

Solutions

Each answer shows the steps, then the **result**.

2.1

- a metal atom **loses** electrons
- the ion has a **positive** charge (a cation)

2.2

- an ionic bond is the **strong electrostatic attraction between oppositely charged ions**

3.1 B

- ionic compounds conduct when **molten or in solution** (ions can move)
- A is the solid lattice; C and D are wrong

3.2

(a)

- sodium gives its one outer electron to chlorine
- sodium becomes Na^+ and chlorine becomes Cl^-
- both then have **full outer shells**

(b)

- **strong electrostatic attraction** between opposite ions in the lattice
- a **lot of energy** is needed to break it, so the melting point is high

3.3

- in the solid the ions are **fixed** and cannot move
- when molten the ions are **free to move** and carry charge