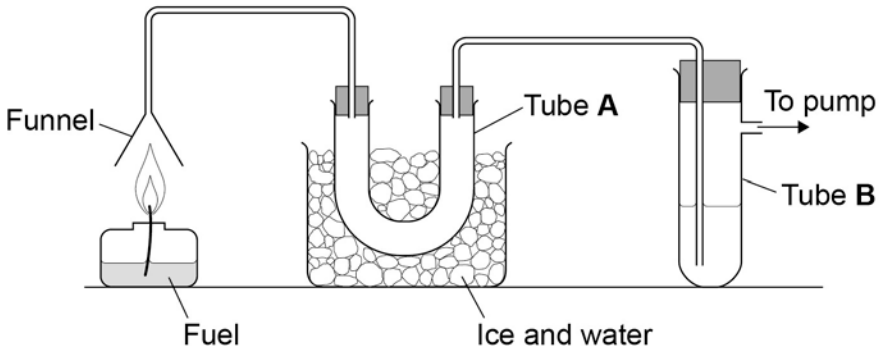
0 4 A student investigated the substances produced when fuels burn.

Figure 4 shows the apparatus the student used.

Figure 4



0 4 . 1 The complete combustion of a hydrocarbon produces carbon dioxide and **one** other substance.

Look at **Figure 4**. What would the student see in tube **A**?

[1 mark]

0 4 . 2 When the student burned the fuel she saw soot in the funnel.

Explain why soot forms.

[2 marks]

Question 4 continues on the next page

The student burned another fuel which contained impurities.

The substance in tube **B** is water containing universal indicator.

The indicator turned red.

0 4 . 3 Which gas made the indicator turn red?

[1 mark]

Tick **one** box.

- Ammonia ☐
- Carbon monoxide ☐
- Nitrogen ☐
- Sulfur dioxide ☐

Question 4

Question	Answers	Extra information	Mark	AO / Spec. Ref.
04.1	Colourless liquid / condensation / water		1	AO2/1 5.7.1.3
04.2	incomplete combustion of the fuel because not enough oxygen		1 1	AO1/1 5.9.3.1
04.3	Sulfur dioxide		1	AO3/1a 5.9.3.1
Total			**4**	