

CAMBRIDGE IGCSE

Physics 0625

Syllabus Overview

Examinations 2026, 2027 and 2028

Understanding the whole syllabus

Scientific ideas become useful when they explain observations and predict what may happen in a new situation. The syllabus links factual knowledge with models, calculations and evidence. Practical skills run through the subject: measurements, variables, graphs and evaluation belong alongside the theory they help you understand.

For Physics 0625, the content map below follows the approved subject briefing and the official syllabus. Labels group related areas for orientation; the detailed syllabus remains the authority for individual learning requirements.

Content map

Syllabus area or component	What the area covers
Six connected physical areas	The syllabus covers six main areas.
1-3: Mechanics, thermal physics and waves	You will study motion, forces and energy, including speed, acceleration, momentum, work, power and energy resources. Thermal physics examines particles, temperature and heat transfer. The study of waves includes light, sound and the electromagnetic spectrum.
4-6: Electricity, nuclear and space physics	You will then explore electricity and magnetism through circuits, electrical quantities, electromagnetic effects and applications. Nuclear physics introduces atomic structure, radioactivity and nuclear processes, while space physics examines the Solar System, stars and the development of the Universe.
Scientific reasoning and investigation	Across these topics, you will learn to recall and apply scientific knowledge, perform calculations, interpret graphs and data, plan investigations, evaluate methods and draw conclusions from evidence.

These areas should be read as a connected course. Begin with the foundational knowledge identified in the first part of the map, then build towards the applications and explanations that depend on it. Keep definitions, diagrams, calculations and investigation skills connected. Revisit measurements and graphs while studying each topic, rather than saving practical preparation until the end. Where a row describes a choice of topics or components, study the selection required by your agreed route rather than treating all alternatives as compulsory.

Qualification and component choices

Route	Content and components	Eligible grades
Core	Core content; Papers 1 and 3, plus either 5 or 6	C-G
Extended	Core and Supplement content; Papers 2 and 4, plus either 5 or 6	A*-G

Choose one route and one practical-assessment option with your examination centre. The written Alternative to Practical tests investigation skills; it does not remove the need to understand practical work.

The assessed skills

Assessment objectives describe the abilities Cambridge looks for across the qualification. The following explanations paraphrase the syllabus objectives; they are not additional topics or separate orientation tasks.

Assessment objective	Meaning for the learner
AO1 Knowledge with understanding	Select accurate subject knowledge, terminology and examples that answer the question, and explain their meaning.
AO2 Handling information and problem-solving	Interpret the information, apply an appropriate method and explain the relationships or reasoning that support the answer.
AO3 Experimental skills and investigations	Plan and understand methods, record and interpret observations, and evaluate the quality of an investigation.

These abilities work together in an answer. Accurate knowledge supports application, while a clear explanation shows how the evidence or method leads to a conclusion. The balance varies by component, so the next lesson connects these abilities with the actual assessment formats.

Key pointers: Follow the stated examination-year syllabus, cover the required areas for your route and develop skills alongside knowledge. **Next:** Open **Assessment Overview**.