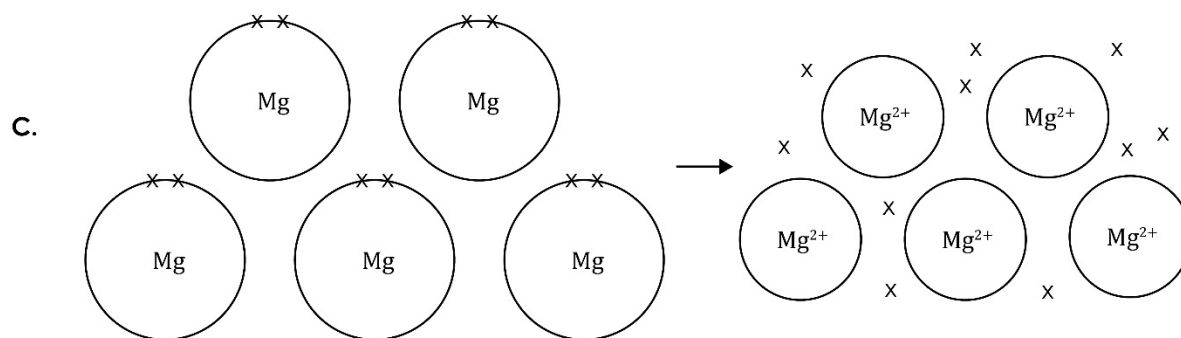
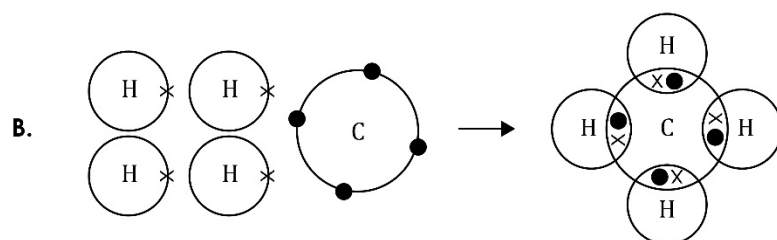
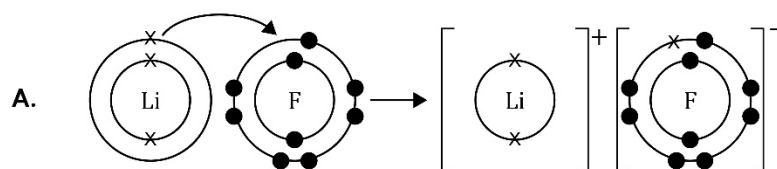




Bonding: knowledge check

1.1 Complete the sentences.



- (a) The type of bonding in figure A is _____.
- (b) The type of bonding in figure B is _____.
- (c) The type of bonding in figure C is _____.



1.2 (a) What type of elements form ionic bonds?

(b) What happens to electrons when an ionic bond forms?

(c) What type of particles are present in an ionic compound?

(d) What type of forces attract the oppositely charged ions to each other?

1.3 (a) What type of elements form covalent bonds?

(b) How are the electrons rearranged in a single covalent bond?

1.4 (a) What two types of particles form a metallic bond?

(b) Why do metal ions have a positive charge?

(c) What forces attract the charged particles to each other?



Bonding: test myself

2.1 What types of elements are involved in:

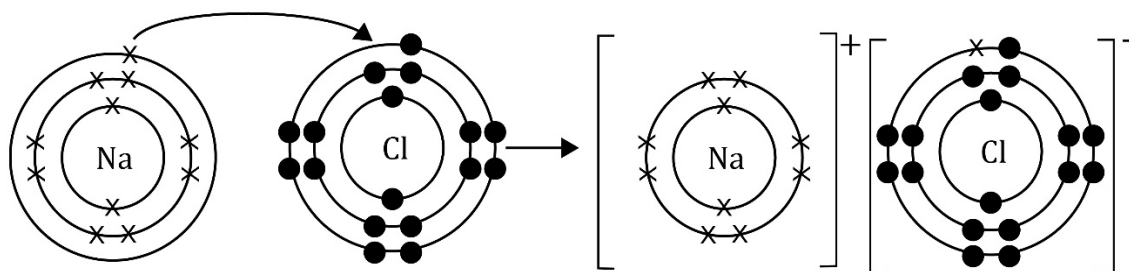
(a) ionic bonding? _____

(b) covalent bonding? _____

(c) metallic bonding? _____

2.2 In which type of bonding are electrons shared?

2.3 What does the curved arrow represent in the diagram?



2.4 What type of forces hold the particles together in an ionic bond?

2.5 What does 'delocalised' mean?

2.6 What are the charged particles in an ionic compound called?



2.7 What type of bonds do you find in a compound?

2.8 Why are metals good conductors of electricity?

2.9 How do ionic compounds conduct electricity when solid, liquid and in solution?
Explain your answer.

2.10 Why are most covalent substances non-conductors of electricity?



Bonding: feeling confident?

Draw bonding diagrams for the following reactions.

3.1 The reaction between magnesium and fluorine.

3.2 The reaction between hydrogen and chlorine.

3.3 The metallic bonding in zinc.



Bonding: what do I understand?

Think about your answers and confidence level for each mini-topic. Decide whether you understand it well, are unsure or need more help. Tick the appropriate column.

| Mini-topic | I understand this well | I think I understand this | I need more help |
|--|------------------------|---------------------------|------------------|
| I can identify ionic, covalent and metallic bonds from diagrams. | | | |
| I know that there are ions in ionic bonds. | | | |
| I know about electrostatic forces in ionic bonds. | | | |
| I know that electrons are shared in covalent bonds. | | | |
| I know that there are positive metal ions and negative delocalised electrons in metallic bonds. | | | |
| I know the types of elements involved in: <ul style="list-style-type: none"> • ionic bonds • covalent bonds • metallic bonds. | | | |
| I can explain why metals conduct electricity. | | | |
| I can explain the conditions required for ionic compounds to conduct electricity. | | | |
| I can explain why covalent substances do not conduct electricity. | | | |
| Feeling confident? topics | I understand this well | I think I understand this | I need more help |
| I can draw diagrams to represent ionic and covalent bonds. | | | |