

# SCIENCE IGCSES

---

**Exam board:** Cambridge International Examinations

**All students will study Biology, Chemistry and Physics, leading to one or more of the following qualifications.**

During the course, candidates will be advised whether they should sit:

**Combined Science (one IGCSE)  
Coordinated science (2 IGCSEs)  
Or three separate sciences (3 IGCSEs).**

This will depend on their aptitude for the subjects and their career aims. Students aiming for medical careers should take 3 separate science IGCSEs.

As the GCSE courses are currently under review for the educational reforms in 2017 there will be some minor changes to the course outlines. However these changes do not affect the content taught on the course.

## **Combined Science IGCSE** Single Science (1 IGCSE grade)

---

**Assessment:** three exam papers taken at the end of the course.

**Alternative to practical (20%)** 1 hr – a written paper that tests the practical skills learnt during the course.

**Multiple choice (30%)** 45 minutes – 40 multiple choice questions, one-third each on Biology, Chemistry and Physics.

**Written paper (50%)** 1 hr 15 minutes – structured questions on Biology, Chemistry and Physics. This paper can be core level (grades C to G) or extended level (grades A\* to G).

**Combined science** covers key areas of Biology, Chemistry and Physics.

**Biology:** cells, human nutrition, plant nutrition (photosynthesis), transport in humans (heart, blood and circulation), transport in plants, gas exchange in humans, respiration, human hormones, asexual and sexual reproduction, reproduction in plants, reproduction in humans, ecosystems (food chains and energy transfer).

**Chemistry:** atoms and molecules, Periodic table, ionic and covalent bonds, chemical equations, electricity and chemistry, reaction speeds, acids and bases, identifying ions and gases, properties of metals, organic chemistry (fuels and hydrocarbons).

**Physics:** motion, matter and forces, energy, work and power, states of matter, energy transfer (conduction, convection, radiation), waves, light, the electromagnetic spectrum, electricity.

## **Coordinated Science IGCSE** Double science (2 IGCSE grades)

---

**Assessment:** three exam papers taken at the end of the course.

**Alternative to practical (20%)** 1 hr – a written paper that tests the practical skills learnt during the course.

**Multiple choice (30%)** 45 minutes – 40 multiple choice questions, one-third each on Biology, Chemistry and Physics.

**Written paper (50%)** 2 hrs – structured questions on Biology, Chemistry and Physics. This paper can be taken at core level (grades CC to GG) or extended level (grades A\*A\* to GG).

**Coordinated science** covers all the topics in the combined science IGCSE, but in greater depth. It also includes extra topics outlined below. The course leads to two science IGCSEs.

**Biology:** the nervous system, homeostasis, genetics and inheritance, cell division, variation and selection.

**Chemistry:** giant structures, the mole, air and water, sulfur, carbonates, alcohols, macromolecules and synthetic polymers.

**Physics:** equilibrium, pressure and pressure changes, thermal expansion, thermal capacity, melting and boiling, magnetism, electromagnetic effects, radioactivity

# TRIPLE SCIENCE

---

These qualifications give students an excellent foundation for continued study of these subjects at A Level.

## BIOLOGY IGCSE

---

**Assessment:** three exam papers taken at the end of the course

**Alternative to practical (20%)** 1 hr – a written paper that tests the practical skills learnt during the course.

**Multiple choice (30%)** 45 minutes – 40 multiple choice questions.

**Written paper (50%)** 1 hr 15 minutes – structured questions. This paper can be taken at core level (grades C to G) or extended level (grades A\* to G).

**Syllabus:** characteristics and classification of living organisms; organisation of the organism; movement in and out of cells; biological molecules; enzymes; plant nutrition; human nutrition; transport in plants; transport in animals; disease and immunity; gas exchange in humans; respiration; excretion in humans; coordination and response; drugs; reproduction; genetics and inheritance; variation and selection; organisms and their environment; biotechnology and genetic engineering; human influences on ecosystems.

## CHEMISTRY IGCSE

---

**Assessment:** three exam papers taken at the end of the course.

**Alternative to practical (20%)** 1 hr – a written paper that tests the practical skills learnt during the course.

**Multiple choice (30%)** 45 minutes – 40 multiple choice questions.

**Written paper (50%)** 1 hr 15 minutes – structured questions. This paper can be taken at core level (grades C to G) or extended level (grades A\* to G).

**Syllabus:** the particulate nature of matter; experimental techniques; atoms, elements and compounds; stoichiometry; electricity and chemistry; chemical energetics; chemical reactions; acids, bases and salts; the Periodic table; metals; air and water; sulfur; carbonates; organic chemistry.

## PHYSICS IGCSE

---

**Assessment:** three exam papers taken at the end of the course.

**Alternative to practical (20%)** 1 hr – a written paper that tests the practical skills learnt during the course.

**Multiple choice (30%)** 45 minutes – 40 multiple choice questions.

**Written paper (50%)** 1 hr 15 minutes – structured questions. This paper can be taken at core level (grades C to G) or extended level (grades A\* to G).

**Syllabus:** General Physics – length and time, motion, mass and weight, density, forces, momentum, energy, work and power, pressure; thermal physics; properties of waves, including light, electromagnetic spectrum and sound; electricity and magnetism; atomic physics – the nuclear atom and radioactivity.