

Q1. Join arrows to show which examples are Ionic or covalent .

Ionic  
Ionic  
Covalent  
Covalent  
Metallic  
Covalent

Sodium chloride  
Carbon tetra chloride  
Mercury  
Methane  
Aluminium oxide  
Glucose ( $C_6H_{12}O_6$ )

Q2. What is the correct definition of a molecule?

- A group of metal atoms bonded together
- A single metal atom
- A group of non-metal atoms bonded together
- A single non-metal atom

Q3 Which of the following elements are diatomic?

Helium	Oxygen	Argon	Hydrogen	Sodium	Bromine	Nitrogen
Yes	Yes	Yes	Yes	Yes	Yes	Yes
No	No	No	No	No	No	No

Q4 Which of the following substances is diatomic compound

- $CH_4$
- NO
- $NH_4Cl$
- $O_2$

Q5. Why do elements want to form bonds?

- To have eight protons in the nucleus
- To obtain a full set of outer electrons
- To obtain a full set of inner electrons
- To obtain an empty outer shell of electrons

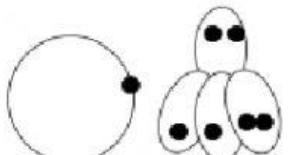
Q6 In your own words explain how a covalent bond is formed.

Q7. Use your data booklet select the picture which shows the outer electron for each compound..

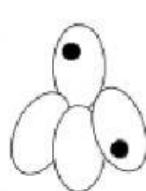
Hydrogen



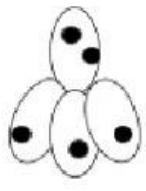
Phosphorous



Oxygen



Bromine



Q8. Draw diagrams to show how the outer electrons form covalent bonds in each of the following molecules, this must be handed in separately to the interactive worksheet:

Hydrogen ( $H_2$ )

Hydrogen chloride (HCl)

Carbon fluoride ( $CF_4$ )

Carbon dioxide ( $CO_2$ )

Q9. Drag the molecule to the name of the three dimensional shapes for the following molecules:

Methane ( $CH_4$ )

Ammonia ( $NH_3$ )

Water ( $H_2O$ )

Hydrogen chloride (HCl)

Linear

Tetrahedral

Y shape

Pyramidal

