

Complete the table to show the number of electrons, protons and neutrons for each of the following ions:

Ion	Protons	Neutrons	Electrons	Electrons in Shells
Cl ⁻	17	19	18	2, 8, 8
Na ⁺	11	12	10	2, 8
P ³⁻	15	16	18	2, 8, 8
Mg ²⁺	23 12	12	10	2, 8
O ²⁻	8	8	10	2, 8

Draw a Lewis diagram for each element

Carbon (atomic #6) $\cdot\overset{\cdot}{\underset{\cdot}{\text{C}}}\cdot$	Sulphur (atomic #16) $\cdot\overset{\cdot}{\underset{\cdot}{\text{S}}}\cdot$	Calcium (atomic #20) $\overset{\cdot}{\text{Ca}}\cdot$
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Draw a Lewis diagram to show the ionic compound that would form between:

Sodium and Fluorine $\overset{\cdot}{\text{Na}} \rightarrow [\text{Na}]^+$ $\cdot\overset{\cdot}{\underset{\cdot}{\text{F}}}\cdot \rightarrow [:\overset{\cdot}{\underset{\cdot}{\text{F}}}:]^-$ $[\text{Na}]^+ [:\overset{\cdot}{\underset{\cdot}{\text{F}}}:]^-$	Magnesium and Chlorine $[\text{Mg}]^{2+}$ $[\overset{\cdot}{\underset{\cdot}{\text{Cl}}}]^-$ $[\overset{\cdot}{\underset{\cdot}{\text{Cl}}}]^- [\text{Mg}]^{2+} [:\overset{\cdot}{\underset{\cdot}{\text{Cl}}}:]^-$
Potassium and Sulphur $\overset{\cdot}{\text{K}} \rightarrow [\text{K}]^+$ $\cdot\overset{\cdot}{\underset{\cdot}{\text{S}}}\cdot \rightarrow [:\overset{\cdot}{\underset{\cdot}{\text{S}}}:]^{2-}$ $[\text{K}]^+ [:\overset{\cdot}{\underset{\cdot}{\text{S}}}:]^{2-} [\text{K}]^+$	Hydrogen and Chlorine $[\text{H}]^+$ $[\overset{\cdot}{\underset{\cdot}{\text{Cl}}}]^-$ $[\text{H}]^+ [:\overset{\cdot}{\underset{\cdot}{\text{Cl}}}:]^-$

Draw a Lewis diagram to show the covalent compounds that would form between:

SiO ₂ $\cdot\overset{\cdot}{\underset{\cdot}{\text{Si}}}\cdot$ $\cdot\overset{\cdot}{\underset{\cdot}{\text{O}}}\cdot$ $\overset{\cdot}{\underset{\cdot}{\text{O}}} = \text{Si} = \overset{\cdot}{\underset{\cdot}{\text{O}}}$	CO $\overset{\cdot}{\underset{\cdot}{\text{C}}} = \overset{\cdot}{\underset{\cdot}{\text{O}}}$
O ₂ $\cdot\overset{\cdot}{\underset{\cdot}{\text{O}}}\cdot$ $\overset{\cdot}{\underset{\cdot}{\text{O}}} = \overset{\cdot}{\underset{\cdot}{\text{O}}}$	CCl ₄ $\begin{array}{c} \overset{\cdot}{\underset{\cdot}{\text{Cl}}} \\ \\ \overset{\cdot}{\underset{\cdot}{\text{Cl}}} - \text{C} - \overset{\cdot}{\underset{\cdot}{\text{Cl}}} \\ \\ \overset{\cdot}{\underset{\cdot}{\text{Cl}}} \end{array}$