



Isotopes and ions

1. Complete this table.

	Atom	Atomic number	Number of electrons	Electron arrangement	Gain or lose	Ion charge
(a)	Al	13				
(b)	F	9				
(c)	Na	11				
(d)	Ca	20				
(e)	O	8				
(f)	B	5				

2. Complete this table.

	Atom	Atomic number	Number of protons	Number of electrons	Mass number	Number of neutrons
(a)	He	2			4	
(b)	He		2		5	
(c)	O	8			16	
(d)		8			17	
(e)	C	6				6
(f)		6				7
(g)		6				8

3. Complete this table.

	Number of electrons in the valence shell	Number of electrons gained or lost	Charge on the ion formed
(a)	1		
(b)	3		
(c)	5		
(d)	7		
(e)	Metals		
(f)	Non-metals		

4. Explain the trend that metals form positive ions and non-metals form negative ions. Answer in your book, referring to loss and gain of electrons.

5. In your book, explain the trend that groups 1, 2 and 3 of the periodic table form 1+, 2+ and 3+ ions.