

# Separate Sciences

## Chemistry Curriculum Grid



**Examination Board:** Edexcel

**Further Information:** <https://qualifications.pearson.com/en/qualifications/edexcel-gcses/sciences-2016.html#tab-Chemistry>

**Additional Support:** <https://www.bbc.com/bitesize/examspecs/zy984j6>

### Chemistry GCSE

**Topic 1** – Key concepts in chemistry  
**Topic 2** – States of matter and mixtures  
**Topic 3** – Chemical changes  
**Topic 4** – Extracting metals and equilibria  
**Topic 5** – Separate chemistry 1

**Topic 6** – Groups in the periodic table  
**Topic 7** – Rates of reaction and energy changes  
**Topic 8** – Fuels and Earth science  
**Topic 9** – Separate chemistry 2 (Topics 5 and 9 are only studied in the GCSE Chemistry Course)

### Written Assessment

Students will sit 2 externally examined papers at the end of Year 11.  
 All papers are out of 100 marks and are 1 hour and 45 minutes in length.  
 Each paper contributes 50% of the Chemistry GCSE  
 Paper 1: Chemistry 1 – Topics 1, 2, 3, 4 and 5  
 Paper 2: Chemistry 2 – Topics 1, 6 – 9  
 Each paper consists of a mixture of different question styles, including multiple-choice questions, short answer questions, calculations and extended open-response questions.

### Core Practicals

Students must carry out all eight of the mandatory core practicals listed below.

2.11 Investigate the composition of inks using simple distillation and paper chromatography

3.6 Investigate the change in pH on adding powdered calcium hydroxide or calcium oxide to a fixed volume of dilute hydrochloric acid

3.17 Investigate the preparation of pure, dry hydrated copper sulfate crystals starting from copper oxide including the use of a water bath

3.31 Investigate the electrolysis of copper sulfate solution with inert electrodes and copper electrodes

5.9C Carry out an accurate acid-alkali titration, using burette, pipette and a suitable indicator

7.1 Investigate the effects of changing the conditions of a reaction on the rates of chemical reactions by:

a. Measuring the production of a gas (in the reaction between hydrochloric acid and marble chips)

b. Observing a colour change (in the reaction between sodium thiosulfate and hydrochloric acid)

9.6C Identify the ions in unknown salts, using the tests for the specified cations and anions in 9.2C, 9.3C, 9.4C, 9.5C

9.28C Investigate the temperature rise produced in a known mass of water by the combustion of the alcohols ethanol, propanol, butanol and pentanol.

Students will need to use their knowledge and understanding of these practical techniques and procedures in the written assessments.

### Year 10

**Autumn Term:** SC1 States of Matter, SC2 Separating and Purifying Substances, SC3 Atomic structure, SC4 The periodic table, SC5 Ionic bonding, SC6 Covalent bonding, SC7 Types of substance

**Spring Term:** SC8 Acids, SC9 Calculations involving masses, SC10 Electrolytic processes, SC11 Obtaining and using metals, SC12 Reversible Reactions and Equilibria

**Summer Term:** SC13 Transition metals, alloys and corrosion, SC14 Quantitative analysis, SC15 Dynamic equilibria and calculations involving volumes of gases, SC16 Chemical cells and fuel cells,

**Year 11**

**Autumn Term:** SC17 Groups in the periodic table, C18 Rates of reaction, SC19 Heat changes in chemical reactions, SC20 Fuels, C21 Earth and atmospheric science, SC22 Hydrocarbons, SC23 Alcohols and Carboxylic Acids, SC24 Polymers

**Spring Term:** SC25 Qualitative analysis, SC26 Bulk and surface properties of matter including nanoparticles

**Summer Term:** Revision