Planck's constant	a constant that relates energy and frequency for a photon
p-type	semiconductor material has holes as the majority carriers and electrons as the minority carriers; the semiconductor is doped with group III atoms
q/m ratio	the charge to mass ratio for charged particles; Thompson measured this ratio for cathode rays and in doing so discovered the electron
quantum	an elemental unit of energy; a photon of energy; Planck proposed that emission and absorption of radiation for a black body is quantised
quantum physics	along with relativity, is the foundation of modern physics; in 1900 Max Planck proposed that light came in bundles or quanta of energy

semiconductors	materials with electrical conductivity between that of a conductor and an insulator; common conductors are silicon and germanium; doping a semiconductor alters its electrical properties
silicon	a group IV element used extensively in semiconductor devices
solid-state devices	electronic devices that use semiconductors rather than valves in their operation; solid-state devices have all but replace thermionic devices
striations	the patterns formed in a gas at low pressure as an electrical discharge is passed through it
superconductors	materials that have zero resistance when their temperatures are low enough; superconductors allow electrons to flow unimpeded

thermionic devices	use thermionic emission in their operation e.g. the filament of a cathode ray tube
Thomson, J.J	a British mathematician and physicist who was the first to identify the electron in 1897; he measured the charge to mass ratio (q/m) of cathode rays and showed that all cathode rays had the same value
threshold frequency	the minimum frequency below which light will not cause the emission of electrons from a material
work function	the minimum energy required to remove an electron from a surface by photoemission
x-ray diffraction	the use of x-rays to determine the internal structure of crystals; x-rays are scattered by the crystal and the pattern of reflections is determined by the position of the atoms of the crystal