



# IGCSE Chemistry 0620

## Curriculum Content

As opposed to co-ordinated science program, Chemistry 0620 provides an opportunity for students to explore and learn Chemistry at a much greater depth. This serves as a springboard for students who are planning to go into medical, engineering or technical field to be able experience and learn Chemistry in greater detail. The course is taught by unit and at the end of each unit, students are assessed internally to ensure that students understand what they have been learning. The end of unit assessment gives essential feedback to students, teachers and parents on the student's progress. The course requires students to conduct weekly experimental work in the school's laboratory to enforce on the learning.

The Curriculum content below is a guide to the areas on which candidates are assessed. Students may follow the Core curriculum only **or** they may take the Extended curriculum, which includes both the Core and the Supplement.

Topic	Content
States of matter	Solids, liquids, gases, particle theory
Separating substances	Mixtures, solutions and solvents, separation methods, paper chromatography
Atoms and elements	Atoms, elements, isotopes, radioactivity, electrons arrangement, atomic model, metals and non-metals
Atoms combining	Compounds, mixtures, and chemical change, ionic bond, covalent bond, covalent compounds, comparing ionic and covalent compounds, giant covalent structures, bonding in metals
Reacting masses and chemical equations	Names and formula of compounds, equations for chemical reactions, masses of atoms, molecules, and ions, calculations about masses and percentages
Using moles	The mole, calculations from equations using the mole, reactions involving gases, concentration of a solution, finding the empirical formula, finding final formula, finding percentage yield, and percentage purity
Redox reactions	Oxidation and reduction, redox and electron transfer, redox and changes in oxidation state, oxidising and reducing agents

### Affiliations





Topic	Content
Electricity and chemical change	Conductors and insulators, principles of electrolysis, reactions at the electrodes, electrolysis of brine, uses of electrolysis
Energy changes and reversible reactions	Energy changes in reactions, fuels energy, energy as electricity, reversible reactions, shifting equilibrium
The speed of a reaction	Rates of reaction, measuring rate of reaction, changing rate of reaction, explaining rates, catalysts, photochemical reactions
Acids and bases	Acids and alkalis, reactions of acids and bases, neutralisation, oxides, making salts, insoluble salts by precipitation, titration
The Periodic Table	Periodic Table, alkali metals, halogens, noble gases, transition elements
The behavior of metals	Metals, comparing metals for reactivity, metals in competition, reactivity series
Making use of metals	Metals found on earth, extracting metals, extracting iron, extracting aluminum, metal alloys, steels and steel-making
Air and water	Making use of air, pollution, rusting problem, water supply, living in space
Some non-metals and their compounds	Hydrogen, nitrogen, ammonia, making ammonia in industry, fertilisers, sulfur and sulfur dioxide, sulfuric acid, carbon and carbon cycle, carbon compounds, greenhouse gases, global warming, limestone
Organic chemistry	Petroleum, refining petroleum cracking hydrocarbons, organic compounds, alkanes, alkenes, alcohols, carboxylic acids
Polymers	Polymers, addition polymerization, condensation polymerization, use of synthetic polymers, plastics, macromolecules in food, breaking down of macromolecules

#### Affiliations





## Assessment

---

Cambridge IGCSE Chemistry students are awarded grades ranging from A\* to G.

Students expected to achieve grades D, E, F or G, study the Core Curriculum only and are eligible for grades C to G.

Students expected to achieve grade C or higher should study the Extended Curriculum, which comprises the Core and Supplement Curriculums; these candidates are eligible for all grades from A\* to G.

All students must take **three** papers.

All Candidates Must Take:	
<b>Paper 1 (45 minutes)</b> Multiple choice question paper weighted at 30%	
and either:	or:
<b>Paper 2 (1 hour 15 minutes)</b> Core theory paper weighted at 50%	<b>Paper 3 (1 hour 15 minutes)</b> Extended theory paper weighted at 50%
<b>Paper 6 (1 hour)</b> Alternative to practical weighted at 20%	