

Task 1 Atomic Structure - Worksheet 1:

Complete the following sentences and definitions to give a summary of this topic.

Structure of an atom

The nucleus contains ...

The electrons are found in the ...

To work out the number of each sub-atomic particle in an atom we use the Periodic Table (PT). The number of protons is given by ...

In a neutral atom the number of electrons is ...

To work out the number of neutrons we ...

Vocabulary

State what is meant by the following terms.

- 1** Relative atomic mass

- 2** Relative molecular mass

- 3** Isotope

- 4** Relative isotopic mass

Structure of an ion

When an atom becomes an ion, only the number of _____ changes.

For positive ions this _____ by the number equivalent to the charge on the ion.

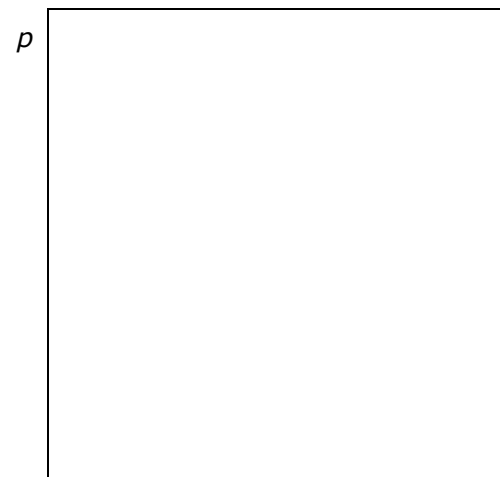
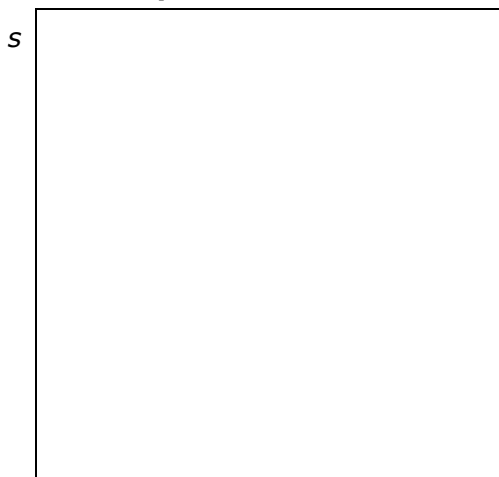
For negative ions this _____ by the number equivalent to the charge on the ion.

Task 1 Atomic Structure - Worksheet 2: Orbitals and electron configuration

Fill in the following table.

Quantum shell	Maximum number of electrons	Types of orbitals	Total number of orbitals	Electron configuration
$n = 1$				
$n = 2$				
$n = 3$				
$n = 4$				

Sketch the shapes of the s and p orbitals.



Complete the following table to show the electron configuration of the elements in the first column.

	Electron configuration			Electrons in boxes													
	Z	2.8.8	s, p, d	__s	__s	__p			__s	__p			__d			__s	
Na																	
Be																	
Be ²⁺																	
P																	
Cr																	
Cu																	
Fe																	
Al																	
Al ³⁺																	
Sc																	
Cl																	
Cl ⁻																	

