

# Production of Alcohols

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

Ethanol is simultaneously the world's most consumed psychoactive substance, a major industrial solvent, a fuel additive, and a feedstock for dozens of other chemicals — and it can be made three completely different ways, each with different feedstocks, conditions, costs, and environmental footprints.

- Key facts and terms for Production of Alcohols
- How the main ideas in Production of Alcohols connect

## 2. Success Criteria

By the end, you should be able to:

- Key facts and terms for Production of Alcohols
- Where this lesson fits in Module 7
- How the main ideas in Production of Alcohols connect

## 3. Key Terms

### **H<sub>3</sub>PO<sub>4</sub> CATALYST**

A substance that increases reaction rate by providing an alternative pathway with lower activation energy.

### **RECYCLE LOOP**

More ethanol is produced faster per unit time.  
RECYCLE LOOP: Single-pass conversion is only ~5% — most ethene does not react in one pass.

### **Hydrocarbon**

An organic compound containing only carbon and hydrogen atoms.

### **Functional group**

A specific atom arrangement determining characteristic chemical reactions.

### **Homologous series**

A family of compounds with the same functional group, differing by CH<sub>2</sub>.

### **Addition polymer**

A polymer formed by monomers adding together without loss of atoms.

## 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: "Key facts and terms for Production of Alcohols". Use one specific example from the lesson.

**BAND 3**

**2 MARKS**

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2. Apply this idea to a new example: "Where this lesson fits in Module 7". Show your reasoning clearly.

**BAND 4**

**3 MARKS**

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3. Analyse why this idea matters for understanding Production of Alcohols: "How the main ideas in Production of Alcohols connect".

**BAND 5**

**4 MARKS**

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## 6. Extend: Apply the Idea

BAND 5/6

5 MARKS

**A student gives a memorised answer about Production of Alcohols 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.

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## 7. Multiple Choice

1. What is the best first step when answering a question about Production of Alcohols?

- 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 Production of Alcohols?

- 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: Key facts and terms for Production of Alcohols

**BAND 3** **2 MARKS**

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### SUCCESS CRITERION 2

Prove that you can: Where this lesson fits in Module 7

**BAND 4** **3 MARKS**

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### SUCCESS CRITERION 3

Prove that you can: How the main ideas in Production of Alcohols connect

**BAND 5** **4 MARKS**

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One thing I still need help with:

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