

# Worksheet: Ionic Bonding



**Q1:** Which of the following types of structure is formed when anions and cations bond together?

- A Interacting clusters of cations and anions
- B Alternating layers of cations and anions
- C A lattice of neutral atoms
- D A lattice of alternating cations and anions
- E Interacting clusters of neutral atoms



Question Video

**Q2:** Listed in the table are a range of anions and cations commonly found in salts.

Anions	$O^{2-}$	$Cl^{-}$	$As^{3-}$
Cations	$Li^{+}$	$Mg^{2+}$	$Al^{3+}$

► Which anion and cation in the table would attract each other most strongly?

A  $\text{O}^{2-}$  and  $\text{Mg}^{2+}$

B  $\text{As}^{3-}$  and  $\text{Li}^{+}$

C  $\text{As}^{3-}$  and  $\text{Al}^{3+}$

D  $\text{Cl}^{-}$  and  $\text{Li}^{+}$

E  $\text{Cl}^{-}$  and  $\text{Al}^{3+}$

► Which anion and cation in the table would attract each other least strongly?

A  $\text{As}^{3-}$  and  $\text{Al}^{3+}$

B  $\text{As}^{3-}$  and  $\text{Li}^{+}$

C  $\text{Cl}^{-}$  and  $\text{Li}^{+}$

D  $\text{O}^{2-}$  and  $\text{Mg}^{2+}$

E  $\text{Cl}^{-}$  and  $\text{Al}^{3+}$

**Q3:** Consider the anions and cations listed in the table.

Anions	$\text{F}^{-}$	$\text{Cl}^{-}$	$\text{Br}^{-}$	$\text{I}^{-}$
Cations	$\text{Li}^{+}$	$\text{Na}^{+}$	$\text{K}^{+}$	$\text{Rb}^{+}$

► Which anion-cation pair would produce the strongest ionic bond?

- A  $\text{I}^-$  and  $\text{Li}^+$
- B  $\text{F}^-$  and  $\text{Rb}^+$
- C  $\text{I}^-$  and  $\text{Rb}^+$
- D  $\text{F}^-$  and  $\text{Li}^+$
- E  $\text{Cl}^-$  and  $\text{Na}^+$

► Which anion-cation pair would produce the weakest ionic bond?

- A  $\text{I}^-$  and  $\text{Li}^+$
- B  $\text{F}^-$  and  $\text{Rb}^+$
- C  $\text{F}^-$  and  $\text{Li}^+$
- D  $\text{I}^-$  and  $\text{Rb}^+$
- E  $\text{Cl}^-$  and  $\text{Na}^+$