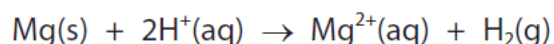


EMPIRICAL FORMULA CALCULATION

Paper: 1C
Question: 13(e)

Question

The ionic equation for the reaction between magnesium and hydrochloric acid is



Use the information in this equation, and the particle collision theory, to explain why the rate of reaction decreases during each of the experiments.

(3)

Mark Scheme

<p>An explanation that links the following points:</p> <p>M1 the concentration of the acid/hydrogen ions/H^+ (ions) decreases</p> <p>M2 therefore there are fewer (successful) collisions (between the hydrogen ions/H^+ ions and the magnesium atoms)</p> <p>M3 per second/per unit time</p>	<p>ALLOW there are fewer hydrogen ions/H^+ (ions) in the same volume</p> <p>ALLOW the surface area of the magnesium decreases</p> <p>less frequent collisions/ slower collision rate scores M2 and M3</p> <p>M3 dep on M2</p> <p>IGNORE less chance of collision</p> <p>MAX 1 if reference to energy of particles changing</p>
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