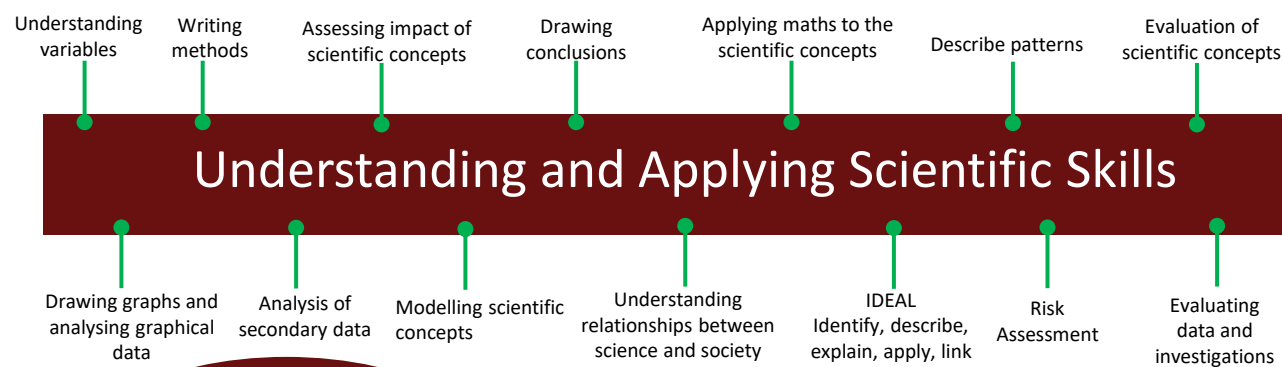


# GCSE CHEMISTRY LEARNING JOURNEY (combined science)



**GCSE Combined science Examinations**

**A-Level Chemistry & Beyond**

**Revision**

Life cycle assessments



Atmospheric pollutants

Global climate change



Greenhouse gases



Le Chatelier principle (HT)

Equilibrium



From products to reactants

**Chemistry of the atmosphere**

**Reversible Reactions**

Waste water treatment

Reducing waste

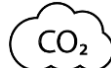


Carbon footprint



Human impacts

The early atmosphere



Alkane

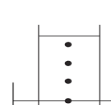


Alkene



Alkanes

Cracking & alkenes



RP-Chromatography

Changing yields of reactions

Gas tests for H<sub>2</sub>, CO<sub>2</sub>, Cl<sub>2</sub> & O<sub>2</sub>

**Chemical Analysis**



Purity & formulations

**Metal Extraction**

**Organic Chemistry**

Electrolysis of pure compounds

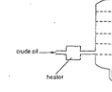


RP - Making pure salt crystals

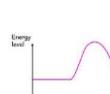


Crude oil & hydrocarbons

Fractional distillation



Bond energies (HT)



Activation energy

Exothermic vs Endothermic

**Year 11**

**Salts**

**Rates of reactions**

**Energy in reactions**

Neutralisation

RP - Making pure salt crystals

RP - Measuring factors affecting rate

Catalysts

Collision theory

Bond energies (HT)

Activation energy

Exothermic vs Endothermic

Acids, alkalis & pH

Reactions which produce salts

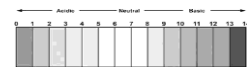
Calculating rates of reaction

Factors effecting rates of reaction

RP - Measuring temperature changes

Reaction profiles

Limiting reactants (HT)



Properties of metals

Properties of simple molecules



Conservation of mass

Percentage composition



Moles calculations (HT)

Limiting reactants (HT)

**Atoms and the periodic table**

**Chemical bonds**

**Quantitative Chemistry**

Noble Gases



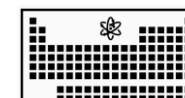
Halogens

Alkali metals

Explaining reactivity

Patterns in the table

Evolving models of the atom continued



Changing atoms to ions

Properties of ionic compounds

Properties of metals

Properties of simple molecules

Conservation of mass

Percentage composition

Moles calculations (HT)

Limiting reactants (HT)

Ionic bonding & structure

Metallic bonding & structure

Covalent bonding & structure

Giant covalent structures

Relative formula mass

Concentrations of solutions

Concentrations of solutions

Development of the Periodic table

Structures of atoms

Structures of atoms

Structures of atoms

Structures of atoms

Structures of atoms

Structures of atoms

2:1

Relative formula mass

Concentrations of solutions



## Combined science Specification

<https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464>

### Chemistry topics

- C1. Atomic structure and the periodic table
- C2. Bonding, structure, and the properties of matter
- C3. Quantitative chemistry
- C4. Chemical changes
- C5. Energy changes
- C6. The rate and extent of chemical change
- C7. Organic chemistry
- C8. Chemical analysis
- C9. Chemistry of the atmosphere
- C10. Using resources

### Assessments

#### Paper 1

- What's assessed?
1. Atomic structure and the periodic table
  2. Bonding, structure, and the properties of matter
  3. Quantitative chemistry
  4. Chemical changes
  5. Energy changes

#### Paper 2

- What's assessed?
6. The rate and extent of chemical change
  7. Organic chemistry
  8. Chemical analysis
  9. Chemistry of the atmosphere
  10. Using resources

### How is it assessed?

6 x Written exams, 1 hour 15 minutes each (2x Biology, 2x Chemistry, 2x Physics) 2 GCSEs Total

Choice of higher or foundation tiers  
70 marks per paper  
Multiple choice, structured, closed short answer and open response extended answer questions