

Combustion Reactions

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

Every bushfire, every car engine, every gas stove — combustion reactions power modern life and reshape landscapes. But the difference between complete and incomplete combustion determines whether the products are harmless or deadly. Understanding oxygen availability is the difference between clean burning and carbon monoxide poisoning.

- Products of complete combustion (CO_2 and H_2O)
- Why oxygen availability determines which products form

2. Success Criteria

By the end, you should be able to:

- Products of complete combustion (CO_2 and H_2O)
- Products of incomplete combustion (CO , C soot)
- Why CO is toxic at low concentrations

3. Key Terms

sufficient oxygen

Present, CO forms instead of CO_2 .

insufficient oxygen

Present, CO forms instead of CO_2 .

Synthesis reaction

A reaction where two or more reactants combine to form a single product.

Decomposition reaction

A reaction where a single compound breaks down into simpler substances.

Precipitation reaction

A reaction in which an insoluble solid forms when two solutions are mixed.

Combustion reaction

A rapid reaction with oxygen producing heat, light and oxides.

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: "Products of complete combustion (CO_2 and H_2O)". Use one specific example from the lesson.

BAND 3 **2 MARKS**

2. Apply this idea to a new example: "Products of incomplete combustion (CO , C soot)". Show your reasoning clearly.

BAND 4 **3 MARKS**

3. Analyse why this idea matters for understanding Combustion Reactions: "Why CO is toxic at low concentrations".

BAND 5 **4 MARKS**

6. Extend: Apply the Idea

BAND 5/6

5 MARKS

A student gives a memorised answer about Combustion Reactions but does not use evidence or reasoning.

Improve the answer by writing a stronger response that uses accurate terminology, a relevant example and a clear explanation.

7. Multiple Choice

1. What is the best first step when answering a question about Combustion Reactions?

- 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 Combustion Reactions?

- 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: Products of complete combustion (CO_2 and H_2O)

BAND 3 **2 MARKS**

SUCCESS CRITERION 2

Prove that you can: Products of incomplete combustion (CO , C soot)

BAND 4 **3 MARKS**

SUCCESS CRITERION 3

Prove that you can: Why CO is toxic at low concentrations

BAND 5 **4 MARKS**

One thing I still need help with:
