Curriculum Overview: Triple Physics
Year group 10

- **What we are learning**: The topic or focus for the half term.
- **Key knowledge & skills**: What students should understand and be able to do.
- **How we assess learning**: knowledge checks, practical tasks, written responses and formal assessments.
- **Key words to know**: Vocabulary students will learn and use.

What your child will learn each half term
This overview shows the key topics, skills, and knowledge your child will be learning in Triple Physics in Y10. It helps families understand what's being taught, how it builds on previous learning, and how you can support your child at home.

- **How science works skills**
- Use and rearrange equations confidently in Chemistry and Physics topics.
- Link graphs and data to scientific models, drawing conclusions from evidence.
- Develop skills in planning, carrying out, and analysing required practicals.
- Apply practical skills: selecting equipment, measuring accurately, and identifying variables to control in an investigation.
- Communicate scientific ideas clearly in extended written answers, using correct terminology.

Half term	What we are learning	Key knowledge and skills	How we will assess learning in this unit	Homework	Key vocabulary for this unit
HT 1 and 2	P1a Conservation and Dissipation of energy P1b Energy transfers by heating P1c Energy resources P2a Electric Circuits P2b Electricity and the home (5)	• Conservation & dissipation (P1a): energy stores and transfers, conservation of energy, efficiency. • Energy transfers by heating (P1b): conduction, convection, radiation, insulation and thermal conductivity. • Energy resources (P1c): renewable vs. non-renewable resources, advantages, disadvantages, environmental impact. • Electric circuits (P2a): current, potential difference, resistance, Ohm's Law, series and parallel circuits. • Electricity and the home (P2b): a.c. vs d.c., plugs, national grid, transformers, safety features (fuses, earth wire, circuit breakers).	Continuous formative assessment in lessons. End of topic tests. Question level analysis and feedback. Required practical assessment booklets.	Homework is set on a Monday and is due the following Monday. Homework will be set online using a website 'Educake' which pupils will receive their login details for.	**Energy store, conservation, dissipation, efficiency, conduction, convection, radiation, insulation, renewable, non-renewable, fossil fuel, current, voltage, resistance, Ohm's law, series circuit, parallel circuit, alternating current (a.c.), direct current (d.c.), national grid, transformer, fuse, earth wire.**
HT 3 and 4	P3 Molecules and matter P4 Radioactivity P5a Forces in balance	• P3 Molecules and Matter: States of matter, particle model, density, gas pressure, changes of state. Calculate density, interpret particle diagrams, explain pressure changes.	Continuous formative assessment in lessons. End of topic tests.	Homework is set on a Monday and is due the following	State, Particle, Density, Pressure, Volume, Temperature, Alpha, Beta, Gamma, Ionising, Half-life,

		• P4 Radioactivity: Types of radiation (alpha, beta, gamma), half-life, radioactive decay, contamination vs irradiation, nuclear equations. Complete decay equations, interpret half-life graphs, evaluate risks and uses. • P5a Forces in Balance: Types of forces, resultant forces, moments, levers, equilibrium. Draw force diagrams, calculate resultant forces, apply moments formula.	Question level analysis and feedback. Required practical assessment booklets.	Monday. Homework will be set online using a website 'Educake' which pupils will receive their login details for.	Decay, Nucleus, Contamination, Irradiation, Force, Resultant, Moment, Lever, Equilibrium, Balanced, Unbalanced,
HT 5 and 6	P5b Motion graphs P5c Force and motion	• P5b Motion Graphs: Distance-time and velocity-time graphs, speed, velocity, acceleration. Interpret graphs, calculate gradients and areas, analyse motion. • P5c Force and Motion: Speed, velocity, acceleration, Newton's laws, resultant forces, momentum. Calculate speed/acceleration, draw force diagrams, apply equations to motion problems.	Continuous formative assessment in lessons. End of topic tests. Question level analysis and feedback. Required practical assessment booklets.	Homework is set on a Monday and is due the following Monday. Homework will be set online using a website 'Educake' which pupils will receive their login details for.	Distance, Time, Velocity, Acceleration, Gradient, Area, Newton, Momentum, Speed.