Subject: Science

Year 10 Triple Science - Physics - Curriculum Plan

Year: 10

Department Information:

4 Science lessons per fortnight (covering Physics content).
Home learning set weekly alternating with Seneca online learnng and activities set by the class teacher.
Teachers: Samantha Steele Head of KS3 Science

Curriculum aims and intent:

Covering a range of physics paper 1 content in preparation for final GCSE examinations in year 11 and June mock exams.

AQA Combined Science specification - https://www.aqa.org.uk/subjects/physics/gcse/physics-8463/specification

National curriculum - https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study/national-curriculum-in-england-science-programmes-of-study#key-stage-4

Cross curricular links between Maths and Science, including algebraic equations, graphical calculations, trigonometric skills.

Resources used to support learning:

Seneca learning - https://senecalearning.com/en-GB/

AQA exam resources - https://www.aqa.org.uk/subjects/science/gcse/science-8464/assessment-resources

Cognito - https://cognitoedu.org/home

Home Learning:

Weekly home learning set by class teacher using a range of activities:
- Exam questions
- Seneca learning
- Pre-learning
- Skills practice (Maths, Graphs, investigation skills)

Assessment:

Christmas mock exams: 1 x 45 minute in class assessments (combined physics) and 1 x 20 minute in class assessment (physics only)
Covering all content taught in Year 9 and 10 so far.

June mock exams:
- Physics paper 1 (H/F) - 100 marks
- Physics paper 2 (H/F) - 100 marks

How parents can help their child:

Making sure home learning is completed on time

Supporting your child by ensuring they bring the correct equipment to every lesson - Pen, Pencil, Ruler, Calculator

Term	Summary of work being covered	Knowledge, Understanding and skills assessed	How the work is assessed	Career Links
1	Atomic structure and radiation Nuclear fission and fusion (physics only)	• Exam technique• Recall and application of equations • Data interpretation • Evaluating evidence	In-class assessments	Nuclear engineer, medical physicist, radiographer, radiation protection officer, archaeologist (radiocarbon dating), environmental scientist, research scientist.
2	Energy changes Mock exams	• Recall and application of equations • Mathematical calculations • Data analysis• Evaluation	Christmas mock exams	Renewable energy engineer, sustainability consultant, mechanical engineer, architect, energy assessor, environmental engineer, building services engineer.
3	Electricity in circuits Electricity in the home	• Recall and application of equations • Circuit analysis • Practical investigation • Exam technique	In-class assessments	Electrical engineer, electrician, electronics engineer, renewable energy technician, robotics engineer, telecommunications engineer, appliance designer.
4	Pressure in gases (physics only) Sound waves	• Mathematical calculations • Graph interpretation • Practical investigation • Communication	In-class assessments	Acoustic engineer, meteorologist, aerospace engineer, audiologist, ultrasound technician, mechanical engineer, ventilation and HVAC engineer.
5	Electromagnetic waves Revision and mock exams	• Data interpretation • Communication – debating • Evaluation • Exam technique	Summer mock exams	Telecommunications engineer, satellite engineer, medical imaging specialist, astronomer, fibre optic engineer, security systems designer, broadcast engineer.
6	Light (physics only) Year 10 consolidation and revision	• Ray diagram drawing • Mathematical calculations • Practical investigation • Exam technique	In-class assessments	Optometrist, ophthalmologist, photographer, optical engineer, laser engineer, medical imaging specialist, forensic scientist, astronomer.