Chemical Bonding Terms

Here is the difference between **orbit** and **orbital**:

Aspect	Orbit	Orbital
Definition	A fixed circular path around the nucleus where electrons are thought to revolve in early models (Bohr model).	A region in space around the nucleus where the probability of finding an electron is highest (quantum mechanical model).
Conceptual Origin	Based on classical mechanics; used in the Bohr model of the atom.	Based on quantum mechanics and wave functions (Schrödinger equation).
Shape	Circular or elliptical paths around the nucleus.	Complex three-dimensional shapes (s, p, d, f orbitals) defined by probability density functions.
Electron Position	Electrons are localized and move in a fixed path.	Electrons are found in regions with a high probability density, not fixed paths.
Number of Electrons	Each orbit can hold a fixed number of electrons (e.g., $2n^2$ in the Bohr model).	Each orbital can hold a maximum of two electrons with opposite spins (Pauli exclusion principle).
Energy	Orbits are associated with fixed energy levels.	Orbitals have sub-levels with different shapes and energies within each energy level.