

Representing elements and compounds

Learning objectives

- 1 Construct and interpret diagrams, formulas and names of elements and compounds.
- 2 Describe the format of chemical symbols.
- 3 Describe the differences between elements and compounds.

Introduction

Atoms of elements are the building blocks of all substances. All the known elements are organised in the periodic table and represented by their chemical symbols. However, many of the everyday chemicals we use are compounds, not elements. While chemical symbols represent elements, combinations of different chemical symbols in a formula represent compounds. The names and diagrams of compounds are also different to the names and diagrams of elements.

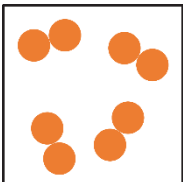
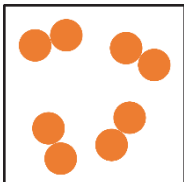
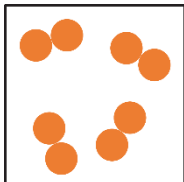
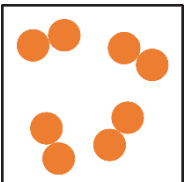
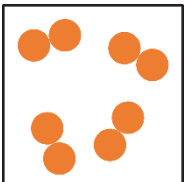
Instructions to learners

1. Stick the structure strip in the margin of your exercise book/paper.
2. Follow the prompts in the structure strip and use your knowledge to write a summary of representing elements and compounds:
 - Reflect on what you already know about representing elements and compounds
 - Where have you seen the key words before?
 - If you'd like more support, what other sources could you use to find the information, e.g. a textbook, online?
3. Complete the extended answer question to apply your knowledge of representing elements and compounds to a new context.

Keywords

Use these keywords in your responses:

- element • compound • atom • chemical symbol • chemical formula

Representing elements and compounds	Representing elements and compounds	Representing elements and compounds	Representing elements and compounds	Representing elements and compounds
Define the terms element and compound.	Define the terms element and compound.	Define the terms element and compound.	Define the terms element and compound.	Define the terms element and compound.
This diagram shows an element.  Draw a diagram to represent another element and one to represent a compound.	This diagram shows an element.  Draw a diagram to represent another element and one to represent a compound.	This diagram shows an element.  Draw a diagram to represent another element and one to represent a compound.	This diagram shows an element.  Draw a diagram to represent another element and one to represent a compound.	This diagram shows an element.  Draw a diagram to represent another element and one to represent a compound.
Describe some of the ways that elements are named and give an example in your response.	Describe some of the ways that elements are named and give an example in your response.	Describe some of the ways that elements are named and give an example in your response.	Describe some of the ways that elements are named and give an example in your response.	Describe some of the ways that elements are named and give an example in your response.
What format is used for chemical symbols? Use examples in your answer.	What format is used for chemical symbols? Use examples in your answer.	What format is used for chemical symbols? Use examples in your answer.	What format is used for chemical symbols? Use examples in your answer.	What format is used for chemical symbols? Use examples in your answer.
Give some examples of the names and chemical formulas of compounds and discuss some naming rules.	Give some examples of the names and chemical formulas of compounds and discuss some naming rules.	Give some examples of the names and chemical formulas of compounds and discuss some naming rules.	Give some examples of the names and chemical formulas of compounds and discuss some naming rules.	Give some examples of the names and chemical formulas of compounds and discuss some naming rules.

Extended answer question

The speech bubbles below show three statements about the substances ozone, O_3 , water, H_2O , and gold, Au .

Ozone is a compound because its formula has a little 3 in it.

Water is neither an element nor a compound as it doesn't have a chemical sounding name.

Gold is a compound as its symbol has two letters in it.

Each of these statements is **incorrect**. For each statement, write one or two sentences to explain why they are incorrect **and** state a correct conclusion about each substance.