



Curriculum Map for Combined Science Physics Year 10

YEAR 10	Autumn 1 & 2
Topics	Particle Model of Matter
Substantive Knowledge – The Knowledge and Content Taught By The Teacher	<ul style="list-style-type: none">Students will learn the key particle model and be able to draw diagrams for solid, liquids and gases then explain how these changes occur in as they move between each state.They will then calculate the Specific latent heat, Pressure and Specific heat capacity, Density of numerous objects.
Disciplinary Knowledge – The Knowledge Scientists Need So They Can Collect, Understand and Evaluate Scientific Evidence	<ul style="list-style-type: none">Theory of how to calculate density.History and development of the particle model.
Skills	<ul style="list-style-type: none">Density Required PracticalRearrange EquationsInterpret Changes of State Graphs
Links To Prior Learning	<ul style="list-style-type: none">Matter in Years 7 and 8Changes of StateAbility to Rearrange Equations Taught in Year 9
Literacy/ Numeracy	<ul style="list-style-type: none">Calculation of Density Required PracticalRearrange EquationsInterpret Changes of State GraphsLiteracy - Continued Development of Writing Using Accurate Scientific Language
Cross Curricular	<ul style="list-style-type: none">Technology - Properties of MaterialsFood and Nutrition - Links to Changes of State of Food
Assessment	<ul style="list-style-type: none">Particle Model of Matter End of Unit Assessment

YEAR 10	Spring 1 & 2
Topics	Atomic Structure
Substantive Knowledge – The	<ul style="list-style-type: none">In this topic students will explain the development of atomic model and the uses and dangers of each type of radiation.Students will learn how to extrapolate and calculate half-life from graphs.

Knowledge and Content Taught By The Teacher	
Disciplinary Knowledge – The Knowledge Scientists Need So They Can Collect, Understand and Evaluate Scientific Evidence	<ul style="list-style-type: none"> • History of Radiation • Life and Work of Marie Curie • Development of the Atomic Model
Skills	<ul style="list-style-type: none"> • Interpreting Half-Life Graphs • Calculating Half-Life • Compare and Contrast Types of Radiation
Links To Prior Learning	<ul style="list-style-type: none"> • Atoms in Years 7 and 8 • Atomic Structure in Year 9 • Development of the Atomic Model in Year 9
Literacy/ Numeracy	<ul style="list-style-type: none"> • Interpreting Half-Life Graphs • Calculating Half-Life by Extrapolating Points • Compare and Contrast Writing Applied to the Different Types of Radiation
Cross Curricular	<ul style="list-style-type: none"> • PSCE - Keeping People Safe • Biology - Treating Cancer • Philosophy and Ethics - Treating People with Diseases • History - Applications and Dangers of Radiation
Assessment	<ul style="list-style-type: none"> • Atomic Structure Assessment

YEAR 10	Summer 1 & 2
Topics	Electricity
Substantive Knowledge – The Knowledge and Content Taught By The Teacher	<ul style="list-style-type: none"> • In this topic students explain and apply key terms related to electricity. • They will then learn and observe Ohms Law and apply it to numerous components. • Students then begin to learn about Domestic electricity and how it makes it from a PowerStation to our homes.
Disciplinary Knowledge – The Knowledge Scientists Need So They Can Collect, Understand	<ul style="list-style-type: none"> • Discovery of Ohms Law • History of the Domestic Plug • History of AC and DC

and Evaluate Scientific Evidence	
Skills	<ul style="list-style-type: none"> • Wiring a Plug • Building a Circuit • Numerous Calculations to Prove Theory and Idea • Drawing and Interpreting Circuits • Drawing and Interpreting Graphs
Links To Prior Learning	<ul style="list-style-type: none"> • Electricity in Years 7 and 8 • Energy and Power in Year 9
Literacy/ Numeracy	<ul style="list-style-type: none"> • Numerical calculations to prove theory and idea. • Drawing and interpreting graphs. • Literacy - further develop their compare skills and they will then move on to develop their comprehension skills and how to extrapolate key information from texts.
Cross Curricular	<ul style="list-style-type: none"> • PSCH - Electrical dangers and how to be safe in the home. • Technology - Electrical wiring and set up in numerous devices.
Assessment	<ul style="list-style-type: none"> • Electricity End of Unit Assessment