

1. Draw the Lewis dot structures of the following **atoms** and their respective **ions**:

calcium Ca^\bullet	calcium ion $[\text{Ca}]^{2+}$	fluorine $\cdot\ddot{\text{F}}\cdot$	fluoride $[\ddot{\text{F}}:]^-$
sodium Na^\bullet	sodium ion $[\text{Na}]^+$	sulfur $\cdot\ddot{\text{S}}\cdot$	sulfide $[\ddot{\text{S}}:]^{2-}$
aluminum Al^\bullet	aluminum ion $[\text{Al}]^{3+}$	oxygen $\cdot\ddot{\text{O}}\cdot$	oxide $[\ddot{\text{O}}:]^{2-}$
barium Ba^\bullet	barium ion $[\text{Ba}]^{2+}$	nitrogen $\cdot\ddot{\text{N}}\cdot$	nitride $[\ddot{\text{N}}:]^{3-}$
potassium K^\bullet	potassium ion $[\text{K}]^+$	chlorine $\cdot\ddot{\text{Cl}}\cdot$	chloride $[\ddot{\text{Cl}}:]^-$
magnesium Mg^\bullet	magnesium ion $[\text{Mg}]^{2+}$	selenium $\cdot\ddot{\text{Se}}\cdot$	selenide $[\ddot{\text{Se}}:]^{2-}$
cesium Cs^\bullet	cesium ion $[\text{Cs}]^+$	iodine $\cdot\ddot{\text{I}}\cdot$	iodide $[\ddot{\text{I}}:]^-$
lithium Li^\bullet	lithium ion $[\text{Li}]^+$	phosphorous $\cdot\ddot{\text{P}}\cdot$	phosphide $[\ddot{\text{P}}:]^{3-}$

2. Write the empirical formula and draw Lewis dot structures for these ionic compounds:

sodium chloride <u>NaCl</u> [Na] ⁺ [Cl] ⁻	magnesium sulfide <u>MgS</u> [Mg] ²⁺ [S] ²⁻	beryllium phosphide <u>Be₃P₂</u> [Be] ²⁺ [P] ³⁻ [Be] ²⁺ [P] ³⁻ [Be] ²⁺ [P] ³⁻
calcium fluoride <u>CaF₂</u> [Ca] ²⁺ [F] ⁻ [F] ⁻	potassium oxide <u>K₂O</u> [K] ⁺ [O] ²⁻ [K] ⁺ [O] ²⁻	strontium bromide <u>SrBr₂</u> [Sr] ²⁺ [Br] ⁻ [Br] ⁻
potassium iodide <u>KI</u> [K] ⁺ [I] ⁻	lithium bromide <u>LiBr</u> [Li] ⁺ [Br] ⁻	barium nitride <u>Ba₃N₂</u> [Ba] ²⁺ [N] ³⁻ [Ba] ²⁺ [N] ³⁻ [Ba] ²⁺ [N] ³⁻

3. Write the chemical name and draw Lewis dot structures for these ionic compounds:

BaCl ₂ <u>barium chloride</u> [Ba] ²⁺ [Cl] ⁻ [Cl] ⁻	AlI ₃ <u>aluminum iodide</u> [Al] ³⁺ [I] ⁻ [I] ⁻ [I] ⁻	Li ₃ P <u>lithium phosphide</u> [Li] ⁺ [P] ³⁻ [Li] ⁺ [P] ³⁻ [Li] ⁺
Na ₃ N <u>sodium nitride</u> [Na] ⁺ [N] ³⁻ [Na] ⁺ [N] ³⁻ [Na] ⁺	K ₂ S <u>potassium sulfide</u> [K] ⁺ [S] ²⁻ [K] ⁺ [S] ²⁻	Al ₂ O ₃ <u>aluminum oxide</u> [Al] ³⁺ [O] ²⁻ [Al] ³⁺ [O] ²⁻ [Al] ³⁺ [O] ²⁻
Na ₂ O <u>sodium oxide</u> [Na] ⁺ [O] ²⁻ [Na] ⁺	RbBr <u>rubidium bromide</u> [Rb] ⁺ [Br] ⁻	Ca ₃ P ₂ <u>calcium phosphide</u> [Ca] ²⁺ [P] ³⁻ [Ca] ²⁺ [P] ³⁻ [Ca] ²⁺ [P] ³⁻