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.

s

p

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^{-}																		