

1 Choose from the words below to complete the sentences:

atoms electrons negative positive gain lose

a An ion is an atom or group of _____ with a _____ or negative charge.

b Metal atoms _____ electrons to form positive ions.

c Non-metal atoms _____ electrons to form _____ ions.

2 Complete the table to show what happens when atoms form ions – the first one has been done for you.

Atom	Electronic configuration	Group number	Metal or non-metal?	Electrons lost or gained?	How many electrons?	Ion
Li	2.1	1	metal	lost	1	Li ⁺
Na	2.8.1					
K	2.8.8.1					
Mg	2.8.2					
Ca	2.8.8.2					
O	2.6					
S	2.8.6					
F	2.7					
Cl	2.8.7					

3 Look at your completed table.

a What is the link between the group number and the number of charges on positively charged ions?

b What is the link between the group number and the number of charges on negatively charged ions?