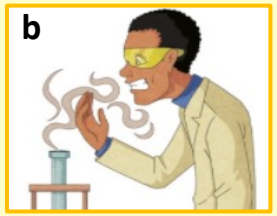
Chemistry 1.3 - Reactions

Section 1: Chemical Reactions

Key Word	Definition
1. Chemical reaction	A change in which atoms are **rearranged** to create new substances. The atoms are joined together in one way before the reaction, and a different way after the reaction. All Chemical reactions make new substances, and transfer energy to or from the surroundings.
2. Reversible	Most chemical reactions are not easily **reversible**. This means you cannot easily get back what you started with.
3. Catalyst	A **catalyst speeds** up the **reaction**, but is **not used up** in the reaction (you get it back at the end).
4. Physical change	Changes of state and dissolving are **physical** changes. You can get back what you started with.

5. How do you know a chemical reaction has happened?
   a) You can **feel** it – it gets hotter or colder.
   b) You can **smell** it – it might smell sweet, or horrible!
   c) You can **see** it – there might be huge flames or a tiny spark
   d) You can **hear** it – there might be a loud bang, or gentle fizzing



Section 2: Word Equations

Key Word	Definition
6. Reactant	A **starting** substance in a chemical reaction
7. Product	A substance that is **made** in a chemical reaction
8. Hazard	A possible source of **danger**
9. Risk	The **chance** of damage or injury from a hazard

The arrow means ***reacts to make***

$$magneisum + oxygen \longrightarrow magnesium\ oxide$$

Reactants on the left

products on the right

Section 3: Burning Fuels

Key Word	Definition
12. Fuel	A material that **burns** to transfer **useful energy**.
13. Combustion	A chemical reaction in which a substance **reacts** quickly with **oxygen** and gives out **light** and **heat**.
14. Fossil Fuel	A fuel made from the remains of animals and plants that died millions of years ago. For example **coal**, **oil** and **gas**.
15. Non-Renewable	Fuels that will eventually **run out.**
16. Oxidation	A chemical reaction in which substances react with **oxygen** to form **oxides**.

Section 4: Thermal Decomposition

Key Word	Definition
18. Decomposition	A chemical reaction in which a compound **breaks down** to form simpler compounds and or elements.
20. Discrete Variables	A **discrete variable** that can only have **certain values**, such as shoe sizes or eye colour.

Section 5: Conservation of Mass

Key Word	Definition
23. Conservation of mass	In a chemical reaction, the **total mass** of **reactants** is **equal** to the **total mass** of the **products**. Mass is conserved in chemical reactions and in physical changes.
24. Balanced symbol equations	In a **balanced symbol equation**, chemical formulae represent the **reactants** and **products**. The equation shows how **atoms** are **rearranged**, and gives the **relative amounts** of reactants and products.

Section 6: Exothermic and Endothermic

Key Word	Definition
26. Exothermic Change	An **exothermic** change transfers energy **to** the surroundings.
27. Endothermic Change	An **endothermic** change transfers energy **from** the surroundings.