

7F Simple chemical reactions

Assessment for learning...year 7 (level 3-6)

Answer all questions:

Total marks	25
Time allowed	25 mins.

Question 1:

This table shows where different pollutants in the air come from.

pollutants	source of pollutants		
	percentage from power stations	percentage from road traffic	percentage from other sources
sulphur dioxide	72	2	26
nitrogen oxides	28	51	21
smoke	6	46	48
carbon monoxide	1	90	9

(a) Which **two** pollutants in the table above cause acid rain?

1.

2.

2 marks

(b) Lichens are organisms which grow on buildings and trees. They are affected by some pollutants.

Use the information in the table to suggest why few lichens survive close to power stations but many survive alongside roads.

.....
.....
.....

1 mark

(c) The **two** products of complete combustion of petrol are not shown in the table. Give the names of the **two** products of complete combustion of a fuel such as petrol.

1.

2.

2 marks

(d) Smoke contains particles of carbon. These can burn when there is enough oxygen present. Write a word equation for the reaction of carbon with **excess** oxygen.

.....

1 mark

(e) Which term best describes the combustion process?

Tick **one** box.

decomposition

oxidation

pollution

respiration

1 mark

Maximum 7 marks

Question 2:

Coal is a non-renewable energy resource.

(a) Give **two other** non-renewable energy resources.

1.

2.

2 marks

Wood is a renewable energy resource.

(b) Why can wood be described as a renewable energy resource?

.....

.....

1 mark

(c) Give **two other** renewable energy resources.

1.

2.

2 marks

(d) Complete the statement below to describe what happens when wood burns.

When wood burns, chemical energy in the wood is transformed into
..... energy, which is transferred to the surroundings.

1 mark

Maximum 6 marks

Question 3:

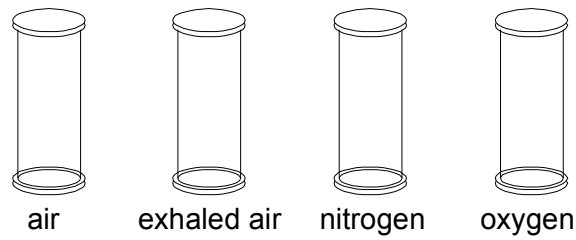
Magnesium burns in air giving a very bright light.

(a) Complete the word equation below to show this reaction.

magnesium + →

1 mark

The diagram shows four gas-jars. Each contains a different gas. Burning magnesium is put into each jar.



(b) In **one** of the gas-jars, the magnesium goes out immediately. Name the gas in this jar.

.....

1 mark

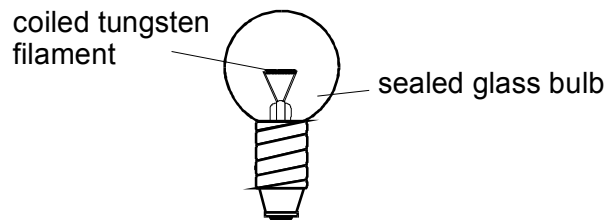
Explain your answer.

.....
.....

1 mark

Maximum 3 marks

Question 4:



The drawing shows a bulb from a torch. When the torch bulb is connected to a battery it lights up.

(a) What happens to the temperature of the filament when the torch is first switched on?

.....

1 mark

(b) Energy from the battery is transferred to the bulb. The bulb transfers the energy to the surroundings.

State **two** ways in which energy is transferred from the torch bulb to the surroundings.

1.

2.

2 marks

(c) Ravi accidentally breaks the glass of the bulb in his torch. He notices that the filament is not broken, so he switches the torch on.

The filament immediately 'burns out'.

(i) Which gas in the air is needed for the filament to burn?

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1 mark

(ii) Suggest how the makers of light bulbs prevent filaments from 'burning out' inside sealed bulbs.

.....

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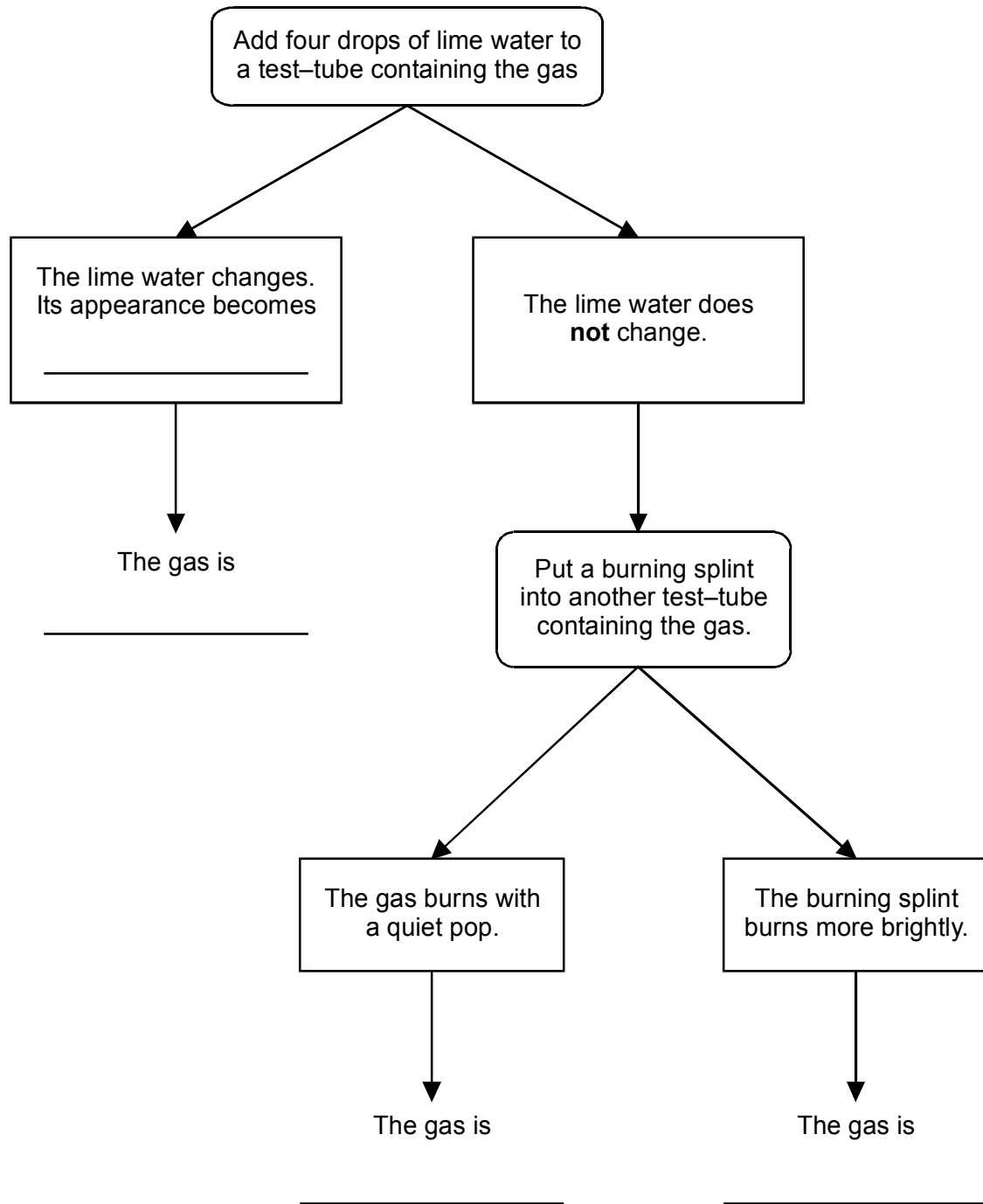
1 mark

Maximum 5 marks

Question 5:

A teacher designs a flow chart to show how to find the names of three gases.

Complete the flow chart.



4 marks

Maximum 4 marks