Physics

Course Length: Studied over two years
Examination Board: AQA
Course Leader: Mr R Meecham (meecham@queenelizabeths.derbyshire.sch.uk)

Why study Physics? Physicists use the laws they uncover to develop new materials, machinery, and technology to improve our lives and help us explore the universe further, from computers to telescopes and spacecraft. There is a wide range of careers, for example, nuclear physicists who study the tiniest particles of matter to discover what the universe is made of, to astrophysicists who study some of the largest things – stars, planets and celestial bodies.

Many physicists also combine their work with the other sciences (chemistry and biology) to study things like meteorology (the atmosphere) and geophysics (the structure of the earth).

Physics is a very useful subject for the majority of STEM (science, technology, engineering and maths) careers. Physics is especially helpful for jobs that involve building things and developing new technologies, including: engineering (flight, buildings, space), astronomy, robotics, renewable energies, computer science, communications, space exploration, science writing, sports and games technology, research and nanotechnology.

We highly recommend that students have a companion textbook for the duration of the two-year course. There are a variety of AQA endorsed books available from the major publishing houses, and we advise that students investigate which one suits them the best. Alternatively, QEGS Science department can provide a textbook, for a refundable deposit of £20.

Course Content

AS Content

Paper 1
- Measurements and their errors
- Particles and radiation
- Waves
- Mechanics and materials
- Electricity

Paper 2
- Measurements and their errors
- Particles and radiation
- Waves
- Mechanics and materials
- Electricity

A-Level Content

Paper 1
- Measurements and their errors
- Particles and radiation
- Waves
- Mechanics and materials
- Electricity
- Periodic motion

Paper 2
- Thermal Physics
- Fields and their consequences
- Nuclear physics

Paper 3
- Practical skills and data analysis

Plus 1 from the following list:
- Astrophysics
- Medical physics
- Engineering physics
- Turning points in physics
- Electronics

There is also an 'Endorsement of Practical Skills' which is awarded separately to the A-Level grade. This is assessed internally through 12 set practicals throughout the course.

Assessment

Paper	Title	Assessment	AS	A Level
1	Physics Paper 1	Written Exam: 1hr 30min	50%	-
2	Physics Paper 2	Written Exam: 1hr 30min	50%	-
1	Physics Paper 1	Written Exam: 2hr	-	34%
2	Physics Paper 2	Written Exam: 2hr	-	34%
3	Physics Paper 3	Written Exam: 2hr	-	32%