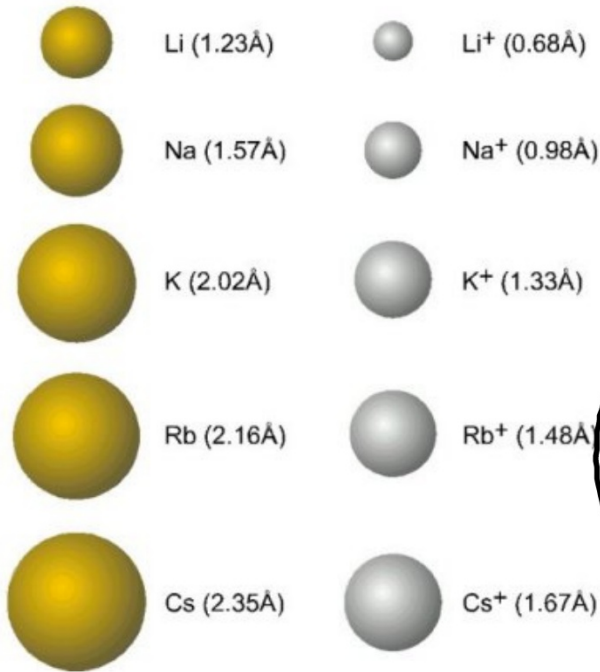
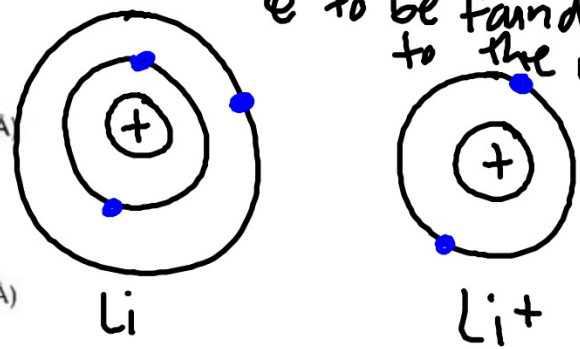


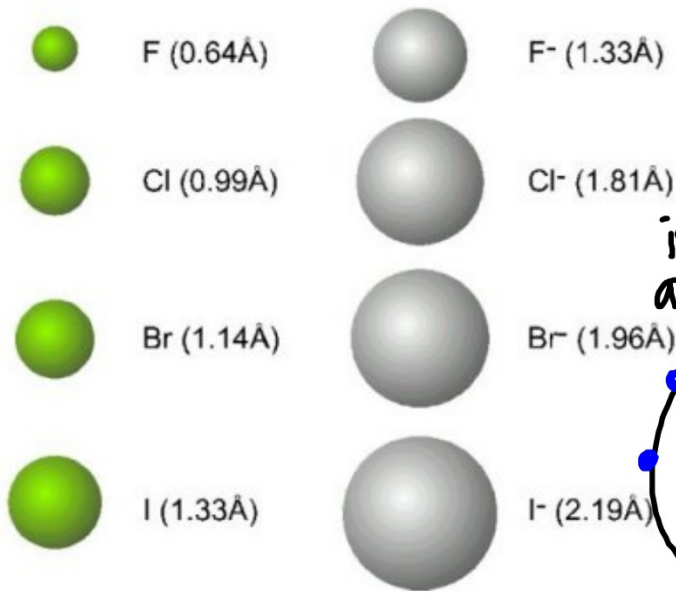
Atomic Radii of Alkali Metal Elements and Ions



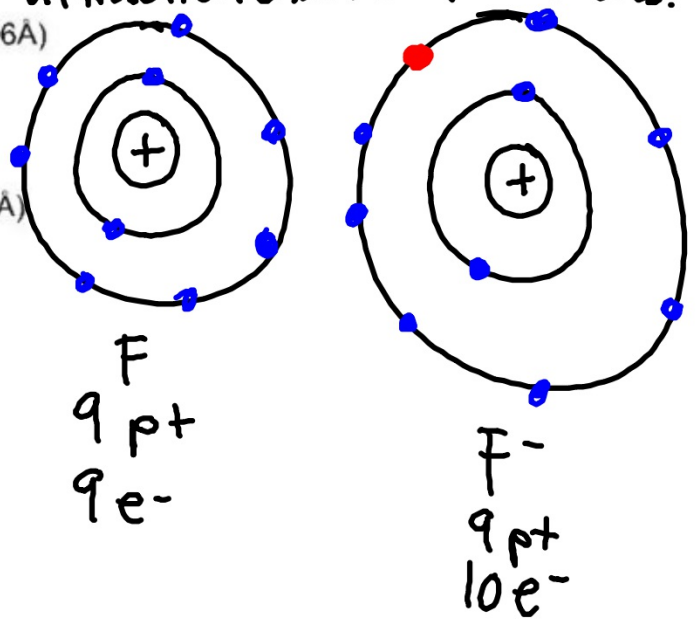
Cations are smaller than their neutral atoms
 b/c e⁻ have been removed
 resulting in the remaining e⁻ to be found closer to the nucleus



Atomic Radii of Halogen Elements and Ions



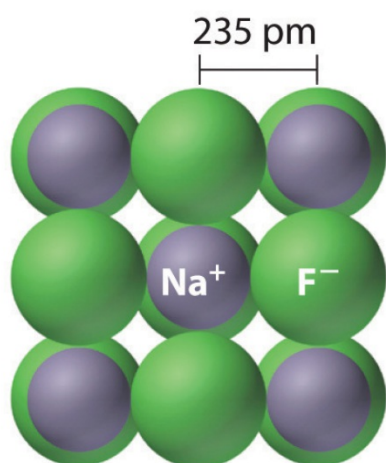
Anions are bigger than their neutral atoms
 b/c the p⁺/e⁻ ratio in F⁻ is smaller resulting in less attraction b/w e⁻ + nucleus.



Lattice energy: energy released when separate ions combine to make an ionic solid

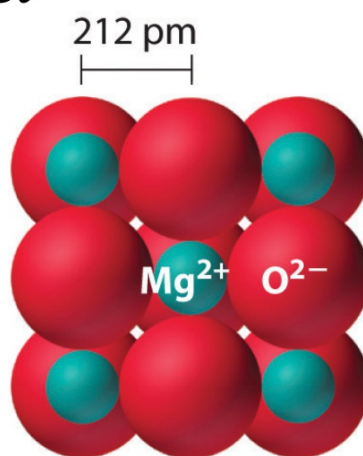
Higher $|\text{Lattice Energy}| =$ stronger attraction btwn the ions
= harder to separate the ions

Which ionic solid would have the greater magnitude of lattice energy?



NaF
+1 -1

$$\text{Lattice } E = -923 \frac{\text{kJ}}{\text{mol}}$$



MgO
+2 -2

$$-3791 \frac{\text{kJ}}{\text{mol}}$$

