

Grade Nine Guides

GCSE CHEMISTRY

Paper 2

Rate and Extent of chemical change

EXAM QUESTIONS

- Exam questions per topic

Aiming at grade 8/9



Answers in No Waffle GCSE videos :)

The rate and extent of chemical change

- Required practical: rates of reaction
- Part A:
- Part B:
- Part C:

6. The rate + extent of chemical change

Required Practical 6 - a reaction

Q1.1 Suggest what would cause an anomalous result here. *being not following the trend*

Q1.2 What could a student do to take more readings? *improve results by between and*

Q1.3 Suggest one improvement that can be made to the apparatus. *use a gas syringe so gas won't dissolve in water*

Q1.4 One student said that the results of the experiment were wrong because the first bubble of gas collected were air. A 2nd student said this would make no difference to the results. Explain why. The second student was correct. *They should be collected because it is left in flask at end and it has the same volume as the air collected.*

Q1.5 Student investigated the rate of reaction between Sodium Thiosulphate and HCl acid. The equation for the reaction is:

$$Na_2S_2O_3 + 2HCl \rightarrow 2NaCl + SO_2 + H_2O$$

Q1.6 What product makes the mixture cloudy? *Sulfur (solid)*

Q1.7 Sketch the relationship between rate and concentration of Sodium Thiosulphate. *exponential*

Q1.8 The student concluded: rate of reaction double, explain in terms of particles. *The number of particles per unit volume increases (1) therefore the frequency of successful collisions increases (2)*

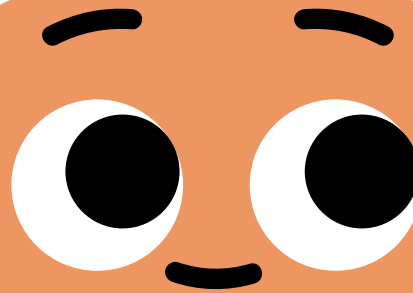
Q1.9 Explain the effect of increasing the surface area of marble chips on the rate of reaction. *Increases the rate of reaction because smaller particles allow more frequent collisions (1)*

Q1.10 How do catalysts reduce the activation energy? *Reduce the amount of activation energy required*

Q1.11 How could a student improve the accuracy of gas recorded at each time? *Take repeat readings (1) which exclude anomalous results (2) calculate mean (3)*

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