1. **kinetic energy** — the capacity to do work due to a particle's motion

2. **matrix** — a surrounding substance within which something else originates, develops or is contained

3. **normal** — a force applied at 90 degrees to a surface

4. **pearlite** — a phase of carbon steel and cast iron consisting of ferrite and cementite formed into distict alternating layers (or lamellae) on slow cooling from austenite; pearlite is a tough phase responsible for the mechanical properties of unhardened steel

5. **plasticity** — the ability of a material to withstand permanent deformation without failure

6. **power** — a measure of work done over a period of time; power is measured in watts, where one watt is the power used to perform one joule of work in one second

7. **shear** — when one section of a body tends to slide over a neighbouring section

8. **sintering** — most often associated with powder metallurgy, sintering involves heating compressed parts in a controlled-atmosphere furnace; the pressed powder particles fuse together (at temperatures below their melting point), forming metallurgic bonds

9. **steel** — a metallic product whose principal element is iron and where the carbon content is not more than 2%

10. **strain** — the amount of deformation an object experiences compared to its original size

11. **tension** — a force tending to stretch or elongate something, a pulling force

12. **torsion** — the result of twisting forces produced in engine crankshafts while the engine is running; forces causing torsion produce torque or turning moments

13. **toughness** — the extent to which a material absorbs energy without fracture; the area under a stress-strain diagram is a measure of toughness

14. **true stress** — the ratio of the applied load (L) to the instantaneous cross-sectional area (A)

15. **ultimate tensile strength (UTS)** — the maximum stress a material can withstand before failing

16. **weldability** — the ease with which a materal is able to be welded

17. **Young's modulus** — the ratio of stress to strain within the elastic region of the stress-strain curve (prior to the yield point)