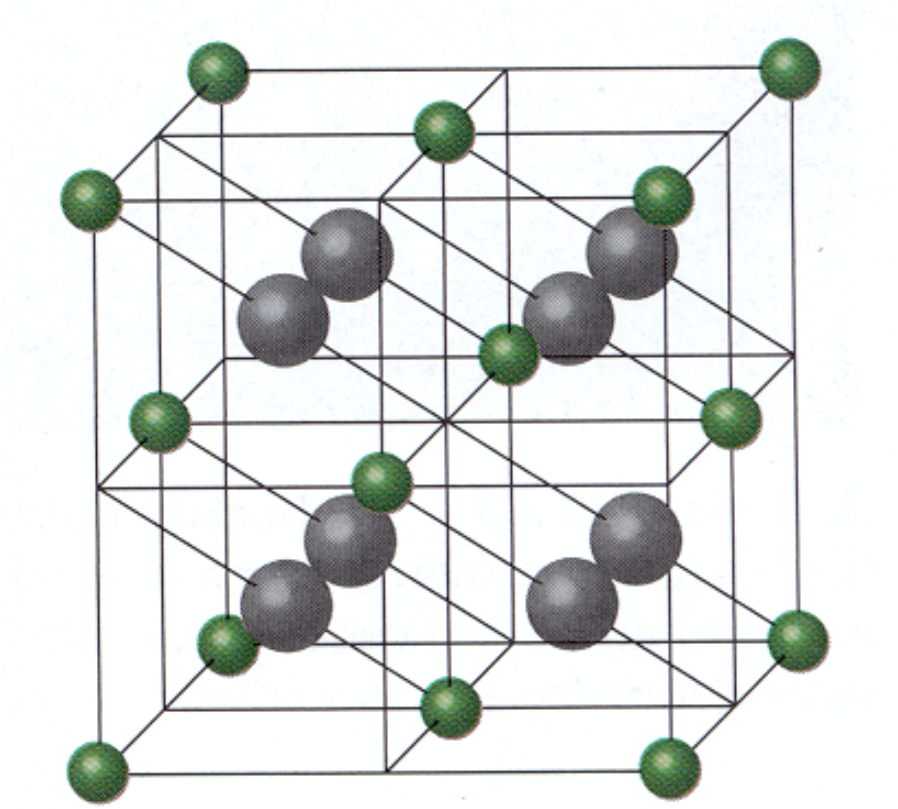
Metals and their Compounds
Lecture 4.5



Calcium fluoride $Ca^{2+}(F^-)_2$ structure (fig 11.42c)

Face centred cubic (close packed) arrangment of Ca^{2+} ions with fluoride F^- ions in *tetrahedral* holes

Eight Ca^{2+} at corners of cube = 1 complete Ca^{2+}
Six Ca^{2+} at face-centers of cube = 3 complete Ca^{2+}
Eight F^- in middle of cell = 8 complete F^-

Therefore the formula is $(Ca^{2+})_4(F^-)_8$ i.e. CaF_2