a **E_k of 800 kJ**
 - g) A **0.5 g** object with a **E_k of 2 J**