

Electron Dot Diagram Practice

Steps to follow:

1. Identify whether you are to draw a diagram of an **atom**, **ion**, **covalent molecular substance** or an **ionic compound**.
2. Remember for all dot diagrams you only draw the **valence shell**

Atoms	Ions	Covalent Molecular Substances	Ionic Compounds
Atoms are neutral. 1. Work out how many electrons on the outer shell and draw these around the chemical symbol	Ions are charged. 1. Because ions gain or lose electrons they will need to be surrounded by square brackets . 2. Because ions are charged you will need to write the charge as a superscript after the brackets. 3. Remember to represent the number of electrons gained or lost for each ion. Cations will not have any electrons in their valence shell. Anions will have 8 electrons in their outer shell.	Electrons are shared between two non - metals. 1. Draw each of the non – metals separately first to work out which electrons are shared. 2. Use the formula to help you identify how many of each element is present (Eg. NH_4) 3. You may like to draw circle around the diagram to help you count 8 electrons for each substance.	Electrons are donated from the cation to the anion. 1. Draw each ion individually as you would if they were not a compound (with square brackets and charges). Remember to draw the cation before the anion. 2. Remember to represent the ratio of atoms using the 'swap and drop method'. The only difference is the number is written in-front of the square bracket instead of as a subscript after the ion.

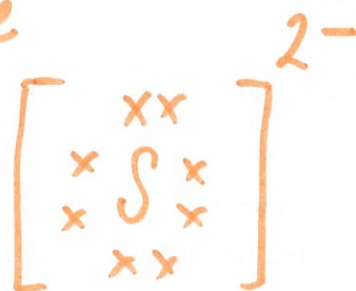
Let's have a go.....

<p>Magnesium Bromide</p> $[\text{Mg}]^{+2} [\text{Br}]^{-1}$	<p>F_2</p>
<p>Calcium</p>	<p>Calcium Chloride.</p> $[\text{Ca}]^{2+} 2 [\text{Cl}]^{-}$

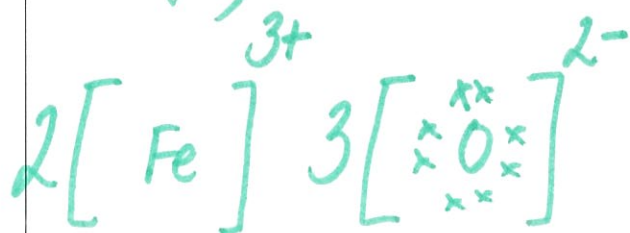
Nitrogen



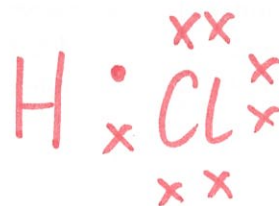
Sulfide



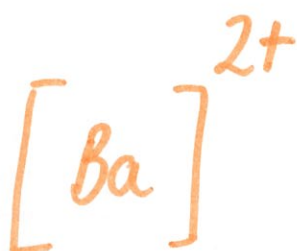
Iron(III) Oxide



HCl



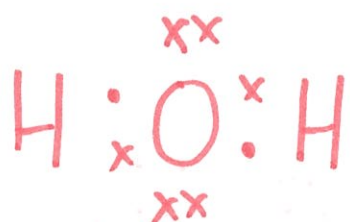
Ba²⁺



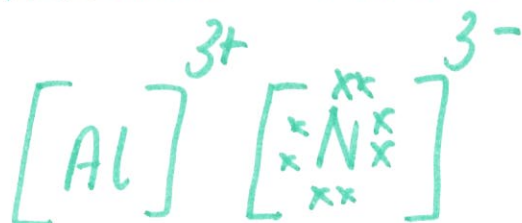
Potassium



H₂O



Aluminium Nitride



Lithium Ion



CO₂

