# Physics

**Subject Leader:** Mr J O'Neill joneill1@taptonschool.co.uk

**Curriculum Intent:** To ensure students maintain and develop their curiosity and excitement about the natural world. To develop all to be `scientists` by embedding a culture of confidence and mastery underpinned by scientific enquiry. To develop their ability to see connections between science subject areas and become aware of some of the big ideas for understanding the world. To provide a high challenge, high quality Science education for all our learners.

| | Core Knowledge | Procedural Knowledge |
|---|---|---|
| | **Topics:**<br>**Y10**<br>Working scientifically. Motion, Newton's laws, forces in action. Simple circuits. Uses of magnetism. Wave behaviour, The electromagnetic spectrum, wave interaction. Introduction to Energy.<br><br>**Y11**<br>Working scientifically. Wave interactions, Radioactivity uses and hazards. Physics on the move, powering Earth, Beyond Earth (Space). Energy, Work done, power and efficiency. | **Students will:**<br>Use scientific theories and explanations to develop hypothesis<br>Evaluate methods and suggest possible improvements<br>Apply a knowledge of sampling techniques to ensure any samples collected are representative<br>Apply a knowledge of a range of techniques, apparatus, and materials to select those appropriate for both field work and for experiments<br>Translate data from one form to another<br>Represent distributions of results and make estimates of uncertainty<br>Carry out and represent mathematical and statistical analysis<br>Explain everyday technological applications of science<br>Use a variety of concepts and models to develop scientific explanations<br>Appreciate the power of limitations of science and consider ethical issues |

**Homework:**
One homework will be set for every four hours of learning and take approximately 45 minutes to complete. There will be a variety of homework tasks which could include revision for assessments, recap, and review of core learning, Kerboodle quizzes, past paper questions, A4P tasks etc

**Assessment:**
In Y10 there will be five end of Unit Tests
There are also two TSAT exams. The October exam will cover Y7, Y8 and Y9 Physics and the exam in April will include Y10 Physics
In Y11 there will be five end of Unit Tests
There are also two TSAT exams. The October exam will cover C1, C2 and C3 and the exam in February will include C4, C5 and C6.1

**Links to Personal Development:**
Enabling students to recognise risks to their own wellbeing.
Social development: Practise using a range of social skills in different situations. Confidence, Resilience and Knowledge: Mentally healthy, physically healthy, active lifestyle, healthy relationships..

**How is my knowledge developed further at Key Stage Five (Y12 and Y13)?**

Knowledge and skills gained through a study of GCSE Physics or GCSE Combined Science Physics are a starting point for further study at KS5. A level Physics begins by exploring further all aspects of forces and motion, electrical circuits and waves as an extension to the GCSE content. The course then goes into more depth with quantum physics, applications of Newtonian physics, astrophysics, particles and medical physics