7F Acids and Alkalis

1. Hazards

Hazard	Something that could cause harm.
Risk	The chance that a hazard will cause harm.
Hazard Symbols	Internationally agreed symbols representing the type of risk from using a substance.
	**Dangerous to Environment** Can cause long term damage to animal and plant life.
	**Toxic** Poisonous and can cause death if taken into the body.
	**Corrosive** Attacks certain substances like metals, stonework & skin.
	**Explosive** Heating may cause an explosion.
	**Flammable** These substances catch fire easily.
	**Caution** similar to toxic/corrosive but less serious- may cause skin irritation
Diluted	Dangerous substances are mixed with water to make them less dangerous.

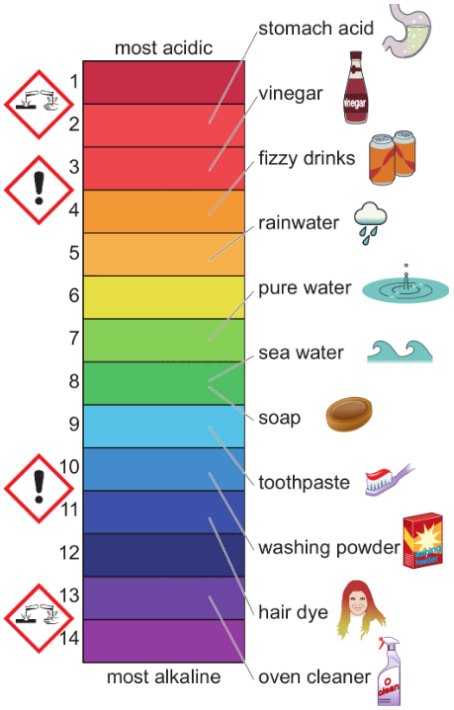
2. Indicators

Indicator	A substance that changes colour in solutions of different acidity/alkalinity.
Litmus	An indicator made from a type of lichen.
Acid	Turns litmus indicator **red**.
Alkali	Turns litmus indicator **blue**.
Neutral	A substance that is neither acidic or alkaline.
Red Cabbage	Can be used as an indicator.

3. Acidity and Alkalinity

pH Scale	A scale measuring acidity and alkalinity in numbers.

The pH Scale



Acid	pH lower than 7- the lower the number the more acidic.
Neutral	pH of 7
Alkali	pH higher than 7- the higher the number the more alkaline.
Universal Indicator	Indicator that gives a range of colours depending on the pH.
Acid Rain	Rainwater more acidic than usual due to pollution.

4. Neutralisation

Neutralisation	A reaction where an acid and alkali are mixed together forming a neutral substance.
Chemical Reaction	A change in which one or more new substance is formed.
Word Equation	Used to model chemical reactions.
Reactants	The starting substances- written on left of word equation.
Products	The new substances made- written on right of word equation.
Neutralisation General Word Equation Acid + alkali → salt + water	
Neutralisation Word Equation Example Hydrochloric acid + sodium hydroxide → sodium chloride + water	
Salts	Formed when acids and alkalis react. Different acids and alkalis will form different salts.
Sodium Chloride	The chemical name for common/table salt.

5. Neutralisation in Daily Life

Base	Any substance that neutralises an acid forming a salt and water.
Alkali	A soluble base
Antacids	Remedy for indigestion that neutralise the stomach acid
Antacid Word Equation Example Magnesium hydroxide + hydrochloric acid → magnesium chloride + water	
Toothpaste	Contains bases that neutralise acids in your mouth from food that you eat.
Bee Sting Remedy	A bee sting, being acidic can be treated with a weak alkali like baking soda.
Wasp Sting Remedy	A wasp sting, being alkali, can be treated with a weak acid like vinegar.
Cleaning Metals	Acids clean the rust off metals using a neutralisation reaction.
Waste Gases	Acidic waste gases from industries are sprayed with calcium hydroxide to neutralise them.

Lesson	Memorised?
1. Hazards	
2. Indicators	
3. Acidity & Alkalinity	
4. Neutralisation	
5. Neutralisation in Daily Life	