Culcheth High School Key Stage 4 Curriculum Map 2026-2027
Subject: Physics Year 10
Exam Board: AQA

CULCHETH HIGH SCHOOL
THE BEST THAT WE CAN BE

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Key Concepts	Topic 1 - Energy Topic 2 - Electricity Topic 3 - Particle Model of Matter	Topic 2- Electricity Topic 4 - Atomic Structure	Topic 2- Electricity Topic 4 - Atomic Structure	Topics 4 - Atomic structure Topic 5 - Forces	Topic 5 - Forces	Topic 5 - Forces For PPE: Topic 1 - Energy Topic 2 - Electricity Topic 3 - Particle Model of Matter Topic 4 - Atomic Structure
Themes	**Topic 1 - Trilogy and Triple** • Energy stores and systems • Changes in energy • Efficiency • Power • Specific heat capacity • Thermal insulation • Energy resources **Topic 2 - Trilogy and Triple** • Circuit diagram	**Topic 2 - Trilogy and Triple** • Circuit diagram • Electrical charge • Current • Potential difference • Resistors • Series and parallel circuits • Direct and alternating current • Mains electricity • Energy transfers • Power • The National grid ***Triple science also covers:***	**Topic 2 - Trilogy** • Circuit diagram • Electrical charge • Current • Potential difference • Resistors • Series and parallel circuits • Direct and alternating current • Mains electricity • Energy transfers • Power • The National grid **Topic 4 - Triple**	**Topic 4 - Trilogy** • Structure of the atom • The developments of the model of the atom • Radioactive decay and nuclear radiation • Nuclear equations • Half lives • Radioactive contamination **Topic 5 - Triple**	**Topic 5 -Trilogy and Triple** • Forces and their interactions • Work done and energy transfer • Forces and elasticity • Forces and motion • Momentum ***Triple Science also covers:*** • Moments and levers • Pressure • Changes in momentum	**Trilogy and Triple - Revision Topics 1-4 for PPEs** **Topic 5 - Trilogy and Triple** • Forces and their interactions • Work done and energy transfer • Forces and elasticity • Forces and motion • Momentum ***Triple Science also covers:*** • Moments and levers

	• Electrical charge • Current • Potential difference • Resistors • Series and parallel circuits • Direct and alternating current • Mains electricity • Energy transfers • Power • The National grid ***Triple science also covers:*** • Static electricity • Electric fields **Topic 3 - Trilogy and Triple** • Density of materials • Changes of state • Specific latent heat • Particle motion in gases ***Triple science also covers:*** • Pressure Required practicals will be covered within the lesson content	• Static electricity • Electric fields **Topic 4 - Triple** • Structure of the atom • The developments of the model of the atom • Radioactive decay and nuclear radiation • Nuclear equations • Half lives • Radioactive contamination ***Triple science also covers:*** • Background radiation • Nuclear fission • Nuclear fusion Required practicals will be covered within the lesson content	• Structure of the atom • The developments of the model of the atom • Radioactive decay and nuclear radiation • Nuclear equations • Half lives • Radioactive contamination ***Triple science also covers:*** • Background radiation • Nuclear fission • Nuclear fusion Required practicals will be covered within the lesson content	• Forces and their interactions • Work done and energy transfer • Forces and elasticity • Forces and motion • Momentum ***Triple Science also covers:*** • Moments and levers • Pressure • Changes in momentum Required practicals will be covered within the lesson content	Required practicals will be covered within the lesson content	• Pressure • Changes in momentum Required practicals will be covered within the lesson content
Writing whole school literacy focus	Scientific writing: • Writing a plan • Drawing a conclusion • Evaluating a method • Presenting findings • Spelling and using scientific vocabulary in the correct context					

	• Understanding the different Prefixes and Suffixes of scientific vocabulary • Use of capital letters and full stops					
Spiritual, Moral, Social and Cultural theme (SMSC) Fundamental British Values	In Physics in Year 10 we deal with SMSC and British values in the following areas: • Celebrate the British scientists involved with the discovery of the structure of the Atom. • Listening to the viewpoints of different scientific groups and politicians • The nuclear debate pro and cons • How science is portrayed in the media • Science in the news • Radiation- nuclear power and its uses • Spiritual - Conservation of energy. How (and why?) is there conservation of energy? What does this mean for nature? • Social - Understanding of the importance of collaboration across countries and faiths to further understanding of different Physics topics. • Ethical issues associated with nuclear power, should it be used? • Issues associated with the disposal of nuclear waste. • Uses of radiation and cancer treatment. • Stopping distances – consequences of poor driving and disregard for stopping distance. • Law around nuclear waste disposal, moral issues of waste disposal sites • Moral - Nuclear power as a weapon. Was Hiroshima worth the cost? What would have happened had they not dropped the bombs on Japan?					
Key Assessment Foci, suggested Assessments and Feedback week	See QMA calendar	See QMA calendar	See QMA calendar	See QMA calendar	See QMA calendar	See QMA calendar
Special Events				5th - 14th March 2027 National Science and Engineering Week		
Possible Visits						Biology field course (Triple only)
CEIAG - Possible Employer Engagement Activities	Careers communication / Oracy • QWC science exam questions • Science skills sheets Teamwork • Practicals • Oracy presentations • Range of group activities throughout course e.g. think pair share, snowballing, debating, project-based learning, talking triads, card sorts Negation and persuasions • During practical activities and presentations					

	Problem solving – working individually and with others to find solutions to problems. E. g ● Practical skills ● Data analysis, ● Comparison/Evaluate exam questions Leadership ● During practical activities and presentations Organisation ● Practical skills – planning, equipment list, implementation, time management ● Exam technique – time management ● Presentations – time management Perseverance and motivation ● Data analysis ● Evaluate exam questions ● Presentation Ability to work under pressure ● Timed activities ● QMAs ● PPE

AQA Exam Board – Triple Students will be awarded 3 separate numerical GCSE Science grades one for each Science. 6 exams 1r 45 mins long, 28 assessed pieces of practical work.

AQA Exam Board – Trilogy Students will be awarded 2 numerical GCSE Science grades based on an average of the 3 sciences e.g. 3,4 or 4,5. 6 exams 1r 15 mins long, 21 assessed pieces of practical work.

Throughout the year students will revisit work done in year 9 to consolidate their understanding and reinforce learning