

Crude Oil and Separation Into Useful Products

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

This lesson explains crude oil as a natural raw resource and shows how it can be separated into useful hydrocarbon products. The key Stage 5 idea is that crude oil is not one pure substance, but a mixture that can be separated into fractions with different uses.

- crude oil is a natural resource and a mixture of hydrocarbons
- different hydrocarbon sizes and boiling ranges help explain why separation is possible

2. Success Criteria

By the end, you should be able to:

- crude oil is a natural resource and a mixture of hydrocarbons
- crude oil can be separated into fractions with different uses
- major product types include gases, fuels, lubricants and bitumen

3. Key Terms

Crude oil

A naturally occurring liquid fossil resource that contains a mixture of hydrocarbons.

Mixture

A combination of substances not chemically joined into one pure substance.

Fraction

A separated part of crude oil containing hydrocarbons with similar boiling ranges.

Separation

The process of dividing a mixture into useful parts.

Refinery

An industrial site where crude oil is processed and separated into useful products.

Raw resource

A natural starting material taken from the environment and used to make useful products.

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: "crude oil is a natural resource and a mixture of hydrocarbons". Use one specific example from the lesson.

CORE

2. Apply this idea to a new example: "crude oil can be separated into fractions with different uses". Show your reasoning clearly.

CORE

3. Analyse why this idea matters for understanding Crude Oil and Separation Into Useful Products: "major product types include gases, fuels, lubricants and bitumen".

REASONING

6. Extend: Apply the Idea

A student says, "I understand Crude Oil and Separation Into Useful Products 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 Crude Oil and Separation Into Useful Products?

- 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 Crude Oil and Separation Into Useful Products?

- 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: crude oil is a natural resource and a mixture of hydrocarbons

SUCCESS CRITERION 2

Prove that you can: crude oil can be separated into fractions with different uses

SUCCESS CRITERION 3

Prove that you can: major product types include gases, fuels, lubricants and bitumen

One thing I still need help with:
