Kinetic energy

1. A car that travels at a speed of 20m/s and has a mass of 1200 kg.

2. A year 11 pupil with a mass of 55kg swinging back on their chair and falling off it at a speed of 0.6m/s.

3. A runner with a mass of 62kg running at a speed of 0.8m/s.

4. A tennis ball travelling at a speed of 46m/s with a mass of 58g.

5. A dog running across a field at a speed of 1.2m/s with a mass of 3.2kg.

Calculating velocity: (remember to square root v^2)

6. A lift travelling up to the top floor of the Empire State building with a mass of 4200kg and a kinetic energy of 4116 J.

7. Bird flying towards its nest with a mass of 0.25kg and a kinetic energy of 40.5 J.

8. A Wii remote flung from a hand through a TV, with a kinetic energy of 1.44 J and a mass of 4.5kg.

9. Hot air balloon with a kinetic energy of 76550 J and a mass of 1890kg.

Calculating mass:

10. Automatic door closing 0.2m/s, with a kinetic energy of 1.6 J.

11. Wind turbine blade with a kinetic energy of 104040 J, turning at 6m/s.

12. Aeroplane travelling at 75m/s with a kinetic energy of 843700 J.

13. Child riding a bike at a speed of 6m/s, with a total kinetic energy of 1224 J. If the mass of the child is 30kg, what is the mass of the bike?

Kinetic energy

1. A car that travels at a speed of 20m/s and has a mass of 1200 kg. (**240000 J or 240K J**)

2. A year 11 pupil with a mass of 55kg swinging back on their chair and falling off it at a speed of 0.6m/s. (**9.9 J**)

3. A runner with a mass of 62kg running at a speed of 0.8m/s. (**19.8 J**)

4. A tennis ball travelling at a speed of 46m/s with a mass of 58g. (**61.34 J**)

5. A dog running across a field at a speed of 1.2m/s with a mass of 3.2kg. (**2.3 J**)

Calculating velocity: (remember to square root v^2)

6. A lift travelling up to the top floor of the Empire State building with a mass of 4200kg and a kinetic energy of 4116 J. (**1.4 m/s**)

7. Bird flying towards its nest with a mass of 0.25kg and a kinetic energy of 40.5 J. (**18 m/s**)

8. A Wii remote flung from a hand through a TV, with a kinetic energy of 1.44 J and a mass of 4.5kg. (**0.8 m/s**)

9. Hot air balloon with a kinetic energy of 76550 J and a mass of 1890kg. (**9 m/s**)

Calculating mass:

10. Automatic door closing 0.2m/s, with a kinetic energy of 1.6 J. (**80kg**)

11. Wind turbine blade with a kinetic energy of 104040 J, turning at 6m/s. (**5780kg**)

12. Aeroplane travelling at 75m/s with a kinetic energy of 843700 J. (**300kg**)

13. Child riding a bike at a speed of 6m/s, with a total kinetic energy of 1224 J. If the mass of the child is 30kg, what is the mass of the bike? (**38kg**)