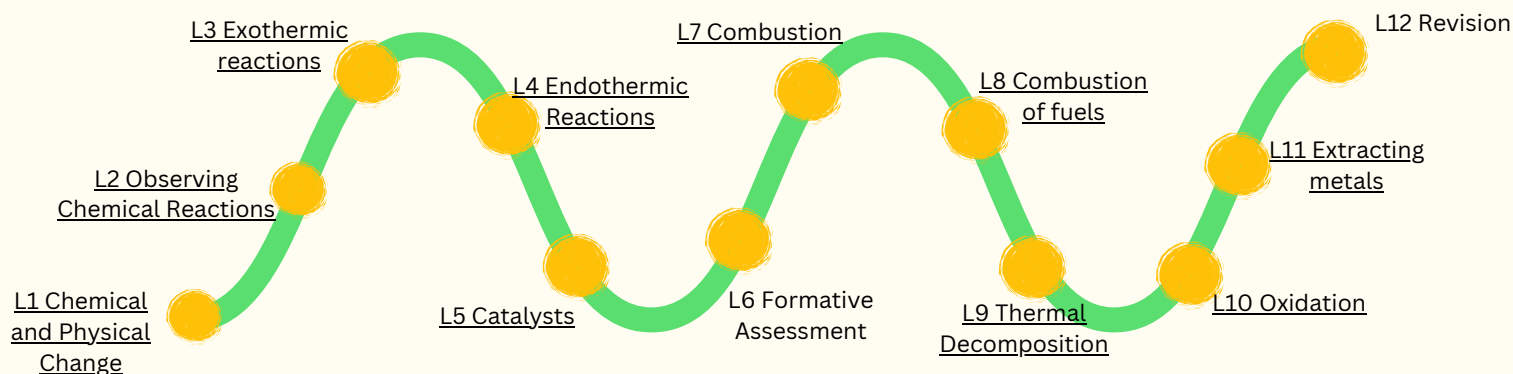


Yr8 Chemical Reactions and Energy

Chemistry

In this unit, you will learn to distinguish between chemical and physical changes and recognise evidence that a chemical reaction has occurred. You will explore different types of chemical reactions, including exothermic and endothermic processes, combustion, thermal decomposition, oxidation, and metal extraction, and investigate the role of catalysts in speeding up reactions. You will consider the uses and impacts of these reactions in everyday life and industry, developing practical skills in observing, recording, and evaluating chemical changes.



Prior learning link: KS2 States of Matter, Properties and Changes of Materials

Key words

- **Chemical change** – A change where a new substance is formed with different properties from the original.
- **Physical change** – A change that does not produce a new substance, often reversible (e.g. melting, boiling).
- **Reactants** – Substances that take part in a chemical reaction.
- **Products** – New substances formed during a chemical reaction.
- **Exothermic reaction** – A reaction that releases energy, usually as heat or light.
- **Endothermic reaction** – A reaction that absorbs energy from its surroundings.
- **Catalyst** – A substance that speeds up a chemical reaction without being used up.
- **Combustion** – A chemical reaction where a substance reacts with oxygen, releasing energy.
- **Complete combustion** – Combustion with enough oxygen, producing carbon dioxide and water.
- **Incomplete combustion** – Combustion with insufficient oxygen, producing carbon monoxide and/or soot.
- **Thermal decomposition** – A reaction where heat breaks a compound down into simpler substances.
- **Oxidation** – A reaction where a substance gains oxygen or loses electrons.
- **Extraction of metals** – The process of obtaining metals from ores, often using reduction with carbon or electrolysis.

Revision Resources

[BBC KS3 Chemical Reactions](#)