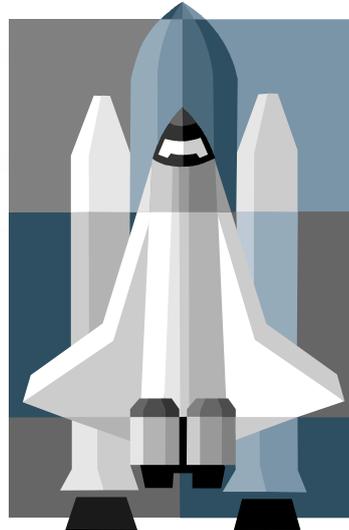




Coloma Sixth Form

PHYSICS



***"The important thing is to not stop questioning.
Curiosity has its own reason for existing."***

-Albert Einstein

Specification

We follow the AQA A-Level Physics specification (7408).

<http://filestore.aqa.org.uk/resources/physics/specifications/AQA-7407-7408-SP-2015.PDF>

Sections:

1. Measurements and their errors
2. Particles and radiation
3. Waves
4. Mechanics and materials
5. Electricity
6. Further mechanics and thermal physics
7. Fields and their consequences
8. Nuclear physics

Options:

You will also study *one* of the following topics:

- Astrophysics
- Medical physics
- Engineering physics
- Turning points in physics
- Electronics

Students will also complete 12 practical investigations, spanning all areas of the specification, which are assessed against the Common Practical Assessment Criteria (CPAC):

<http://filestore.aqa.org.uk/resources/physics/AQA-7407-7408-PHBK.PDF>

Assessment

2.3 A-level

Assessments

Paper 1	+	Paper 2	+	Paper 3
What's assessed Sections 1–5 and 6.1 (Periodic motion)		What's assessed Sections 6.2 (Thermal Physics), 7 and 8 Assumed knowledge from sections 1 to 6.1		What's assessed Section A: Compulsory section: Practical skills and data analysis Section B: Students enter for one of sections 9, 10, 11, 12 or 13
Assessed <ul style="list-style-type: none">• written exam: 2 hours• 85 marks• 34% of A-level		Assessed <ul style="list-style-type: none">• written exam: 2 hours• 85 marks• 34% of A-level		Assessed <ul style="list-style-type: none">• written exam: 2 hours• 80 marks• 32% of A-level
Questions 60 marks of short and long answer questions and 25 multiple choice questions on content.		Questions 60 marks of short and long answer questions and 25 multiple choice questions on content.		Questions 45 marks of short and long answer questions on practical experiments and data analysis. 35 marks of short and long answer questions on optional topic.

The sections in the table above refer to the specification:

<http://filestore.aqa.org.uk/resources/physics/specifications/AQA-7407-7408-SP-2015.PDF>

What could this qualification lead to?

Studying Physics will give you the opportunity to develop many transferable skills that are highly desired by Universities and employers. Here are some examples:

CAREERS

Research
Engineering
Law
Finance
Medicine
Industry
Computer Science
Astronomy
Journalism
Management
Education
Architecture

TRANSFERRABLE

SKILLS

Quantitative skills
Analytical skills
Problem solving
Communication
ICT skills
Group work
Research
Investigative skills
Practical skills

Relevant Links to Websites

<https://successatschool.org/advicedetails/224/Why-Study-Physics%3F>

<http://www.iop.org/careers/>

<http://www.physics.org/careers.asp?contentid=381>

Summer Work

Task 1

Write a 1200 word report on **ONE** of the following:

1. What happens at CERN and why?
2. How is Physics involved in sport? Choose a sport and explain the Physics principles and techniques that are behind it.
3. How are buildings designed to resist earthquakes?
4. How do MRI scanners work in hospitals?
5. Explain the Physics principles involved in the production, testing and packaging of chocolate-covered biscuits (viscosity, fluid flow and properties of materials).
6. Explain the production of sound by a musical instrument and the operation of a CD player.

Research your chosen question using the internet or books from the library.

The report should include:

- At least one labelled diagram
- Explanation of the related Physics theory
- References to cite your sources of information and dates you used it.

Ensure that you write the report in your own words, summarising the key points, without copying and pasting from websites.

Summer Work

Task 2

- Read the AQA “Transition Guide: Physics” at:
<http://filestore.aqa.org.uk/resources/physics/AQA-7407-7408-TG.PDF>
- Complete Activities 1- 8 from this guide (print out or write answers on lined paper).

Extra Suggestions for the Summer

Here is a list of *suggested*, optional activities that you could try over the summer, to enhance your learning in this subject and expand your knowledge and interest.

- Read the AQA specification for this course and highlight topics that you are most looking forward to learning about. Start researching these topics.
- Go to the Institute of Physics website and sign up for Qubit, which is a free e-newsletter with information and activities for A Level students.
- Watch one of the Schools Lectures from the Institute of Physics - http://www.iop.org/resources/videos/education/schools-and-colleges-lecture/page_50044.html
- Read “A Brief History of Time” by Stephen Hawking
- Read “The Elegant Universe “ by Brian Greene
- Read “Six Easy Pieces: Fundamentals of Physics Explained” by Richard Feynman
- Read Physics articles in “Physics World” or “New Scientist” magazines
- Visit the Science Museum or the Royal Observatory in London with your family.