**Topic Overview: Acid and Alkalis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Ref | Outcome | Achieved | ☺ |
| Emerging | E8ScA1.1 | Name some common acids and alkalis |  |  |
| E8ScA1.2 | Know the pH for a neutral solution  |  |  |
|   |   |  |  |
| E8ScA2.1 | Explain how acids and alkalis can be corrosive or irritant and require safe handling. |  |  |
| E8ScA2.2 | Know mixing an acid and alkali produces a chemical reaction, neutralisation |  |  |
|  |   |   |  |  |
| Developing | D8ScA3.1 | Show how acids have a pH below 7, neutral solutions have a pH of 7, alkalis have a pH above 7. |  |  |
| D8ScA3.2 | Describe a method for how to make a neutral solution from an acid and alkali. |  |  |
|   |   |  |  |
| D8ScA4.1 |  Know the pH of a solution depends on the strength of the acid: strong acids have lower pH values than weak acids. |  |  |
| D8ScA4.2 | Explain how neutralisation reactions are used in a range of situations. |  |  |
|  |   |   |  |  |
| Securing | S8ScA5.1 | Know hydrochloric, sulphuric and nitric acid are strong acids. |  |  |
| S8ScA5.2 | Know mixing an acid and alkali produces a chemical reaction, neutralisation, forming a chemical called a salt and water. |  |  |
|   |   |  |  |
| S8ScA6.1 | Recall the colours of the pH scale |  |  |
| S8ScA6.2 | Know how an indicator works |  |  |
|  |   |   |  |  |
| Mastering | M8ScA7.1 | Use data and observations to determine the pH of a solution and explain what this shows. |  |  |
| M8ScA7.2 | Identify the best indicator to distinguish between solutions of different pH, using data provided. |  |  |
| M8ScA8.1 | Estimate the pH of an acid based on information from reactions. |  |  |
| M8ScA8.2 | Deduce the hazards of different alkalis and acids using data about their concentration and pH. |  |  |
|   |   |  |  |
| M8ScA9.1 | Evaluate the effect of acid rain |  |  |
| M8ScA9.2 | Given the names of an acid and an alkali, work out the name of the salt produced when they react |  |  |

**Keywords**

|  |
| --- |
| **pH:** Scale of acidity and alkalinity from 0 to 14. |
| **Indicators:** Substances used to identify whether unknown solutions are acidic or alkaline. |
| **Base:** A substance that neutralises an acid - those that dissolve in water are called alkalis. |
| **Concentration:** A measure of the number of particles in a given volume. |