Subject: KS4 Physics		**Year Group: 10**
Term 1 Key Focus/Topic(s) **Force and Motion** • Vector and scalars • Distance/velocity time graphs • Acceleration and velocity • Resultant forces	Term 2 Key Focus/Topic(s) **Force and Motion** • Newton's laws • Momentum	Term 3 Key Focus/Topic(s) **Radioactivity** • Atomic Model. • Background Radiation • Half-life
Term 1 Assessment Opportunities: • Classwork with a particular focus on literacy and mathematical skills in Physics. • Mini test.	Term 2 Assessment Opportunities: • Classwork with a particular focus on literacy and mathematical skills in Physics. • Newton 2nd investigation (core practical). • End of unit test.	Term 3 Assessment Opportunities: • Classwork with a particular focus on literacy and mathematical skills in Physics. • Half-life calculations
Term 4 Key Focus/Topic(s) **Radioactivity** • Dangers of radiation. • Nuclear Fission. • Nuclear Fusion *Combine students move on to Electricity (see term 5) spending some time revisiting the Year 9 electricity topics.*	Term 5 Key Focus/Topic(s) **Electricity** • Electricity Review of the Basics. • Resistance investigations. • Electrical Power • Calculating Electrical Energy • Mains Electricity	Term 6 Key Focus/Topic(s) **Electricity** • Electrostatics • Electric fields • Magnetic and Electric Fields. *Generally there is the scope during Term 6 to review and cover material where gaps have been identified in the Year 10 End-of-Year Exams. Time permitting, we also cover some of the Year 11 electricity work.*
Term 4 Assessment Opportunities: • Classwork with a particular focus on literacy and mathematical skills in Physics. • End of unit test.	Term 6 Assessment Opportunities: • Resistance investigations (core practical investigations). • End of year examination.	Term 6 Assessment Opportunities: • Classwork with a particular focus on literacy and mathematical skills in Physics.

Rationale:

The topics covered in Terms 1 and 2 complete the foundation work covered in Year 9. We finalise our Year 10 single and combined science sets at the end of Term 2. Consequently, the forces and motion topic is a common unit to both paths and all students must be taught this material. All of the topics covered in Year 10 (like the Year 11 material) requires higher levels of abstract thinking from students. For example when looking at the atomic model students have got to conceptualise the atom as being made up of a nucleus and electrons orbiting in distinct energy shell this requires students to grapple with the different atomic models suggested by J.J. Thomson, Ernest Rutherford and Niels Bohr.

In Year 10 Physics we place a particular focus on:

- Literacy skills – Students need to be able to write detailed explanations of scientific phenomenon by drawing on theory. This includes the structuring of written responses so that they are clear and detailed.
- Mathematical skills in Physics – applying different concepts and ideas to solve multi-step problems, using data to support their scientific conclusions.
- Practical Skills – Understanding the scientific method, processing and presenting data, forming conclusions.

Evaluation:

- Assessment opportunities will involve teacher, self and peer assessment. The assessment will focus around work produced in lessons where the students are required to demonstrate their literacy and/or numeracy skills as well as their scientific knowledge.
- Students should demonstrate good mathematical skills in Physics – solving multi-step problems.
- Practical work will be assessed through the two core practical investigations carried out in Year 10 (one at the beginning of the year and one at the end).
- Book scrutiny, lesson observations and collegial discussions will be used to quality assure teaching and learning. Qualitative observations will be made on students during all practical work particularly the two core practical investigations.