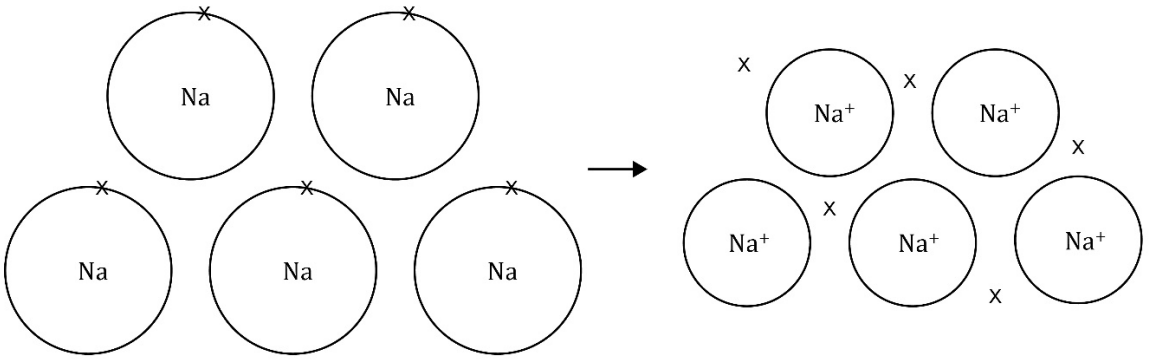
Metallic bonding: knowledge check

1.1 What type of bonding does this diagram represent? Circle the correct answer.

covalent bonding **ionic bonding** **metallic bonding**



1.2 Use the words to complete the sentences. You may use the words more than once.

electrons **electrostatic forces** **ions** **metallic**

_____ bonding – the electrons leave the outer shells of metal atoms, forming positive metal ions and a 'sea' of delocalised _____ that are free to move. This bonding is a result of the strong _____ of attraction between the positive metal _____ and the negative delocalised _____.

Metallic bonding: test myself

Use the words to complete the sentences.

2.1 What types of elements are involved in metallic bonding?

metal and non-metal **metals only** **non-metals only**

Metallic bonds are found in _____.

2.2 Are metallic bonds strong or weak?

strong **weak**

Metallic bonds are _____.

2.3 What does 'delocalised' mean?

atoms **electrons** **ions**

The _____ are free to move.

2.4 Why are metals good conductors of electricity?

atoms **charge** **delocalised** **electrons**

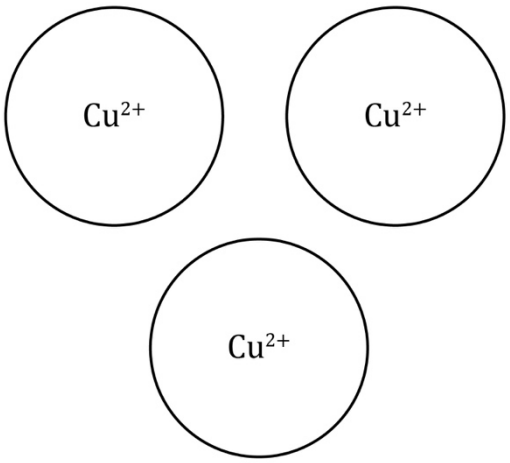
Metals are good conductors of electricity because they contain

_____ _____

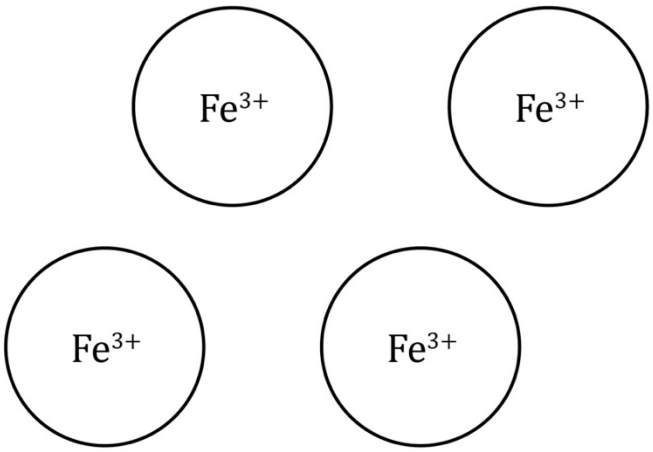
that are free to move and carry the _____.

Metallic bonding: feeling confident?

3.1 Complete the diagram to represent the metallic bonding in copper.



3.2 Complete the diagram to represent the metallic bonding in iron.



Metallic 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 interpret diagrams representing metallic bonds.			
I know that there are positive metal ions and negative delocalised electrons in metallic bonds.			
I know about electrostatic forces in metallic bonds.			
I can explain why metals conduct electricity.			
Feeling confident? topics	**I understand this well**	**I think I understand this**	**I need more help**
I can complete diagrams to represent the formation of metallic bonds.			