A thermometer and a beaker with liquid

Description automatically generatedA diagram of a reaction diagram

Description automatically generatedA diagram of a reaction line

Description automatically generatedA measuring cup with liquid in it

Description automatically generatedBackground pattern

Description automatically generated

**Endothermic Practical**

1. Sodium carbonate powder is tipped into a beaker of ethanoic acid. The thermometer shows the initial temperature reading which is room temperature.
2. 2. The beaker now contains sodium ethanoate, water and carbon dioxide. The temperature on the thermometer has fallen, meaning it is an endothermic reaction.

**Exothermic**

Exothermic reactions are *chemical reactions* which release energy from the chemicals into the surroundings. This energy is usually released as heat, so the surroundings get hotter. Handwarmers are an example of an exothermic reaction. They release heat into their surroundings.

**Exothermic Practical**

1. Sodium hydroxide solution is poured into a beaker of hydrochloric acid. The thermometer shows the initial temperature, which is room temperature.
2. 2. The beaker now contains sodium chloride and water. The temperature on the thermometer has risen, meaning it is an exothermic reaction.

**Endothermic**

Endothermic reactions absorb energy from the surroundings. This energy is usually absorbed as heat, so the surroundings get colder.

* *Photosynthesis* is an endothermic reaction because plant leaves absorb light energy.
* *Thermal decomposition* reactions are endothermic because they absorb energy when the chemicals are heated.

**Key Facts**

When a chemical reaction happens, energy is transferred to or from the surroundings.

When energy is transferred to the surroundings, this is called an **exothermic reaction** and usually feels hot.

When energy is taken in from the surroundings, this is called an **endothermic reaction** and usually feel cold.

**Key Vocabulary**

**Chemical Reactions**

When chemical bonds are broken and made between atoms, so that new substances are made.

**Exothermic**

This is a chemical reaction which release energy from the chemicals into the surroundings.

**Endothermic**

This is a chemical reaction which energy is absorbed from the surroundings.

**Ambitious Vocabulary**

Photosynthesis, thermal decomposition, bond

**Y8 Endothermic and Exothermic**

**Science**