SCIENCE YEAR 8 - UNIT 2 - LESSON 2

# Elements, Symbols and Representing Atoms

Use this worksheet after reading the lesson to practise the key ideas and prove you can meet the success criteria.

Name _____

Date _____

Class _____

## 1. Key Ideas

Scientists do not write the full word oxygen or sodium every time they think about matter. They use symbols because symbols are precise, fast and globally shared. This lesson builds the link between an element, its name, its symbol and a simple way of representing one atom of that element.

- each element has a name and a standard symbol
- a symbol is not just an abbreviation chosen at random

## 2. Success Criteria

By the end, you should be able to:

- each element has a name and a standard symbol
- the first letter of a symbol is always a capital
- symbols represent elements clearly and efficiently

## 3. Key Terms

**Element**
A pure substance made of one type of atom.

**Symbol**
A short scientific label used to represent an element.

**Chemical symbol**
The one-letter or two-letter symbol used internationally for an element.

**Representation**
A way of showing an atom, element or substance using words, symbols or diagrams.

**Capital letter**
The first letter of every element symbol is written as a capital.

**Atomic identity**
What makes one element different from another.

## 4. Activity: Build the Lesson Map

Use the lesson to complete the table. Keep answers brief but specific.

| Prompt | Your answer |
| --- | --- |
| Main concept | |
| Important example | |
| Common mistake to avoid | |
| How this links to the next lesson | |

## 5. Short Answer Questions

**1. Explain this lesson goal in your own words: "each element has a name and a standard symbol". Use one specific example from the lesson.**

CORE

**2. Apply this idea to a new example: "the first letter of a symbol is always a capital". Show your reasoning clearly.**

CORE

**3. Analyse why this idea matters for understanding Elements, Symbols and Representing Atoms: "symbols represent elements clearly and efficiently".**

REASONING

## 6. Extend: Apply the Idea

**A student says, "I understand Elements, Symbols and Representing Atoms because I memorised the definition."**

Explain why memorising a definition is not enough. Use an example from the lesson to show deeper understanding.

## 7. Multiple Choice

**1.** What is the best first step when answering a question about Elements, Symbols and Representing Atoms?

☐ A. Identify the key concept being tested

☐ B. Write every fact from memory

☐ C. Ignore the command word

☐ D. Skip examples and evidence

**2.** Which answer would show stronger understanding of Elements, Symbols and Representing Atoms?

☐ A. An answer with accurate terms and reasoning

☐ B. A copied definition only

☐ C. A single-word response

☐ D. An answer with no example

**3.** What should you do if a question asks you to explain?

☐ A. Link the idea to a reason or cause

☐ B. List unrelated facts

☐ C. Only draw a diagram

☐ D. Write the shortest possible answer

## 8. Success Criteria Proof

Finish with evidence that you can do each success criterion.

**SUCCESS CRITERION 1**

**Prove that you can: each element has a name and a standard symbol**

**SUCCESS CRITERION 2**

**Prove that you can: the first letter of a symbol is always a capital**

**SUCCESS CRITERION 3**

**Prove that you can: symbols represent elements clearly and efficiently**

**One thing I still need help with:**