

5. The lattice enthalpy is the change in enthalpy (per mole of formula units) accompanying the complete separation of the components of the solid.
6. A material is diamagnetic if it tends to move out of a magnetic field, and paramagnetic if it tends to move into a magnetic field.
7. Ferromagnetism is the cooperative alignment of electron spins in a material and gives rise to strong magnetization. Anti ferromagnetism results from alternating spin orientations in a material and leads to weak magnetization.
8. Type I superconductors show abrupt loss of superconductivity when an applied magnetic field exceeds a critical value H_C characteristic of the material. They are also completely diamagnetic below H_C . Type II superconductors show a gradual loss of superconductivity and diamagnetism with increasing magnetic field.
9. Unit cells are classified into seven crystal systems according to their rotational symmetries.
10. A unit cell is the small three-dimensional figure that may be used to construct the entire crystal lattice by purely translational displacements.
11. A Bravais lattice is one of fourteen types of unit cell shown in Figure 3.

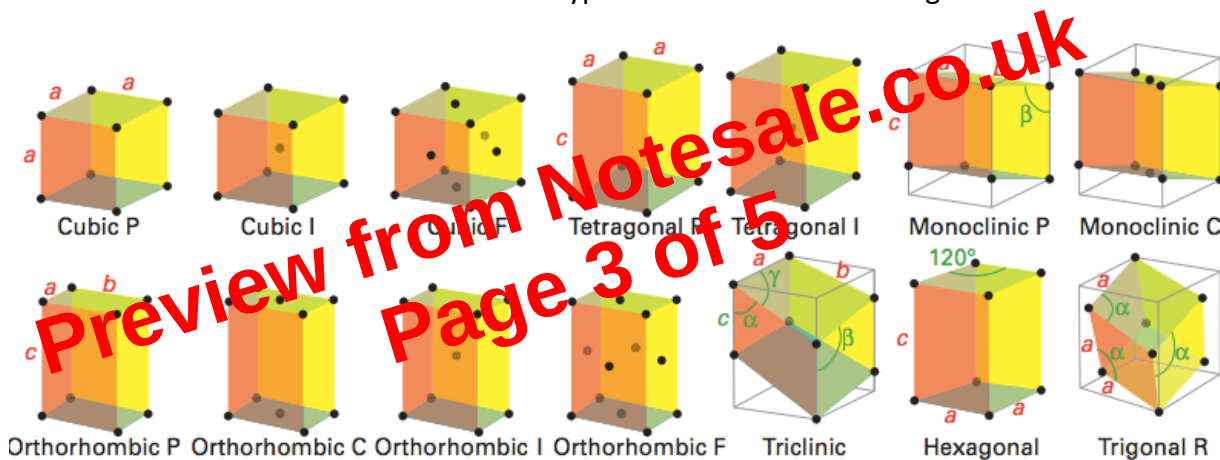


Figure 3. The fourteen Bravais lattices. The letter P denotes a primitive unit cell, I a body-centred unit cell, F a face-centred unit cell, and C (or A or B) a cell with lattice points on two opposite faces.

12. Lattice planes are specified by a set of Miller indices (hkl).
13. Many elemental metals have close-packed structures with coordination number 12; close-packed structures may be either cubic (ccp) or hexagonal (hcp).
14. Representative ionic structures include the caesium-chloride, rock-salt, and zinc-blende structures.
15. The radius-ratio rule may be used cautiously to predict which of these three structures is likely.