SCIENCE FOUNDATIONS

Naming ionic compounds

Difficulty level: Intermediate

Science Foundations

This document was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

Overview of the concept

This is how you read a chemical name on a cleaning product or a bag of fertiliser and know exactly which metal and non-metal are inside it. A gardener reading a fertiliser label can tell whether it carries potassium, calcium, or magnesium from the name alone. A cleaner checking a product knows whether it contains a chloride or a sulfate before mixing it with anything else. Knowing how ionic compounds are named tells you what is in the bag or the bottle without needing a lab test.



Rule

Naming ionic compounds: name the metal first, unchanged, then the non-metal with its ending changed to -ide.

For a transition metal, add a Roman numeral showing the charge of the metal ion. Polyatomic ions keep their own names.

© 2026 Brett Robbins. All Rights Reserved.

Worked examples

EXAMPLE 1

Q Name NaCl.

SOLUTION

Split the compound: sodium (metal) and chlorine (non-metal).

Keep the metal name: sodium.

Change the non-metal ending to -ide: chloride.

The result is sodium chloride.

EXAMPLE 2

Q Name $FeCl_3$.

SOLUTION

Split the compound: iron and chlorine, three chlorides each -1.

Work out the iron charge:
Fe + 3(-1) = 0
Fe = +3

Name it with a Roman numeral: iron(III) chloride.

The result is iron(III) chloride.

© 2026 Brett Robbins. All Rights Reserved.

Practice questions

1 Name KBr.

- **A** Potassium chloride
- **B** Potassium bromide
- **C** Sodium bromide
- **D** Potassium oxide

Understand It with Pulse | Flag a mistake

2 What is the formula of magnesium oxide?

- **A** MgO
- **B** Mg_2O
- **C** MgO_2
- **D** $MgCl_2$

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

3 Name Na_2SO_4.

- **A** Sodium sulfate
- **B** Sodium sulfide
- **C** Sodium sulfite
- **D** Sodium hydroxide

Understand It with Pulse | Flag a mistake

4 Name $FeCl_2$.

- **A** Iron(III) chloride
- **B** Iron(II) chloride
- **C** Iron(II) oxide
- **D** Copper(II) chloride

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

5 What is the formula of iron(III) oxide?

- A FeO
- B Fe_2O_3
- C Fe_3O_2
- D FeO_3

Understand It with Pulse | Flag a mistake

6 What ending does the non-metal get?

- A -ate
- B -ide
- C -ite
- D -ium

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

7 Which part is named first?

A The charge

B The non-metal

C The Roman numeral

D The metal

Understand It with Pulse | Flag a mistake

8 Name $CuSO_4$ if copper is +2.

A Copper(II) sulfate

B Copper(II) sulfide

C Copper(I) sulfate

D Copper sulfate

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

9 What is the formula of calcium bromide?

- A CaBr
- B $CaBr_2$
- C Ca_2Br
- D $CaBr_3$

Understand It with Pulse | Flag a mistake

10 What does the Roman numeral show?

- A The number of atoms
- B The metal ion charge
- C The non-metal ending
- D The total mass

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

ANSWER KEY

1. Potassium bromide

2. MgO

3. Sodium sulfate

4. Iron(II) chloride

5. Fe_2O_3

6. -ide

7. The metal

8. Copper(II) sulfate

9. $CaBr_2$

10. The metal ion charge

© 2026 Brett Robbins. All Rights Reserved.