

1. **amorphous** like crystalline solids, materials that are usually characterised by certain areas of short-range order; a long-range order, as in crystals does not exist in such substances
2. **atomic bonding** an electrostatic attractive force within and between atoms that allows the formation of materials containing two or more atoms
3. **austenite** the face centred cubic (FCC) phase of iron containing some dissolved carbon
4. **brass** an alloy of copper and up to 43% zinc
5. **bronze** a term generally applied to an alloy of copper and up to 10% tin
6. **cementite** the name given to iron carbide with the general formula Fe<sub>3</sub>C
7. **ceramic** a multi-phase material containing phase composed of compounds of metals and non-metals; they are typically hard and good insulators
8. **composites** represents a class of material whose properties derive from the combination of two or more materials that are bonded together such that each of the constituent materials contributes to an improvement in mechanical, physical, chemical or electrical properties
9. **concrete** a mixture of aggregate embedded in a cement binding matrix composed of sand, water and cement
10. **crystal** a material whose atoms or molecules are arranged in a predictable or ordered pattern based around all three-dimensional axes
11. **density** a measure of the quantity of mass per unit volume
12. **ductility** the ability of a material to undergo plastic deformation by extrusion or the application of tensile forces
13. **ferrous** metals based on the metallic element iron (Fe); the two most common of these are steel and cast iron, distinguished primarily by the percentage of carbon present
14. **fulcrum** a point of support and turning about which lever arms pivot
15. **hardness** the resistance of a material to scratching or abrasion; this may also refer to resistance to indentation, penetration or cutting