

# Physics @ WBS Year 12 Roadmap

**Subject Aim:** To build on prior GCSE knowledge in Physics and to understand and explore the topics of mechanics, electric circuits, materials and waves in depth. To develop mathematical, problem solving and practical skills and to develop the ability to work independently.

|                           |                                                                                                                                                           |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Autumn Term               | <b>Topic 1 – Mechanics</b>                                                                                                                                |
|                           | In this topic you will learn about resolving vectors, the equations of uniform motion, moments, energy and power.                                         |
|                           | <b>Topic 2 – Electricity</b>                                                                                                                              |
|                           | In this topic you will study current, voltage and resistance, potential dividers, thermistors and LDR'S, semiconductors, resistivity and superconductors. |
| Spring Term & Summer Term | #                                                                                                                                                         |
|                           | <b>Topic 3 – Materials</b>                                                                                                                                |
|                           | In this topic you will learn about density and upthrust, Hooke's Law and Young's Modulus.                                                                 |
|                           | <b>Topic 4: Waves and the Nature of Light</b>                                                                                                             |
|                           | You will study wave basics, the behaviour of waves, optics and quantum physics in this topic.                                                             |
|                           | #                                                                                                                                                         |
|                           | #                                                                                                                                                         |
|                           | #                                                                                                                                                         |

## Assessment

There will be 3 formal Key Assessments in Y12. Each will be a test of all of the content you have covered up to that point in time. 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 third assessment in Year 12 will be a formal mock exam.

|                  |                           |
|------------------|---------------------------|
| Key Assessment 1 | 29th September 2026       |
| Key Assessment 2 | 26th January 2027         |
| Key Assessment 3 | 22nd/23rd April 2027      |
| Key Assessment 4 | End of June/start of July |

## 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?

Year 13 to continue your studies and to find out more about life after school.