

Subject: KS4 Physics		Year Group: 9
Term 1 Key Focus/Topic(s) Waves & EM Spectrum <ul style="list-style-type: none"> • Properties of waves • Speed of sound • Reflection and refraction 	Term 2 Key Focus/Topic(s) Waves & EM Spectrum <ul style="list-style-type: none"> • Transmission and absorption • EM Waves • IR Thermal Radiation 	Term 3 Key Focus/Topic(s) Electrical Circuits <ul style="list-style-type: none"> • Basic circuits. • PD and current. • Ohm's law • Series and parallel circuits.
Term 1 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on mathematical skills in Physics. • Sound investigations investigation (core practical). 	Term 2 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on mathematical skills in Physics. • Thermal energy investigation (core practical). • Waves End of unit test. 	Term 3 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on mathematical skills in Physics. • Mini test.
Term 4 Key Focus/Topic(s) Electrical Circuits <ul style="list-style-type: none"> • Ohm's law • Series and parallel circuits. 	Term 5 Key Focus/Topic(s) Conservation of Energy <ul style="list-style-type: none"> • Energy stores • Energy transfers • Energy Efficiency • Renewable and non-renewable energy sources. 	Term 6 Key Focus/Topic(s) Particle Model <ul style="list-style-type: none"> • States of Matter • Density Calculations • Changes of State
Term 4 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on mathematical skills in Physics. • Ohm's law investigation. • End of unit test. 	Term 6 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on mathematical skills in Physics. • Extended writing task and student presentations. 	Term 6 Assessment Opportunities: <ul style="list-style-type: none"> • End Of Year exam • State change investigation (core practical). • Density investigation (core practical).

Rationale:

The topics covered in Year 9 constitutes the core areas of physics, waves, electricity and energy. Our students in Year 9 are not placed in single or combined science sets. Consequently, the topics covered are common to both single and combined science. The topics are also accessible for Year 9 science students as they introduce some basic formulas and concepts. For example waves can be easily modelled for students and the topic does not require more abstract thinking skills like topics in Year 10 and Year 11. In Year 9 Physics we place a particular focus on:

- Practical skills (Four core practical investigations are covered) – making practical judgements about investigation, controls, reliability and validity (these build on the basic practical skills established in KS3)
- Mathematical skills in Physics – transposing formula, making measurements and recording data accurately, being able to solve multi-step problems, averaging results, plotting and using graphs to form scientific conclusions.

Evaluation:

- Assessments 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 basic mathematical skills in Physics – transposing basic formula with confidence.
- Practical work will be assessed through the four core practical investigations carried out in Year 9.
- Book scrutiny, lesson observations and collegial discussions will be used to quality assure teaching and learning. Qualitative observations will be made on students during four core practical investigations.