

6.2 Energy Transfer

Question Paper

Level	IGCSE
Subject	Chemistry (0620)
Exam Board	Cambridge International Examinations (CIE)
Topic	Chemical Energetics
Sub-Topic	6.2 Energy Transfer
Booklet	Question Paper

Time Allowed: 22 minutes

Score: /18

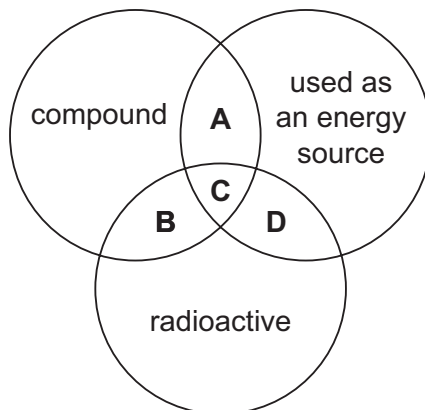
Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1 The diagram shows some properties that substances may have.

To which labelled part of the diagram does ^{235}U belong?



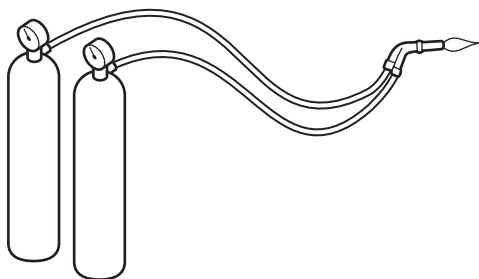
2. Hydrogen can be used as a fuel.

Which properties of hydrogen would be advantages and which would be disadvantages?

- 1 Hydrogen is expensive to produce.
- 2 Hydrogen reacts exothermically with oxygen.
- 3 When hydrogen burns, a greenhouse gas is not formed.

	advantages	disadvantages
A	1	2 and 3
B	1 and 2	3
C	1 and 3	2
D	2 and 3	1

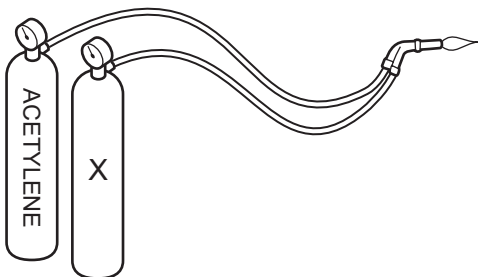
3 Metals are welded by using the heat produced by burning a gas in oxygen.



Which gas could **not** be used for this purpose?

- A ethene
- B hydrogen
- C helium
- D methane

4 The diagram shows the flame produced from burning a hydrocarbon, acetylene, in a welding torch.



Which gas is X?

- A hydrogen
- B methane
- C nitrogen
- D oxygen

- 5 The elements hydrogen and uranium are used as fuels.

The compound ethanol is also used as a fuel.

Which fuels require oxygen in order to produce heat energy?

	hydrogen	uranium	ethanol
A	✓	✓	✓
B	✓	✓	x
C	✓	x	✓
D	x	✓	✓

- 6 A power station was designed to burn gaseous fuels only.

Which two substances could be used?

- A** carbon dioxide and hydrogen
- B** carbon dioxide and ^{235}U
- C** hydrogen and methane
- D** methane and ^{235}U

7 Which fuel does **not** produce air pollution when it burns?

- A coal
- B diesel oil
- C hydrogen
- D gasoline (petrol)

8 Power stations produce electrical energy from different fuels.

Which fuel causes least pollution to the atmosphere?

- A coal
- B fuel oil
- C natural gas
- D radioactive isotopes

9 Which fuel does **not** produce carbon dioxide when it burns?

- A coal
- B hydrogen
- C methane
- D petrol

10 Which substance could **not** be used as a fuel to heat water in a boiler?

- A ethanol
- B hydrogen
- C methane
- D oxygen

11 Which substance is not a fossil fuel?

- A coal
- B kerosene
- C gasoline
- D wood

12 Which substance does **not** require oxygen in order to produce energy?

- A coal
- B hydrogen
- C natural gas
- D ^{235}U

13 Statement 1 Hydrogen is used as a fuel.

Statement 2 When hydrogen burns in the air to form water, heat energy is produced.

Which is correct?

- A Both statements are correct and statement 2 explains statement 1.
- B Both statements are correct but statement 2 does not explain statement 1.
- C Statement 1 is correct but statement 2 is incorrect.
- D Statement 2 is correct but statement 1 is incorrect.

14 Which substance does **not** produce carbon dioxide when it burns in oxygen?

- A butane
- B ethanol
- C ethene
- D hydrogen

15 Three processes are listed.

burning methane in air

radioactive decay of ^{235}U

reacting hydrogen with oxygen.

Which statements about these processes are correct?

1 Hydrogen and methane are being used as fuels.

2 All the processes involve oxidation.

3 All the processes are used to produce energy.

A 1 and 2 only **B** 1 and 3 only **C** 2 and 3 only **D** 1, 2 and 3

16 Butane, ethanol and hydrogen are fuels.

Which substances produce **both** carbon dioxide and water when used as a fuel?

	butane	ethanol	hydrogen
A	✓	✓	✓
B	✓	✓	x
C	✓	x	✓
D	x	✓	x

17 Substance X requires oxygen in order to produce energy.

It does **not** form carbon dioxide as a result of this energy production.

What is substance X?

- A hydrogen
- B natural gas
- C petrol
- D ^{235}U

18 The diagram shows some properties that substances may have.

To which labelled part of the diagram does ^{235}U belong?

