

# Rate(speed) of Reaction

## Mark Scheme 3

<b>Level</b>	IGCSE
<b>Subject</b>	Chemistry
<b>Exam Board</b>	CIE
<b>Topic</b>	Chemical Reactions
<b>Sub-Topic</b>	Rate (speed) of Reactions
<b>Paper Type</b>	Alternative to Practical
<b>Booklet</b>	Mark Scheme 3

**Time Allowed:** 42 minutes

**Score:** /35

**Percentage:** /100

- 1 (a) Table of results  
volumes correctly completed (4), -1 for each incorrect  
0, 18, [4]
- (a) points plotted correctly (3), -1 for each incorrect  
smooth line curve (1) [4]
- (c) reaction finished/all acid used up (1) [1]
- (d) point at 3 minutes/at 42 cm<sup>3</sup> (1) does not fit curve owtte (1) [2]
- (e) sketch line below plotted curve (1) levels off around 30 cm<sup>3</sup> (1) [2]
- [Total: 13]**

- 2 table correctly completed

catalyst <b>W</b>	catalyst <b>X</b>
0	
16	
32	
36	
37	
37	
all correct (3)	-1 each incorrec

[3]

- (b) graph  
choice of suitable scale for y-axis (1)  
all points correctly plotted (3)  
smooth curves (1) labelled (1) [6]
- (c) solid **X** (1)  
faster reaction / more gas given off at 20/40 s (1) [2]
- (d) same volume of hydrogen peroxide used in both experiments (1) [1]
- (e) line sketched on grid with steeper slope than for catalyst **X** at 25°C (1)  
levelling out at same level (1) [2]

**[Total: 14]**

3 volumes correctly completed  
time/minutes

0

2

4

6

8

10

12

volume/cm<sup>3</sup>

0

18

30

33

42

45

46

[3]

(a) All points plotted correctly (2)  
-1 for any incorrec  
smooth line graph (1)

[3]

(b) (i) at 6 minutes (1)

[1]

(ii) 37/38 cm<sup>3</sup> (1)

[1]