

Electronegativity

The electronegativity of an element is a measure of the ability of its atoms to attract electrons in a <u>covalent bond</u> (see Chapter 4). It is related to ionization energy as it is also a measure of the attraction between the nucleus and its outer electrons – in this case *bondime electrons*.

 Electronegativity increases from left to right across a period owing to the increase in nuclear charge, resulting in an increased attraction between the nucleus and the bond electrons.

• Electronegativity decreases down a group. The bonding electrons are furthest from the nucleus and so there is reduced attraction.







Melting points (more detail left until we have covered topic 4)

Element	Melting point / K	Element	Melting point / K
Li	454	F2	54
Na	371	Cl ₂	172
К	337	Br ₂	266
Rb	312	l ₂	387
Cs	302	At ₂	575

Group I (alkali metals)

Group 17 (halogens)

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What is the effective nuclear charge
for the order dectron in an atom
$$0f$$

O, Mg and He? $8-2=+6$
No. P⁺ - No. shudding=ENC
 e^{-}
 $0 \rightarrow 1s^{2} 2s^{2} 2f^{4}$
 $M_{3} \rightarrow 1s^{2} 2s^{2} 2f^{5} 3s^{2}$
He $\rightarrow 1s^{2}$
 $M_{2} \rightarrow 1s^{2} 2s^{2} 2f^{5} 3s^{2}$
He $2-0=+2$