# Chemistry Curriculum Overview - Year 10 - Combined Foundation

| Unit | Details |
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| **Electrolysis** | Pupils are introduced to electrolysis. They will build upon their knowledge from structure and bonding to explain why ionic compounds can undergo electrolysis when molten or in solution. They should also be able to explain the movement of particles during electrolysis, and the reactions that occur at the electrodes, predicting products when electrolyte is molten or in solution. Pupils will then apply their understanding of electrolysis to the extraction of aluminium, and learn how to investigate the electrolysis of a solution. |
| **Chemical Calculations** | Pupils will build upon their understanding of the structure of atoms to understand relative atomic mass and relative formula mass and use the periodic table to calculate relative formula mass. |
| **Energy Changes** | Pupils will learn about the energy transfers that occur during chemical reactions. They should understand that an exothermic reaction transfers energy from the system to the surroundings, and an endothermic reaction transfers energy from the surroundings to the system.They should be able to interpret experimental data to identify if a reaction is exothermic or endothermic and should be able to describe some uses of exothermic and endothermic reactions. Pupils will further develop their qualitative understanding of the energy transfers in a reaction into a quantitative understanding. They should be confident with sketching and interpreting reaction profile diagrams. |
| **Rates** | Pupils have learnt about the factors that affect the rate of a reaction, including temperature, surface area, concentration, and pressure. Pupils should be able to explain the effect of each factor on the rate of reaction using collision theory. They should also be able to explain the effect of catalysts on the rate of a reaction in terms of providing an alternative reaction pathway with a lower activation energy. |
| **Equilibrium** | Pupils will learn about reversible reactions and dynamic equilibrium. They should apply their knowledge on endothermic and exothermic reactions to equilibrium reactions to be able to predict the effect of temperature changes on the reversible reactions and the position of the equilibrium. |