

MINISTRY OF EDUCATION, HERITAGE AND ARTS
YEAR 11 CHEMISTRY
REVISION WORKSHEET 5

Write the answers to the following questions in your exercise/activity books.

Atomic Structure and Bonding

1. Complete the table below.

Symbol	$^{16}_8\text{O}$	$^{40}_{20}\text{Ca}$	$^{27}_{13}\text{Al}$	$^{40}_{18}\text{Ar}$	$^{23}_{11}\text{Na}$
Total number of electrons					
First shell					
Second shell					
Third shell					
Fourth shell					

2. Draw the electron structure diagram and write the electron configuration of the following elements.



3. The element sodium (Na) forms a positive ion.

- i. Write the electron configuration of sodium.
- ii. State whether sodium will gain or lose electrons to form an ion.
- iii. State the number of electrons that will be gained or lost by sodium atom to form an ion.
- iv. Write the electron configuration of a sodium ion.

4. The element oxygen (O) forms a negative ion.

- i. Write the electron configuration of oxygen.
- ii. State whether oxygen will gain or lose electrons to form an ion.
- iii. State the number of electrons that will be gained or lost by oxygen atom to form an ion.
- iv. Write the electron configuration of an oxygen ion.

5. Complete the table given below.

Name of Ion	Formula of ion
Aluminium ion	
Calcium ion	
Chloride ion	
Fluoride ion	
Magnesium ion	
Oxide ion	

The End