

**Paper Reference(s)   1CH0/2H**  
**Pearson Edexcel Level 1/Level 2 GCSE**  
**(9–1)**

**Chemistry**  
**PAPER 2**  
**Higher Tier**

**Diagram Booklet**

**In the boxes below, write your name, centre number and candidate number.**

<b>Surname</b>					
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<b>Candidate Number</b>					

## **INSTRUCTIONS**

**There may be spare copies of some diagrams in case you need them.**

**THIS DIAGRAM BOOKLET MUST BE  
RETURNED WITH THE QUESTION PAPER  
AT THE END OF THE EXAMINATION.**

# **Contents**

## **Page**

**4      Question 1(b)**

**5      Question 1(c)**

**6      Question 2**

**7      Question 2(a)**

**8      Question 3(d)**

**9      Question 4(a)**

**10     Question 4(b)(ii)**

**11     Question 5(a)**

**12     Question 6(c)**

**13     Question 7(d)**

**14     Question 8(b)**

**15     Question 9(a)(ii)**

**16     Question 9(b)**

**17     Question 9(b) (Spare copy)**

**18     Question 10(a)**

**19     Question 10(b)**

**20     Question 10(b)(iii)**

**21     Question 10(c)**

4  
Question 1(b)

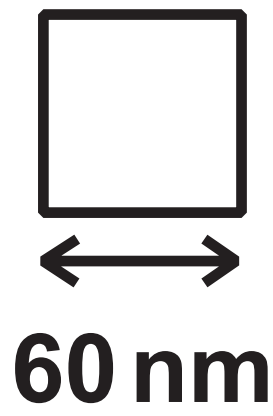
FIGURE 1

diameter of nanoparticle in nm	surface area : volume ratio
10	3 : 5
20	3 : 10
30	3 : 15
40	3 : 20
50	3 : 25

**5**

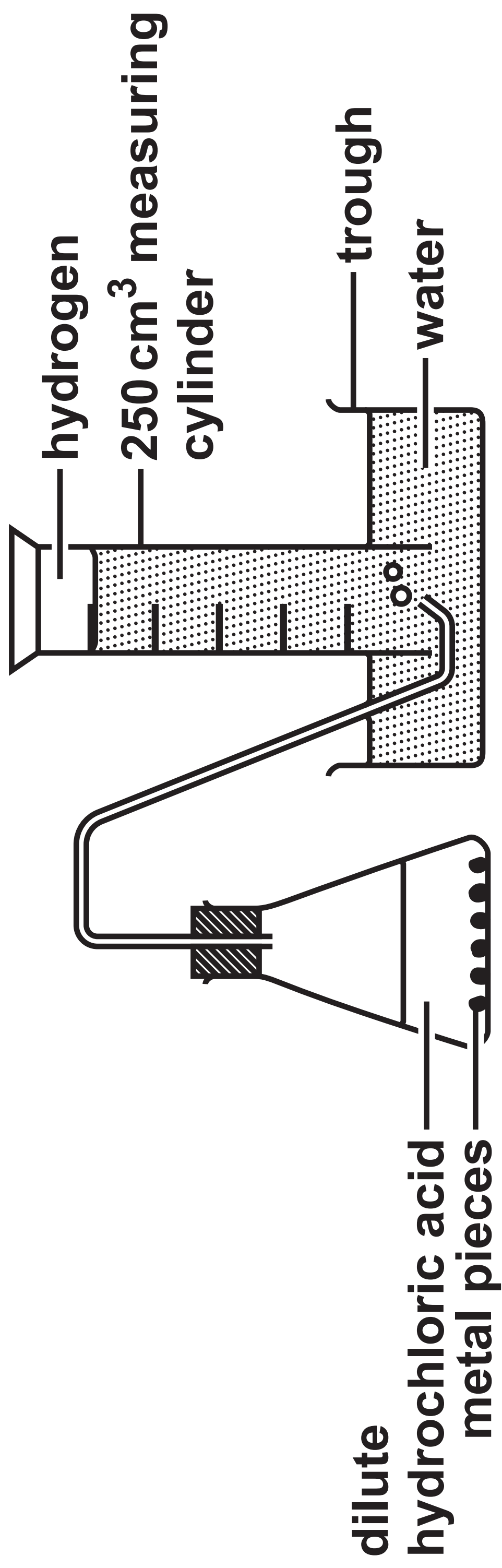
## **Question 1(c)**

**FIGURE 2**



## Question 2

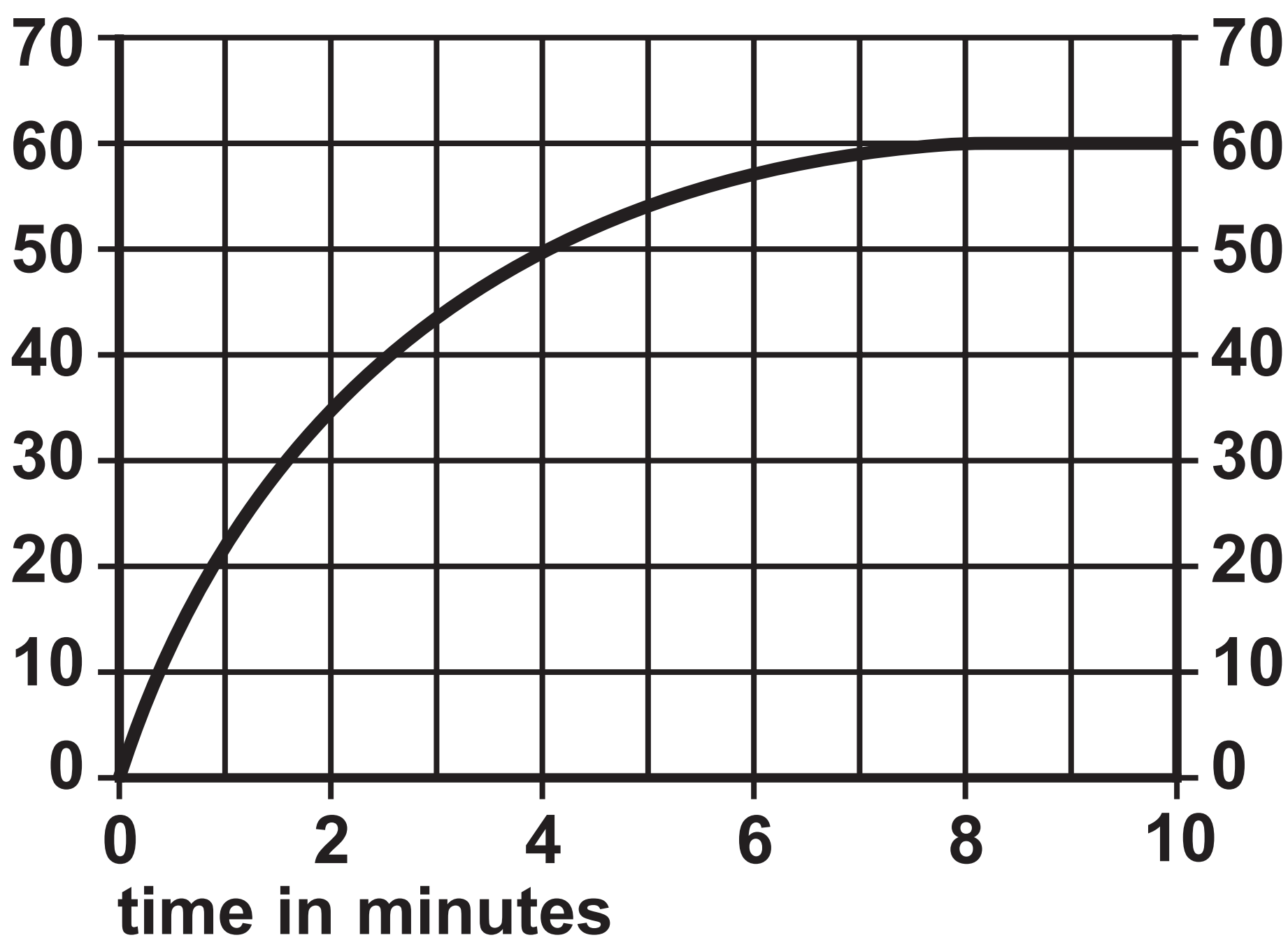
FIGURE 3



## Question 2(a)

FIGURE 4

volume of hydrogen  
in  $\text{cm}^3$



## Question 3(d)

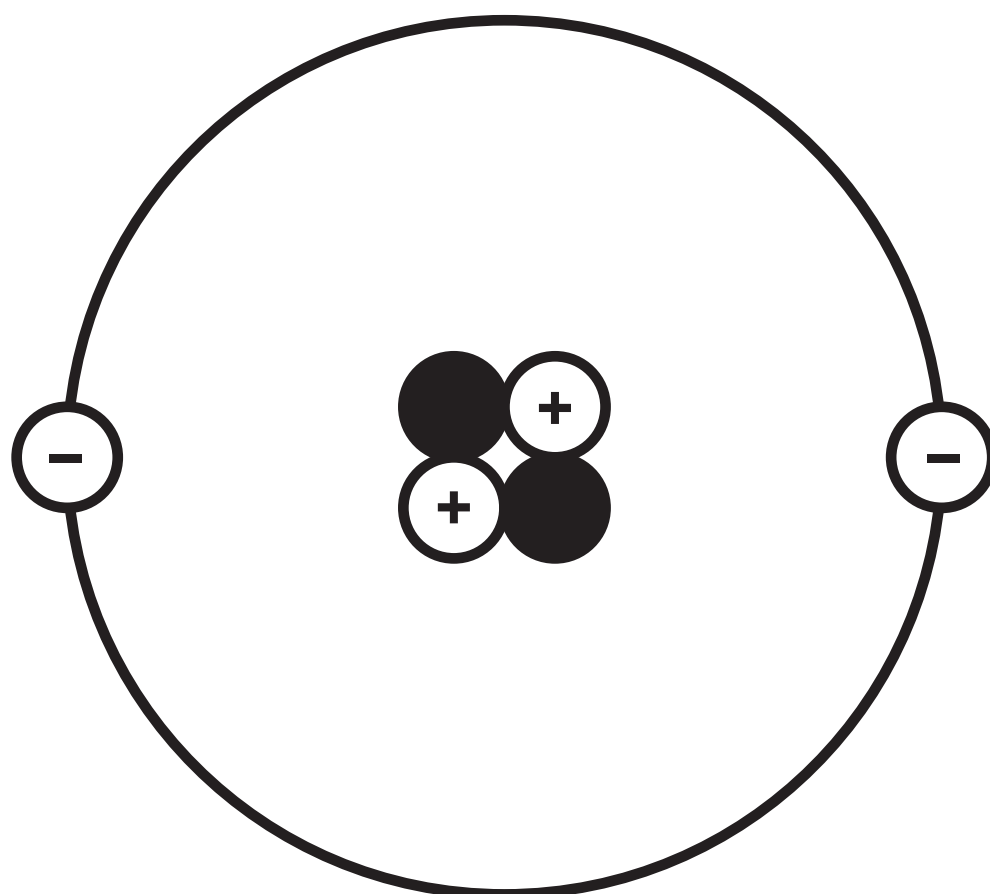
FIGURE 5

## Key

⊖ = electron

● = neutron

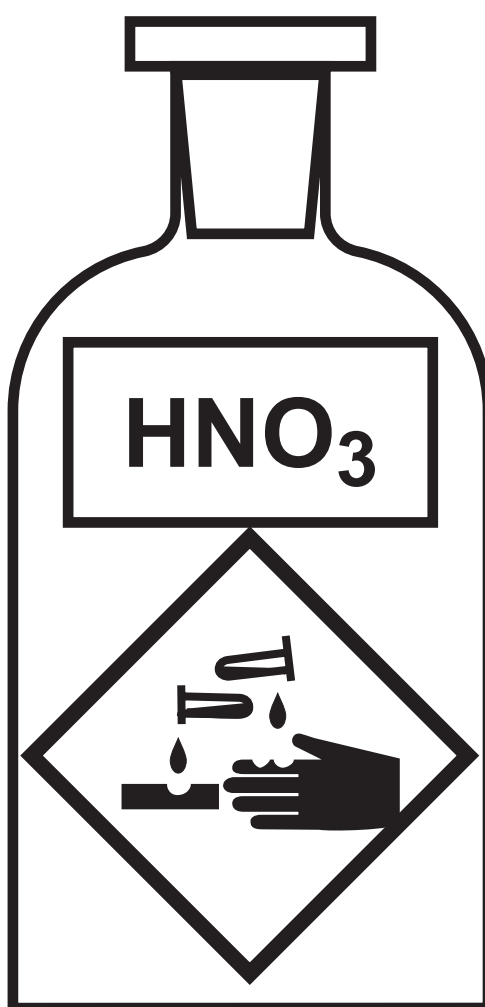
⊕ = proton





## Question 4(a)

**FIGURE 6**



**Question 4(b)(ii)****FIGURE 7**

<b>compound</b>	<b>flame colour</b>
<b>P</b>	<b>red</b>
<b>Q</b>	<b>lilac</b>
<b>R</b>	<b>blue-green</b>

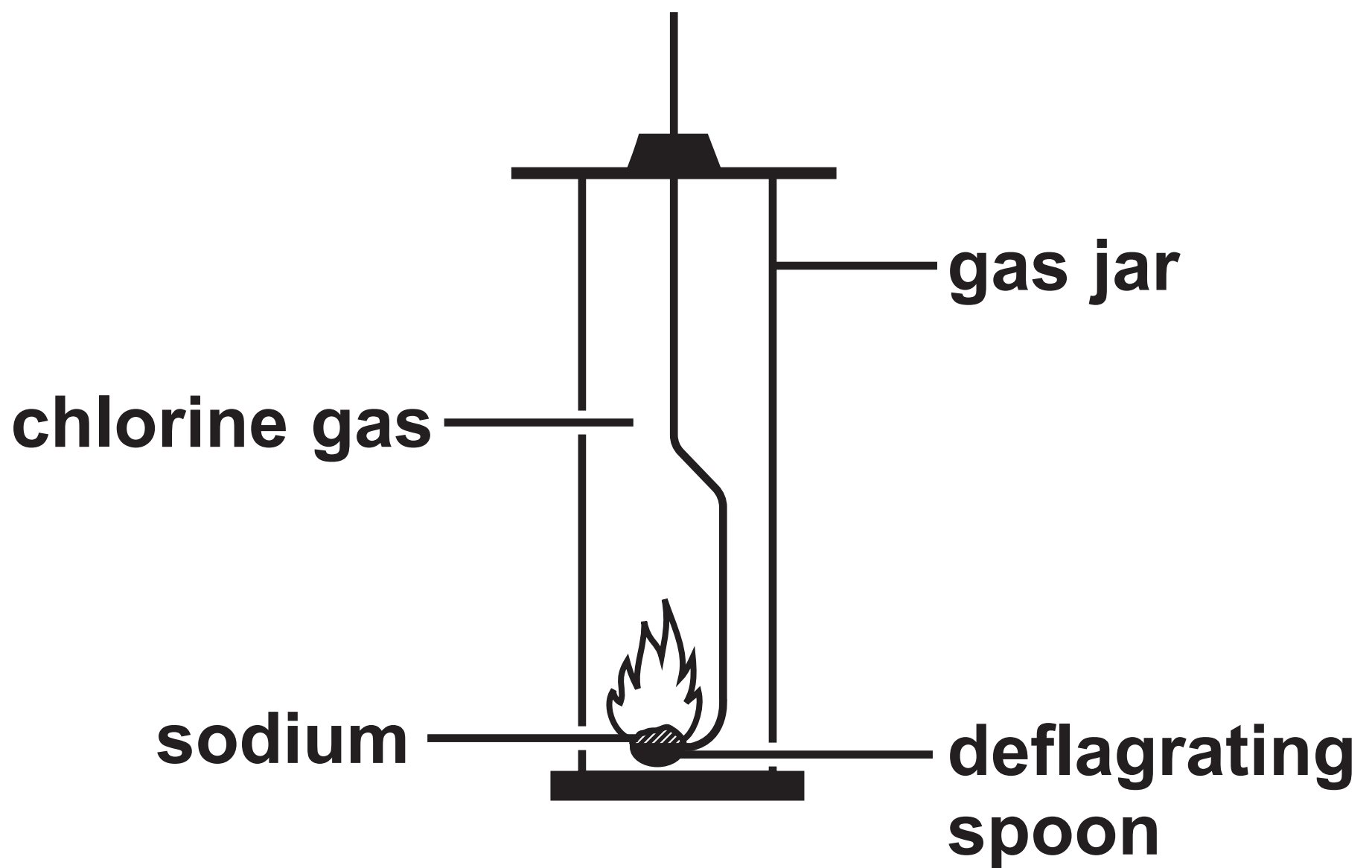
## Question 5(a)

FIGURE 8

pollutant	mass of pollutant given out in g per kilometre driven	
	petrol engine	diesel engine
carbon dioxide	210	180
carbon monoxide	1·5	0·10
unburnt hydrocarbons	0·13	0·020
nitrogen oxides	0·36	2·0
particulates	0·0060	0·046
sulfur dioxide	0·0089	0·0037

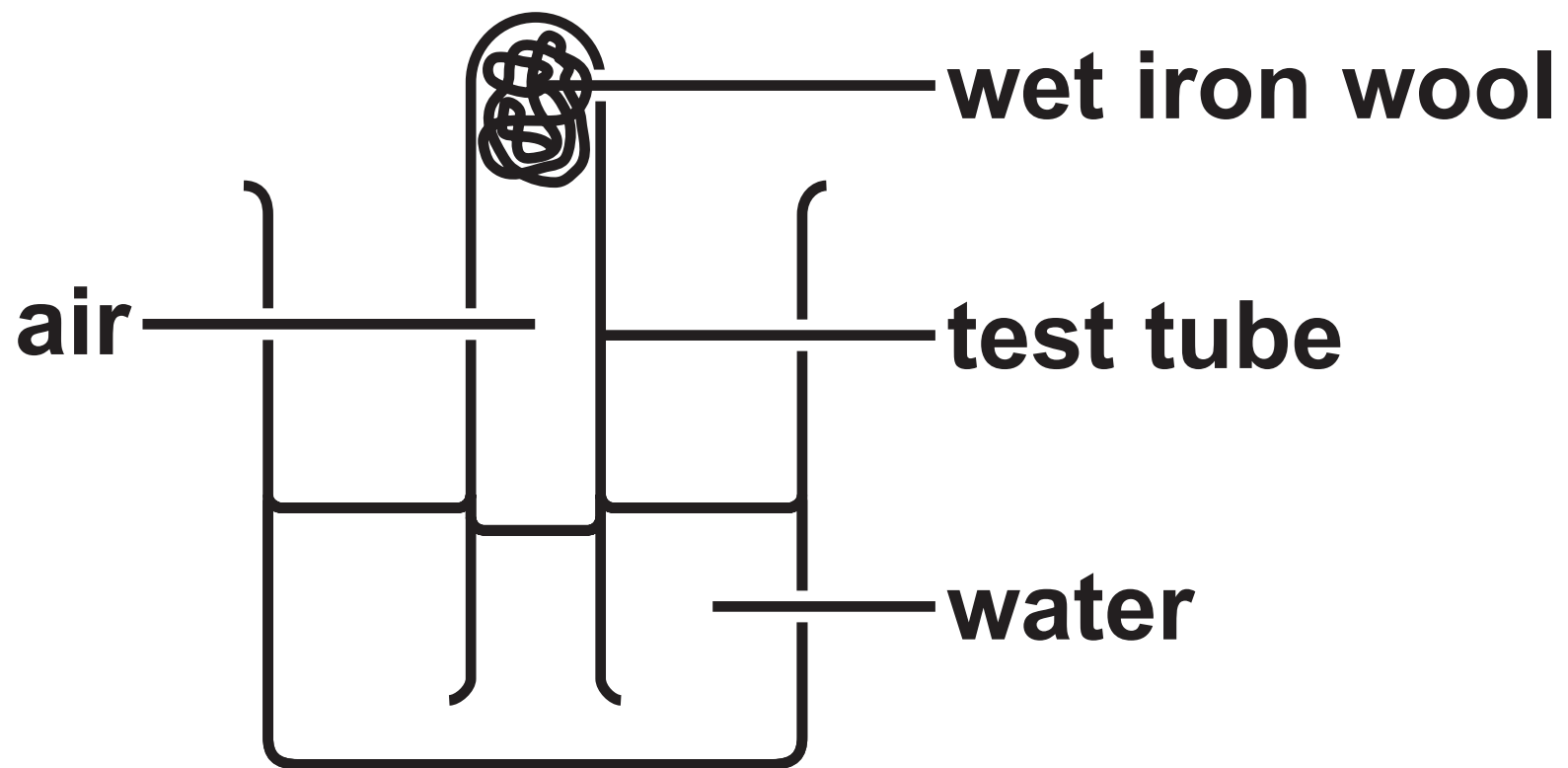
## Question 6(c)

FIGURE 9



## Question 7(d)

FIGURE 10



## Question 8(b)

FIGURE 11

test	result
appearance of V	white solid
see whether solid V conducts electricity	the solid does not conduct electricity
see whether a solution of V conducts electricity	the solution conducts electricity
heat solid V to 400 °C	the solid does not melt
add some sodium hydroxide solution to solid V and warm	a pungent gas, W, is released which turns damp litmus paper blue
add some dilute nitric acid, followed by drops of silver nitrate solution, to a solution of V	a cream precipitate, X, is produced

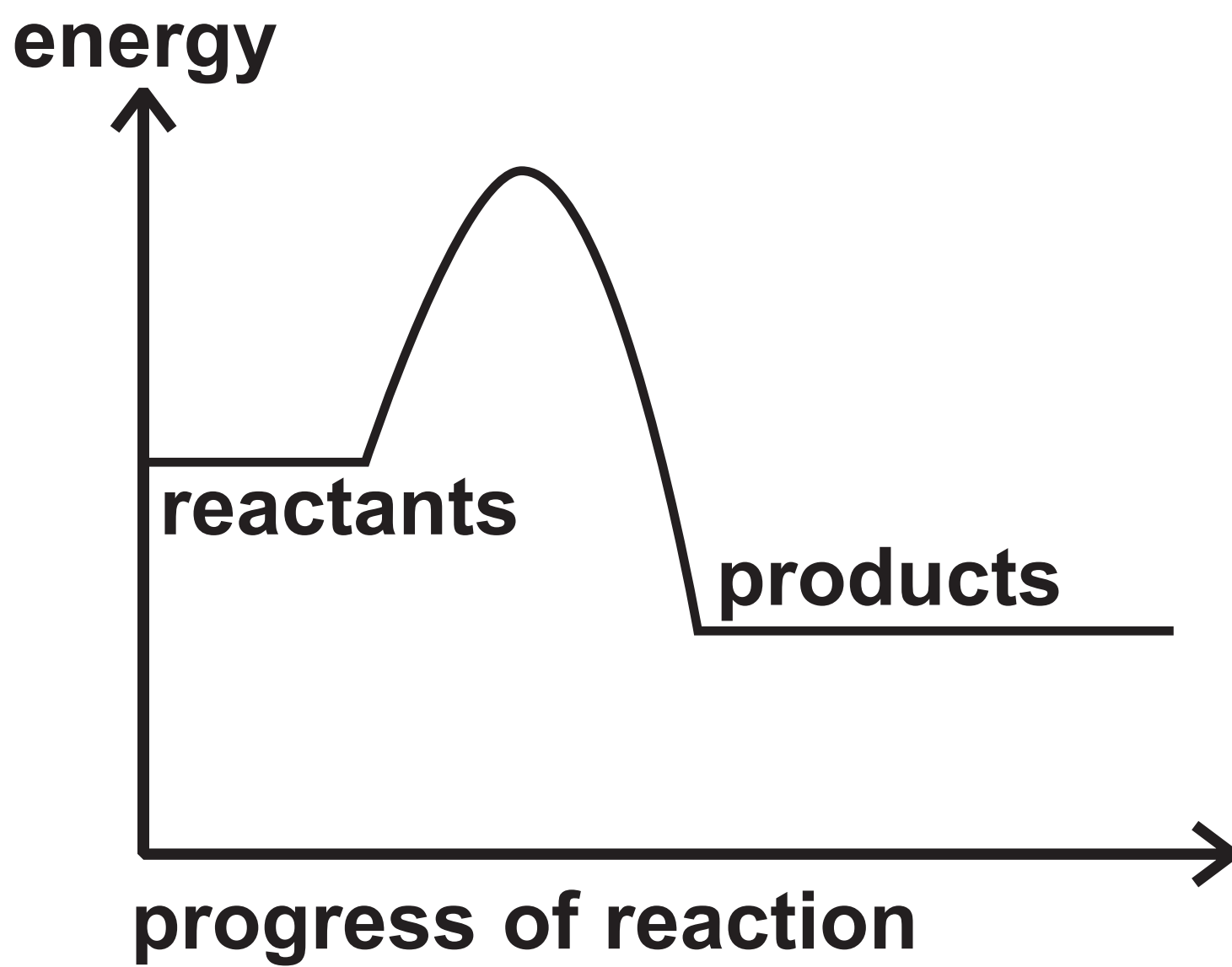
## Question 9(a)(ii)

FIGURE 12

bond	bond energy in $\text{kJ mol}^{-1}$
$\text{H} - \text{H}$	436
$\text{F} - \text{F}$	158
$\text{H} - \text{F}$	562

## Question 9(b)

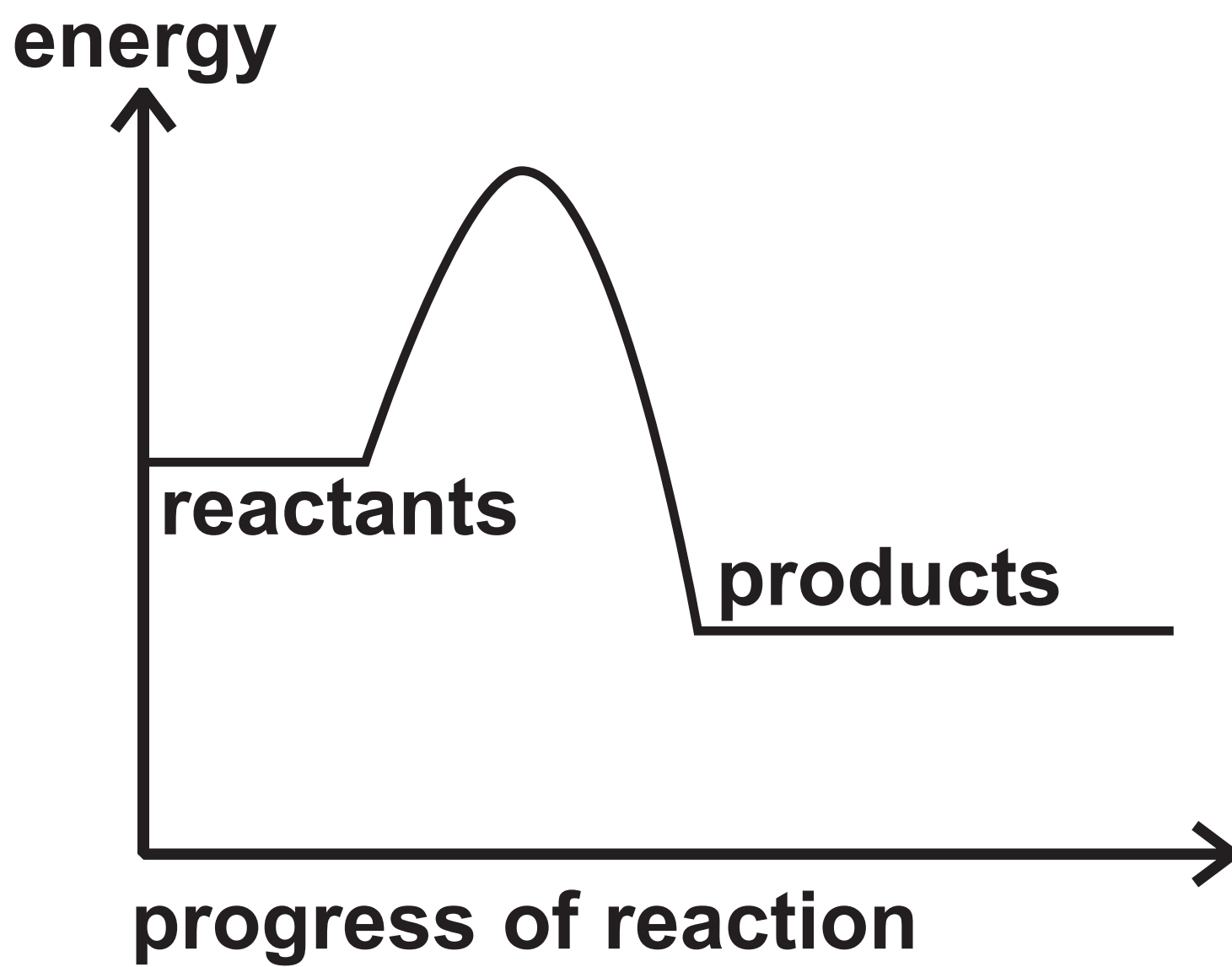
FIGURE 13





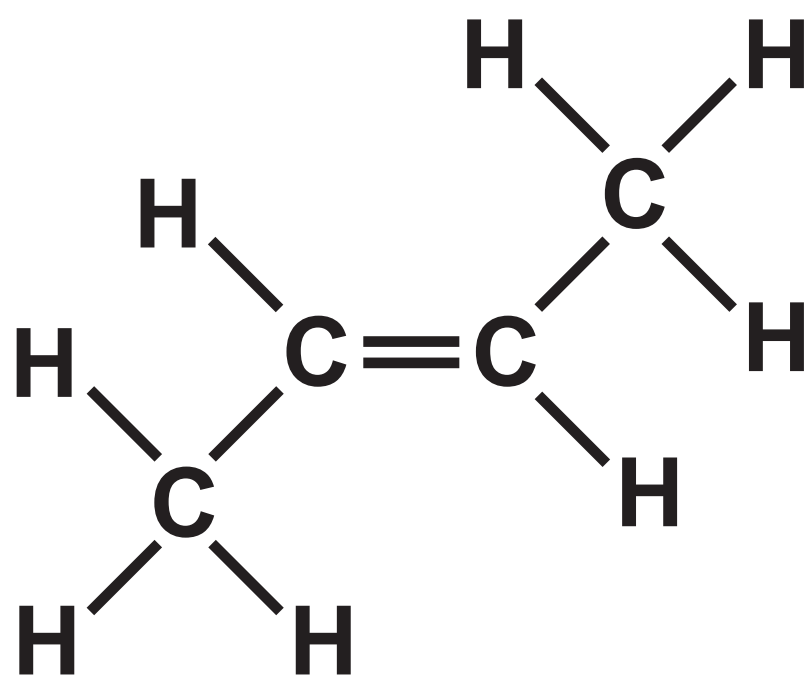
## Question 9(b)

FIGURE 13



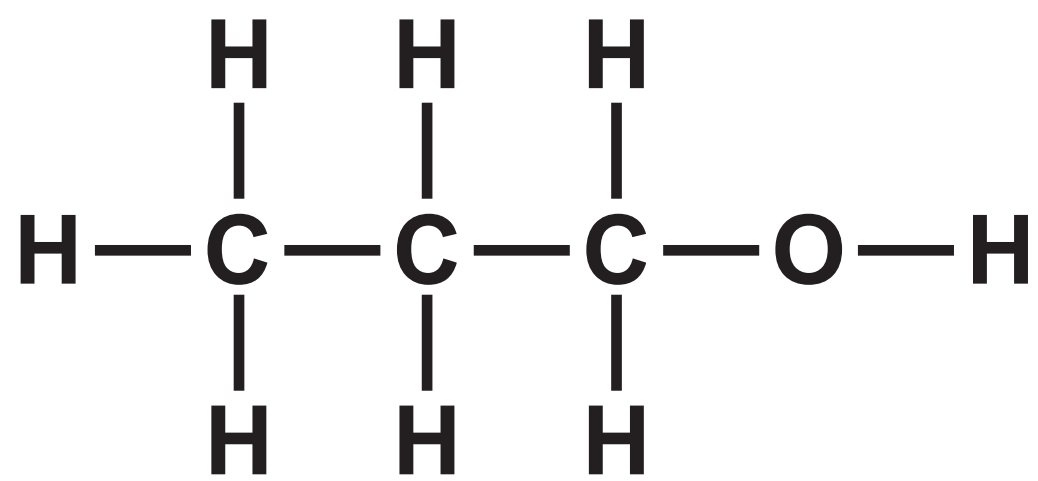
## Question 10(a)

FIGURE 14



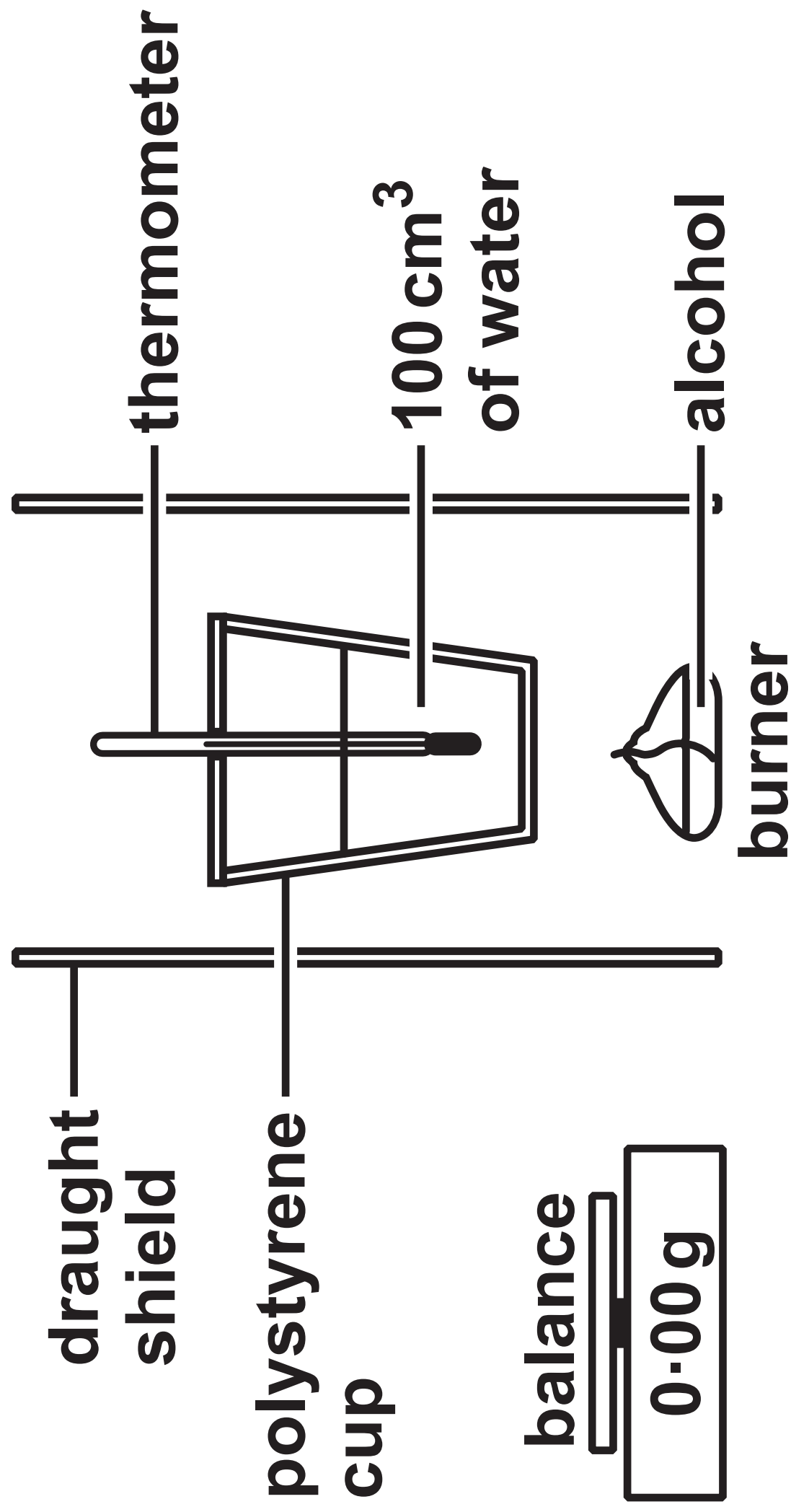
## Question 10(b)

FIGURE 15



## Question 10(b)(iii)

FIGURE 16



## Question 10(c)

FIGURE 17

