Sixth Form Evening November 2023

Physics at St. Francis

Welcome

- Introduction to the department
- A-level break down and assessment
- PAGs and application
- St. Francis results and outcomes
- Entry requirements
- Career Pathways
- Questions

Science Department

Dedicated A-level Physics teachers:

Dr K. Berry H. Makibi

Current A-Level Physics A course

- Currently we have 11 year 13 students and 13 year 12 students studying the OCR – Physics A course

- Each student has 6 dedicated lessons per week on a fixed timetable as well as independent study.

A-level break down

- OCR – Physics A

- 6 individual modules.
- 3 formal exams taken at the end of the course in May/June.
- Modules 3, 4, 5 and 6 are the core modules.
- Modules 1 and 2 are assessed throughout within PAGs and also application of knowledge

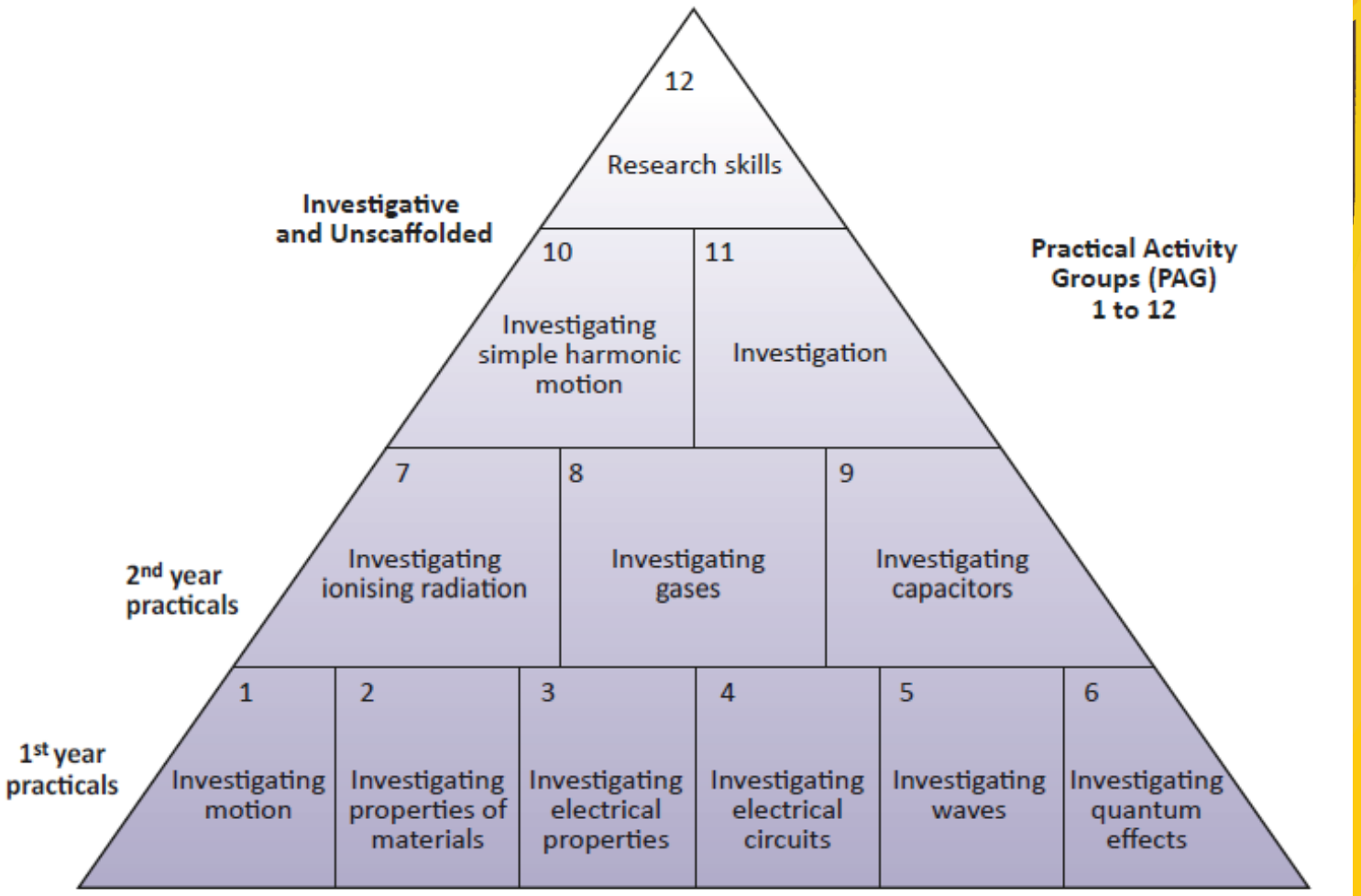
Content Overview	Assessment Overview	
Content is split into six teaching modules: • Module 1 – Development of practical skills in physics • Module 2 – Foundations of physics • Module 3 – Forces and motion • Module 4 – Electrons, waves and photons • Module 5 – Newtonian world and astrophysics • Module 6 – Particles and medical physics Component 01 assesses content from modules 1, 2, 3 and 5. Component 02 assesses content from modules 1, 2, 4 and 6. Component 03 assesses content from all modules (1 to 6).	Modelling physics (01) 100 marks 2 hours 15 minutes written paper	**37%** of total A level
	Exploring physics (02) 100 marks 2 hours 15 minutes written paper	**37%** of total A level
	Unified physics (03) 70 marks 1 hour 30 minutes written paper	**26%** of total A level
	Practical Endorsement in physics (04) (non exam assessment)	Reported separately (see Section 5g)

- **Module 1 – Development of practical skills in physics**
- 1.1 Practical skills assessed in a written examination
- 1.2 Practical skills assessed in the practical endorsement
- **Module 2 – Foundations of physics**
- 2.1 Physical quantities and units
- 2.2 Making measurements and analysing data
- 2.3 Nature of quantities
- **Module 3 – Forces and motion**
- 3.1 Motion
- 3.2 Forces in action
- 3.3 Work, energy and power
- 3.4 Materials
- 3.5 Newton's laws of motion and momentum
- **Module 4 – Electrons, waves and photons**
- 4.1 Charge and current
- 4.2 Energy, power and resistance
- 4.3 Electrical circuits
- 4.4 Waves
- 4.5 Quantum physics
- **Module 5 – Newtonian world and astrophysics**
- 5.1 Thermal physics
- 5.2 Circular motion
- 5.3 Oscillations
- 5.4 Gravitational fields
- 5.5 Astrophysics and cosmology
- **Module 6 – Particles and medical physics**
- 6.1 Capacitors
- 6.2 Electric fields
- 6.3 Electromagnetism
- 6.4 Nuclear and particle physics
- 6.5 Medical imaging

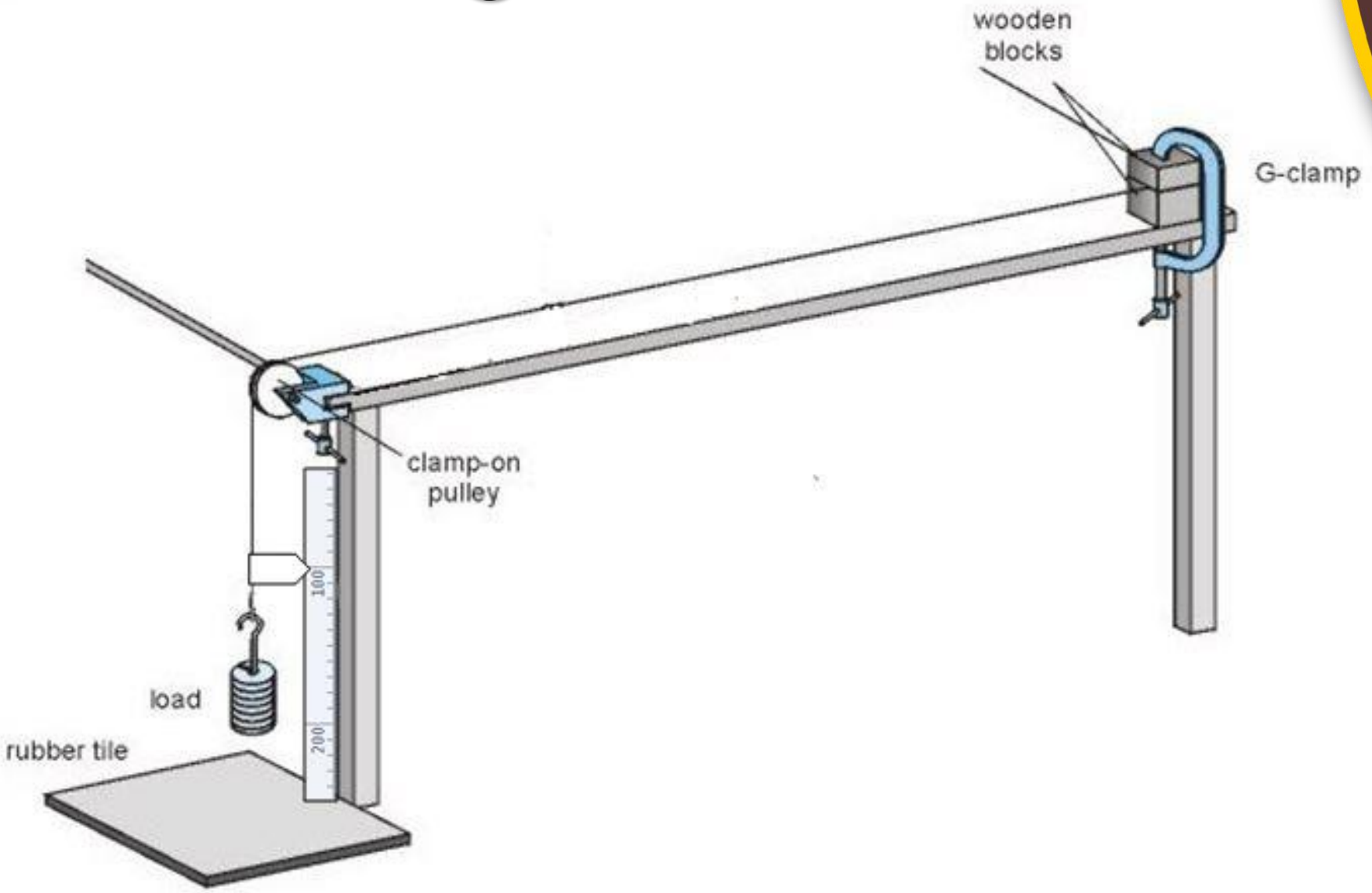
PAGs

Practical Activity Groups

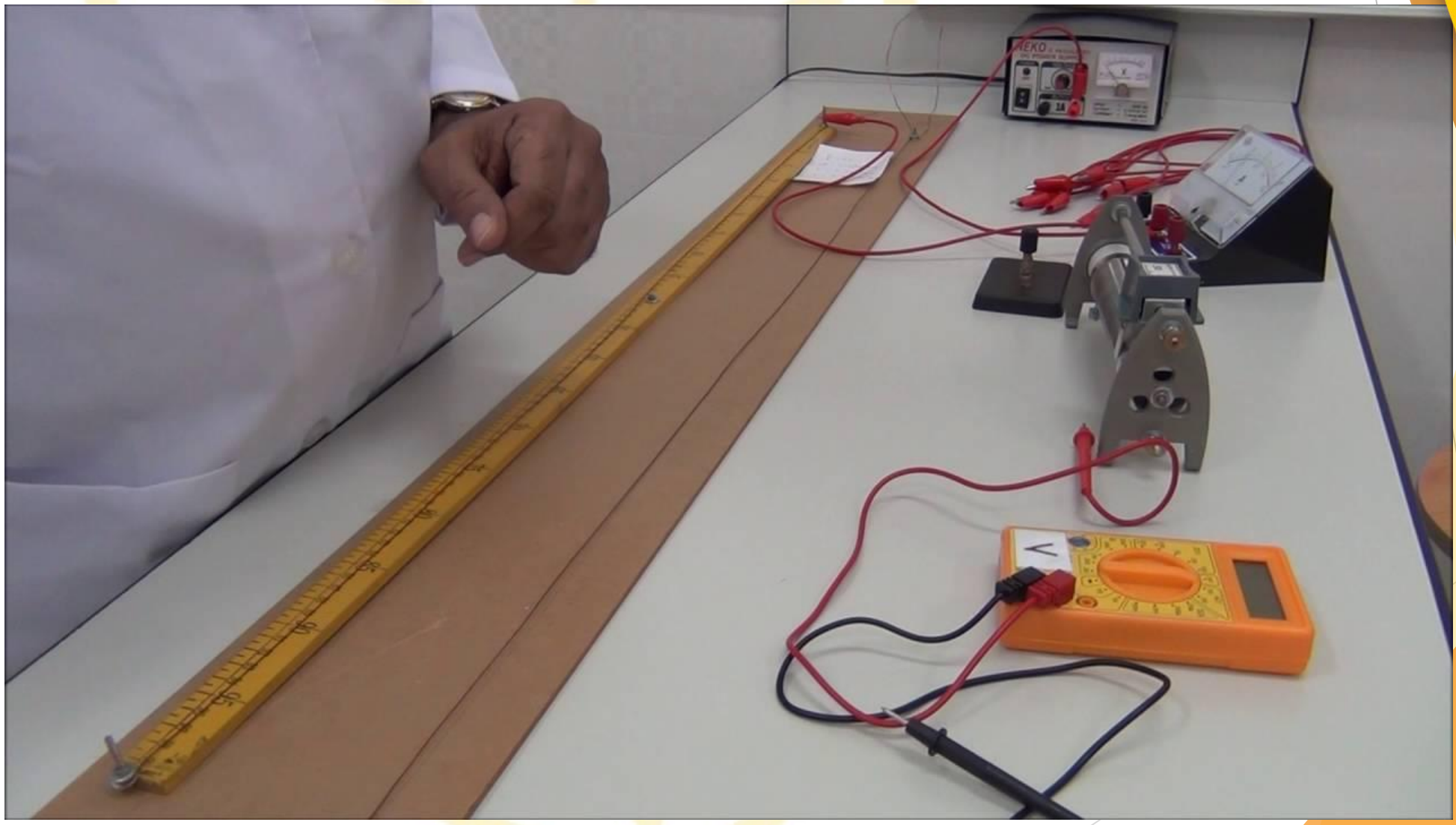
- Each PAG has 2 or 3 options for successful completion.
- Successful completion includes:
  - Completing practical
  - Recording results
  - Graphical analysis
  - Conclusive overview



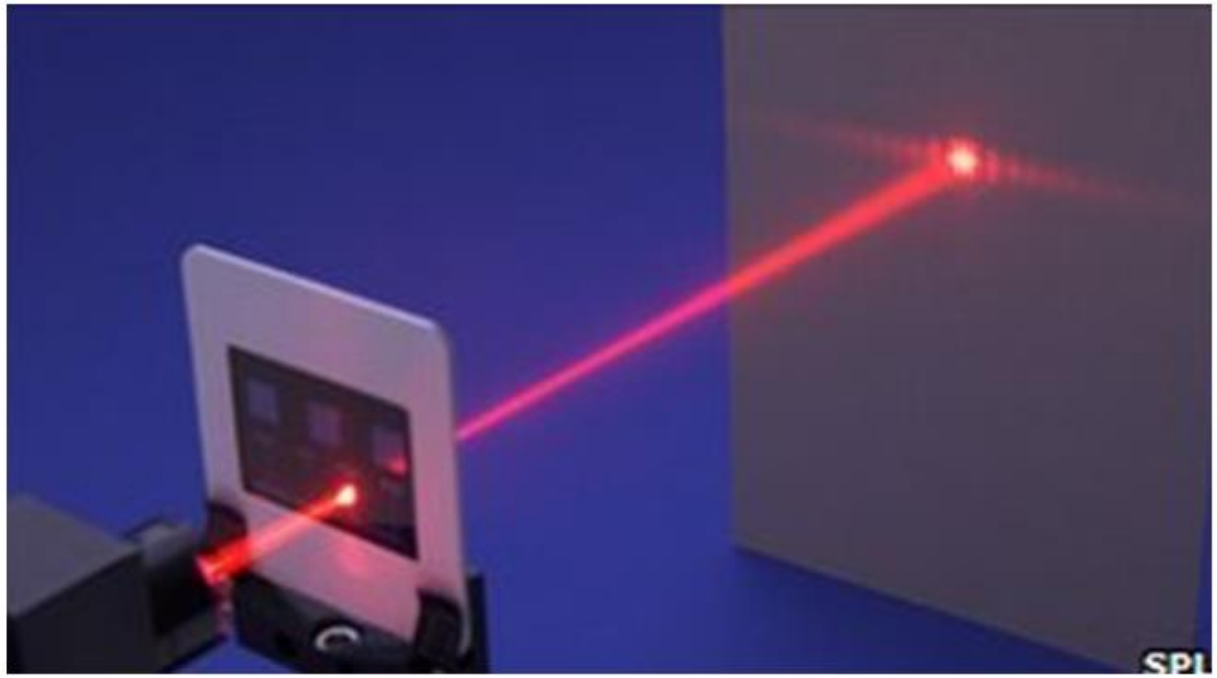
Pag 2.2 – Young's Modulus

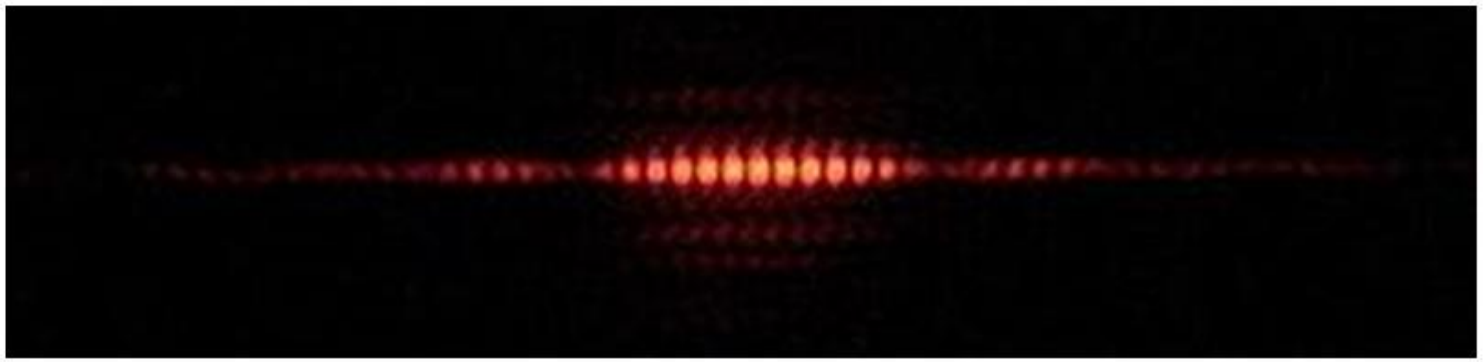


Pag 3.1 – Resistivity of a wire



Pag 5.1 – Determining wavelength of a laser using a diffraction grating





Pag 6.1 Investigating the randomness of radiation

Physics Specific Career Pathways

- Geophysicist/field seismologist
- Healthcare scientist, medical physics
- Radiation protection practitioner
- Research scientist (physical sciences)
- Scientific laboratory technician
- Secondary school teacher
- Meteorologist
- Operational researcher
- Systems developer
- Airline Pilot
- Aerospace engineer
- Software development
- Practical assessor
- Mathematics

Exam Results

2021 Y13 Results	A*	A	B	C	D	E	U	Total
Physics	1	1	0	2	0	0	0	4

2022 Y13 Results	A*	A	B	C	D	E	U	Total
Physics	0	2	0	1	1	1	0	5

2023 Y13 Results	A*	A	B	C	D	E	U	Total
Physics	1	2	3	4	0	2	1	13

Entry requirements:

To study one A Level science course, you will need to achieve a minimum of:

- 6, 6 in Combined Science.
- 6, 6, 6 in Biology, Chemistry and Physics.

To study two A level science courses, you will need to achieve a minimum of:

- 7, 6 in Combined Science.
- 7, 7, 6 in Biology, Chemistry and Physics, with a 7 in one of the subjects you want to study.

To study three A level science courses, you will need to achieve a minimum of:

- 8, 8 in Combined Science.
- 8, 8, 8 in Biology, Chemistry and Physics.

Questions?

- Thank you for your attendance

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