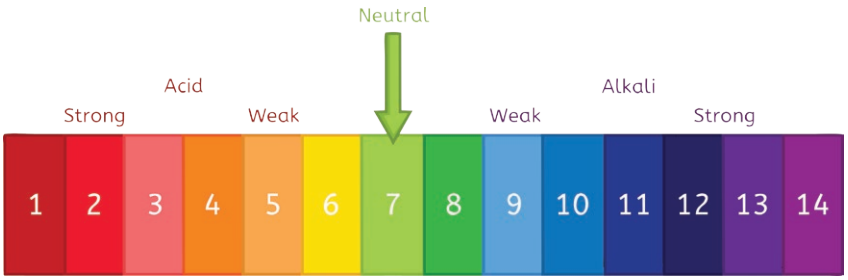
Acids and Alkalis **Key Revision Facts**

- A concentrated acid will have more acid particles per litre than a dilute acid.
- Common lab acids are:
    1. Sulphuric acid H_2SO_4;
    2. Hydrochloric acid HCl;
    3. Nitric acid HNO_3.
- An indicator is a solution that changes colour to determine the pH of a solution.
- Common indicators are:
  Universal indicator, it turns red in acidic solutions and blue in alkaline solutions,
  Blue litmus paper turns red in acids,
  Red litmus paper turns blue in alkali solutions.
- The pH scale is shown below:



Household Solution	Acid	Alkali	Neutral
water			✓
lemon juice	✓		
vinegar	✓		
toothpaste		✓	
milk		✓	
oven cleaner		✓	

- Sodium hydroxide, NaOH, is a well-known alkali.
- Neutralisation involves adding an alkali to an acid to produce a neutral solution.
- Hydrochloric acid makes chloride salts.
- Sulphuric acid makes sulphate salts.
- Nitric acid makes nitrate salts.
- Making copper sulphate crystals:
    1. Add powdered copper oxide to sulphuric acid;
    2. Filter the mixture to collect the un-reacted copper oxide and collect the copper sulphate solution;
    3. Place the copper sulphate solution into an evaporating dish and heat gently;
    4. The water will evaporate and copper sulphate crystals will form in the evaporating dish.
- Neutralisation reactions are useful because they can be used to: neutralise soil or lakes.

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