**8C1 Rates of Reaction**

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| Year 8: Chemistry – Rates of reaction | Investigating Concentration | Suggest practical methods for determining the rate of a given reaction |  |
| Interpret rate of reaction graphs |  |
| Interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions |  |
| Make and record observations and measurements using a range of methods for different investigations and evaluate the reliability of methods and suggest possible improvements |  |
| Investigating Temperature | Describe the effect of changes in temperature, concentration, pressure and surface area on the rate of a reaction |  |
| Explain the effects on rates of reaction of changes in temperature, concentration, and pressure in terms of frequency and energy of collision between particles. |  |
| investigating particle Size | Present reasoned explanations including explaining data in relation to predictions and hypothesis |  |
| Explain the effects on rates of reaction of changes in the size of the pieces of a reacting solid in terms of surface area to volume ratio |  |
| Using Catalysts | Describe the characteristics of catalysts and the effects on rates of reaction |  |
| Identify catalysts in reactions |  |
| Explain catalytic action in terms of activation energy |  |
| Recall that enzymes act as catalysts in terms of biological systems |  |
| Reversible reactions and equilibria | Recall that some reactions may be reversed by altering reaction conditions |  |
| Recall that dynamic equilibrium occurs when the rates of forward and reverse reactions are equal |  |
| The Haber Process | Predict the effect of changing reaction conditions (concentration, temperature and pressure) on equilibrium position and suggest appropriate conditions to produce a particular product |  |