

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

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