

Switching Guide

International GCSE

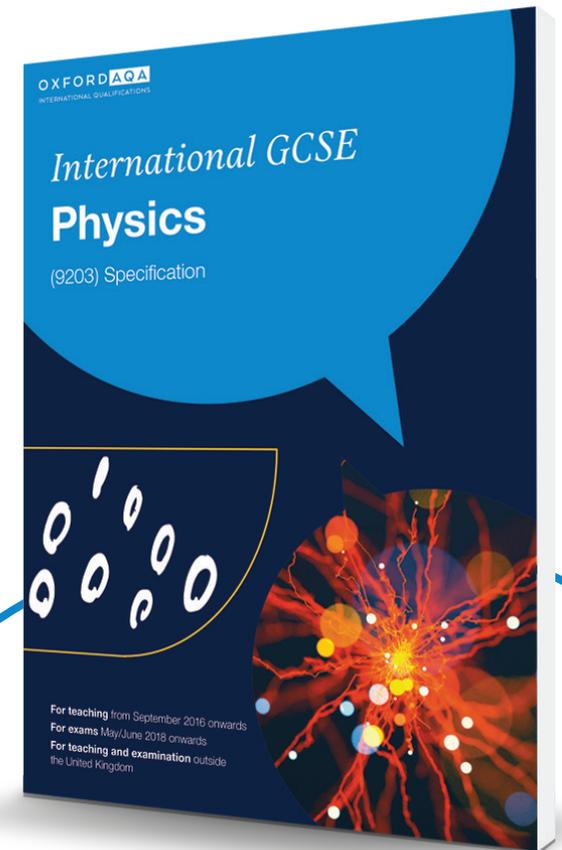
Physics

(9203)

**Switching from Pearson Edexcel or
Cambridge International to
OxfordAQA International Qualifications**

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At OxfordAQA
we put fairness first

Switching to OxfordAQA International GCSE Physics (9203)

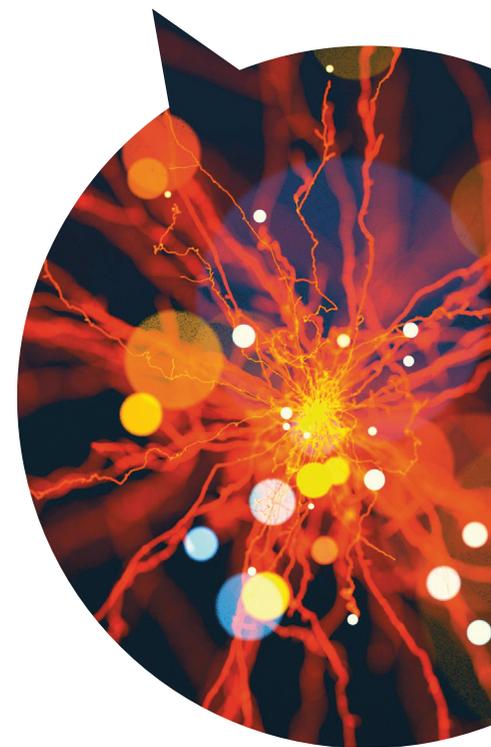
The **OxfordAQA International GCSE Physics** specification brings Physics to life for non-native English speakers, while teaching students to work scientifically. OxfordAQA have blended the best of the AQA specification, which is the most popular specification in England, with ideas, concepts and approaches to learning which make it appropriate for international schools.

Teachers will find the specification an ideal vehicle to make International GCSE Physics enjoyable and provide the right level of challenge. It allows a freedom to teach physics in a variety of ways and incorporates key themes and concepts throughout. It is the perfect platform to study at A-level.

Key features:

- Students are assessed fairly, with papers carefully designed to avoid cultural or linguistic bias.
- Practical components are flexible around local access to equipment and materials, with practical knowledge assessed through the main exam paper.
- Carefully balanced depth of content that includes topics which spark wonder and enthusiasm, such as space physics.

The international
exam board *that*
puts fairness first



Topic by topic comparison

OxfordAQA specification (9203) v4.2	Pearson Edexcel specification (4PH1)	Cambridge International specification (0625)
Overall structure		
<p>Split into eight topics:</p> <ul style="list-style-type: none"> • Forces and their effects • Energy • Waves • Particle model of matter • Electricity and magnetism • Generating and distributing electricity, and household use • Nuclear physics • Space physics <p>There are five required practical activities, which are contained within the body of the specification, but also given in an appendix.</p> <p>Practical is assessed throughout both exams. There is no separate practical exam.</p> <p>There are two exams, each 90 minutes in length, which are equally weighted. Paper 1 has more of a focus on recall, with Paper 2 being more focused on application and evaluation.</p> <p>The exams are not tiered and cover grades 9–1, with 9 being the highest.</p>	<p>Split into eight topics:</p> <ul style="list-style-type: none"> • Forces and motion • Electricity • Waves • Energy resources and energy transfer • Solids, liquids and gases • Magnetism and electromagnetism • Radioactivity and particles • Astrophysics <p>Students have to be able to describe 11 experiments – knowledge of the practicals and the ability to interpret data resulting from these is required for the exams.</p> <p>There are two exams, one of 120 minutes which is common to the Pearson Edexcel International GCSE in Science (double award) – 4SD0 (worth 61.1% of the marks for the qualification) and one of 60 minutes, which is unique to the GCSE in physics (worth 38.9% of the marks for the qualification).</p> <p>The question papers are not tiered, and cover grades 9–1, with 9 being the highest.</p>	<p>Split into five topics:</p> <ul style="list-style-type: none"> • General physics • Thermal physics • Properties of waves, including light and sound • Electricity and magnetism • Atomic physics <p>There are three exams:</p> <ul style="list-style-type: none"> • 45 minutes/40 marks multiple choice, available at either core or extension level (30% of total mark) • 75 minutes/80 marks short answer and structured questions, available at either core or extension level (50% of total mark) <p>and either:</p> <ul style="list-style-type: none"> • A practical test (75 minutes/40 marks), based on the experimental skills given in the specification, untiered (20% of total mark) • Alternative to practical paper, (60 minutes/40 marks), based on the experimental skills given in the specification, untiered (20% of total marks). <p>Students sitting the exams at core level can access grades 5–1 (or C – G), candidates sitting the exams at extension level can access 9–1 (or A*– G) but are intended for students working at grade 4 (C) or above.</p>

OxfordAQA specification (9203) v4.2	Pearson Edexcel specification (4PH1)	Cambridge International specification (0625)
Content	Coverage	Coverage
3.1.1 Forces and their interactions 3.1.2 Motion 3.1.3 Resultant forces 3.1.4 Momentum 3.1.5 Safety in public transport 3.1.6 Forces and terminal velocity 3.1.7 Centre of mass 3.1.8 Moments and levers	<p>These sections are covered in Edexcel Sections 1a to c. Coverage is very similar, with the following exceptions:</p> <ul style="list-style-type: none"> • OxfordAQA includes understanding of centre of mass and requires students to explain how to find this for a thin lamina with an irregular shape, whereas Edexcel discusses centre of gravity and does not include experimental determination. • OxfordAQA includes the delta symbol for equations that determine a rate of change, Edexcel does not. • The relationship $v^2 = u^2 + 2as$ is required by Edexcel, but not by OxfordAQA. 	<p>These sections are covered in Cambridge International Sections 1.1 to 1.6. Coverage is very similar, with the following exceptions:</p> <ul style="list-style-type: none"> • Cambridge International requires understanding of inertial mass, which is not included in OxfordAQA. • Hooke's law is core content for OxfordAQA (only supplemental in Cambridge International). • OxfordAQA does not include density and pressure. • OxfordAQA require explicit definitions of each of Newton's laws of motion. Cambridge International does not. • OxfordAQA includes a section on safety in public transport, which is designed to give practical applications for some of the physics covered in this section. • OxfordAQA has a slightly increased section on terminal velocity (which is only supplemental for Cambridge International), including streamlining. • Cambridge International only has momentum in the supplement section. This is extended to include impulse which is not required by OxfordAQA.

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3.2.1 Forces and energy 3.2.2 Energy transfers, conservation and dissipation of energy 3.2.3 Energy resources	These sections are covered in Edexcel topic 4. Coverage is very similar, with the following exceptions: <ul style="list-style-type: none"> • OxfordAQA includes a pendulum as an example of oscillating motion transferring energy between KE and GPE. • OxfordAQA includes the equation for the amount of elastic potential energy stored in a stretched spring. • OxfordAQA links friction with losses of energy. This is not included in Edexcel. • OxfordAQA defines efficiency in terms of power as well as energy. 	These sections are covered in Cambridge International topics 1.7 and 2.3. Coverage is very similar, with the following exceptions: <ul style="list-style-type: none"> • Equations for KE and GPE are only in the supplement section for Cambridge International. • OxfordAQA includes both quantitative and qualitative analysis for all students. All calculations are in the supplement sections for Cambridge International. • OxfordAQA includes a pendulum as an example of oscillating motion transferring energy between KE and GPE. • OxfordAQA includes the equation for the amount of elastic potential energy stored in a stretched spring.
3.3.1 General properties of waves 3.3.2 The electromagnetic spectrum 3.3.3 Sound and ultrasound 3.3.4 Reflection 3.3.5 Refraction and total internal reflection 3.3.6 Lenses and the eye	These sections are covered in Edexcel Section 3. The coverage is similar, with the following exceptions: <ul style="list-style-type: none"> • OxfordAQA includes understanding of what ultrasound is and how it is used, and more specific examples of uses of X-rays such as CT scans. • OxfordAQA includes study of the eye and relates properties of lenses to it, as well as understanding of how vision can be corrected, and a comparison of the structure of the eye and cameras. • The Edexcel specification includes analogue and digital signals, which is not included in OxfordAQA. • OxfordAQA includes diffraction of sound waves, diffraction is not included in Edexcel. 	These sections are covered in Cambridge International Section 3. The coverage is similar, with the following exceptions: <ul style="list-style-type: none"> • OxfordAQA requires students to interpret data from oscilloscope traces. • OxfordAQA includes uses of ultrasound and more specific examples of uses of X-rays such as CT scans. • OxfordAQA includes study of the eye and relates properties of lenses to it, as well as understanding of how vision can be corrected, and a comparison of the structure of the eye and cameras. • OxfordAQA includes diffraction of sound waves explicitly. Cambridge International has diffraction as a general property of waves. • Black body radiation and absorbing/emitting infrared radiation is included in this section in OxfordAQA, it is included with thermal properties for Cambridge International.

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3.4.1 Kinetic theory	This section is partially covered in Edexcel Section 5c. Calculations involving specific heat capacity are included in Edexcel, but not those involving specific latent heat of vaporisation, and specific latent heat of fusion. All of these are included in OxfordAQA.	Both OxfordAQA and Cambridge International include specific heat capacity, specific latent heat of vaporisation, and specific latent heat of fusion. The detail, and calculations are only in the supplement section for Cambridge International.
3.4.2 Energy transfers and particle motion	This section is partially covered in Edexcel Section 4b. In addition, the OxfordAQA specification includes energy transfer by evaporation and condensation, and discusses the factors affecting rates of heating. It also includes expansion of substances on heating.	This is almost entirely covered by sections 2.2 and 2.2. Both OxfordAQA and Cambridge International include energy transfer by conduction, convection, radiation, evaporation and condensation, and discusses the factors affecting rates of heating. They also include expansion of substances on heating.
3.5.1 Electrical circuits	This section is almost identical in content to Edexcel section 2 b). The major difference is that in the OxfordAQA, the term 'potential difference' (not 'voltage') will be used.	The Cambridge International specification (Section 4.2) goes into more detail than the OxfordAQA specification in this area. For example, Cambridge International distinguishes between EMF and PD, and includes galvanometers and bells in the circuit components students are required to know. It also includes potential divider, relay and digital circuits. These are not required by OxfordAQA.

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3.5.2 Magnetism and electromagnetism 3.6.1 Generating electricity 3.6.2 Electricity transmission and distribution 3.6.3 Using electricity in the home 3.6.4 The motor effect 3.6.5 Transferring electrical energy	<p>This content is covered in Sections 2b and 6 of the Edexcel specification.</p> <p>Almost everything in the Edexcel specification is also covered in the OxfordAQA specification, with the exception of the following which are not included in the OxfordAQA specification:</p> <ul style="list-style-type: none"> • The differences between magnetically hard and soft materials • Forces on charged particles in a magnetic field <p>The following topics are in the OxfordAQA specification, but not included in the Edexcel specification: kWh and the calculation of cost of electricity.</p>	<p>Basic permanent magnetism is covered in Cambridge International Section 4.3. Electromagnetic effects are covered in Cambridge International Section 4.6. The coverage in the two specifications is almost the same, with the exception of the following points:</p> <ul style="list-style-type: none"> • Cambridge International uses the wording 'e.m.f', whereas OxfordAQA use 'induced pd' at this level . • OxfordAQA includes kWh and the calculation of the cost of electricity, Cambridge International does not, as it has less content on 'using electricity in the home'. • Cambridge International does include the benefit of earthing metal cases but does not mention the idea of double insulation as OxfordAQA does.
3.7.1 Atomic structure 3.7.2 Ionizing radiation from the nucleus	<p>These topics are very similar to Edexcel Section 7.</p>	<p>This content is covered in Cambridge International Section 5. The content is similar, however Cambridge International also includes the deflection of particles in electrical and magnetic fields.</p>
3.7.3 Nuclear fission		<p>This is mentioned in Cambridge International Section 5.1.2. The OxfordAQA specification goes into more detail and requires details of nuclear power stations, for example moderators and control rods.</p>
3.7.4 Nuclear fusion		<p>This topic is mentioned in Cambridge International Section 5.1.2. The OxfordAQA specification includes more detail, for example the process of fusion, including the conditions required, and the release of energy in stars.</p>
3.8.1 Life cycle of a star	<p>These sections are covered in Edexcel topic 8c.</p> <p>Coverage is very similar, with the following exceptions: Edexcel includes the Hertzsprung-Russell diagram, whilst OxfordAQA requires students to be familiar with simpler charts.</p>	<p>This topic is not covered in the Cambridge International specification. The OxfordAQA specification includes life cycle to cover gravitational attraction of dust and gas, main sequence, fusion, red giants, red super giants, neutron stars and black holes.</p>

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3.8.2 Solar system and orbital motion	This topic is similar to the Edexcel specification Section 8b. However, the Edexcel specification also includes the orbital speed equation, whereas the OxfordAQA specification includes the concept of centripetal force (not the equation).	This topic is not covered in the Cambridge International specification. The OxfordAQA specification includes the objects that make up the solar system, and centripetal force (concept, not equation).
3.8.3 Red shift and the expanding universe	This topic is similar to the Edexcel specification Section 8d. However, the Edexcel specification also includes calculations for the change of wavelength of the light emitted by a moving galaxy, which OxfordAQA does not.	This topic is not covered in the Cambridge International specification. The OxfordAQA specification includes the Doppler effect, red shift, cosmic microwave background radiation and the big bang theory.

At OxfordAQA *we put fairness first*

Thank you for your interest in OxfordAQA, the international exam board that puts fairness first.

Benchmarked to UK standards, our exams only ever test subject ability, not language skills or cultural knowledge.

This gives every student the best possible chance to show what they can do and get the results they deserve.



Get in touch

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