C6 Learning Journey

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| 1 | Calculate the rate of a chemical reaction using the formulae **or**  |
| 2 | In order to react, reactant particles must **collide.** The following factors affect the rate of reaction: **concentration, pressure**, **temperature, surface area, catalysts** |
| 3 | The following factors **increase the rate of reaction** because they **increase the number of collisions:** increasing concentration, pressure, and surface area. Increasing temperature increases the rate of reaction because it **increases the number and energy of collisions**. |
| 4 | **Catalysts** speed up rate of reaction by providing a different pathway for the reaction to proceed with a **lower activation energy** |
| 5 | In some chemical reactions reactants will form products and products can then react to reform the reactants. This is called a **reversible reaction** and is denoted by the symbol  |
| 6 | **Reversible reactions** are **exothermic** in one direction and **endothermic** in the other direction |
| 7 | **Dynamic equilibrium** is reached when the forward and backward reactions occur at the same rate |
| 8 | **Le Chatelier’s Principle** states that if a change occurs to a reaction in equilibrium, the position of the equilibrium will shift to reverse the change |
| 9 | If **concentration** is of a reactant or product is changed the position of the equilibrium will shift to reverse the change |
| 10 | An increase in **temperature** will favour the **endothermic** direction and a decrease in temperature will favour the **exothermic** direction |
| 11 | If **pressure** is changed, the position of the equilibrium will shift to reverse the change |