

Relationship between ionic unit cell types, # formula units, coordination no., edge length & ionic radii for ionic cmpds - study sheet

	NaCl	CsCl	ZnS	CaF₂
Description of unit cell (location of cations and anions)	Cl ⁻ ions in a fcc lattice with Na ⁺ ions on the edges and in the body center.	Cl ⁻ ions in a sc lattice with Cs ⁺ ions in the body center.	S ²⁻ ions in a fcc lattice with Zn ²⁺ ions in middle of 4 alternate subcubes	Ca ²⁺ ions in a fcc lattice with F ⁻ ions in the middle of every subcube
# fu/uc	4 NaCl fu	1 CsCl fu	4 ZnS fu	4 CaF₂ fu
Type of holes: cation anion	octahedral octahedral	cubic cubic	tetrahedral tetrahedral	cubic tetrahedral
coord #: cation anion	6 6	8 8	4 4	8 4
edge length in terms of radii	$l = 2r^+ + 2r^-$	$l = \frac{2r^+ + 2r^-}{(3)^{1/2}}$	$l = \frac{4(r^+ + r^-)}{(3)^{1/2}}$	$l = \frac{4(r^+ + r^-)}{(3)^{1/2}}$