

Ions:

- atoms with a charge
- different number of electrons, same number of protons
- written with chemical symbol, and charge as a superscript



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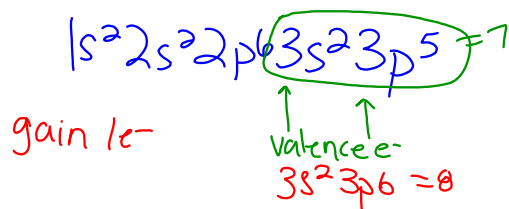
Octet Rule:

- atoms gain or lose electrons to achieve an octet (8 valence electrons)
- an octet is a full set of valence electrons ---- the outside shell is completely full

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Example:

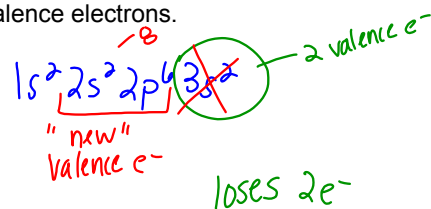
- Write the full electron configuration for Cl and circle the valence electrons.



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Example:

- Write the full electron configuration for Mg and circle the valence electrons.



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Ions:

$20p^+$ $20p^+$ 13 -3 -2 -1
 $20e^-$ $18e^-$
 15 $+2$

lose 1 2
 lose 2 2
 lose 3 3
 gain 1 1
 gain 2 2
 gain 3 3

varied 2

3 4 5 6 7

7p⁺
1e⁻
7p⁺
10e⁻
-3

11p⁺
11e⁻
0
11p⁺
10e⁻
+1

Periodic Table of the Elements

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Practice:

Write the ions for the following elements:

- K K^+
- P P^{3-}
- S S^{2-} or S^{-2}
- Be Be^{2+}

Periodic Table of the Elements

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