

Physics @ WBS Year 13 Roadmap

Subject Aim: To build on Year 12 knowledge in Physics and to understand and explore the topics of further mechanics, electromagnetic fields, particle physics, nuclear radiation, thermodynamics, space, gravitational fields and oscillations in depth. To be able to make links between topics, to confidently use mathematical, problem solving and practical skills and to work independently.

TTP & Autumn Term	Topic 1 – Further Mechanics
	Circular motion covers how objects move in a circular path, focusing on the idea that a force is always acting towards the centre to keep the motion going.
	Topic 2 – Electromagnetic Fields
	Electromagnetic fields cover how electric and magnetic fields are created and interact with charges and currents.
Spring Term	Topic 3 – Particle Physics
	Particle physics covers the fundamental particles that make up matter and the forces acting between them. You study quarks, leptons, and exchange particles, how they interact through the four fundamental forces.
	Topic 4 - Thermodynamics
	Thermodynamics covers how energy is transferred and transformed in systems involving heat and work. You study ideas like internal energy.
Summer Term	Topic 5 – Nuclear Physics
	Nuclear physics covers the structure and stability of atomic nuclei and the processes that change them. You study radioactive decay, nuclear reactions like fission and fusion.
	Topic 6 - Space
	Astrophysics covers the physics of stars, galaxies, and the universe.
	Topic 7 – Gravitational Fields
	Gravitational fields cover how masses create fields that attract other masses and influence motion.
	Topic 8 - Oscillations
	Oscillations cover repetitive motion about an equilibrium position, such as springs and pendulums

Assessment

There will be formal Key Assessments throughout Y13. You will be given the page references for the textbook that you need to use 2-3 weeks prior to the assessment. You should also use your SIS to help you to prepare. You will be expected to revise independently outside of lesson time. The second, third and fourth assessment in Year 13 will be mock exams.

Mock Y12 into Y13	25th June 2026
Key Assessment 1	3rd/4th November 2026
Key Assessment 2	5th/6th January 2027
Key Assessment 3	w/c 1st March 2027

Homework and Revision

Homework is set by your class teacher on Brightspace..

Announcements regarding Key Assessments will be made by the Head of Physics on Brightspace several weeks before the test date. You will also be told about this in lessons.

You are strongly advised to revisit your notes often throughout the year to consolidate your learning and to make assessment preparation as straightforward as possible.

Enrichment themes

We will highlight links to careers in Physics and Engineering throughout the year. You are encouraged to approach your Physics teachers for further advice on pursuing Physics at a higher level.

Where Next?

University degree, higher level Apprenticeship or gap year – enjoy!