

**Physics**  
**Year 10 curriculum map**

Year 10 Combined Science	T1	T2	T3	T4	T5	T6
Content / Topic for Term	Year 9 content recap Atomic structure	Forces 1	Waves	Forces 2	Forces 2 (cont)	Recap, revise and EOY tests
Key Knowledge for acquisition, recall and application in assessment or exam	Recap Year 9 content <ul style="list-style-type: none"> <li>• first three weeks review and recap key Year 9 content</li> </ul> Atomic structure <ul style="list-style-type: none"> <li>• the size &amp; mass of atoms</li> <li>• history of the atom</li> <li>• discovery of the atom</li> <li>• radioactive decay and nuclear equations</li> <li>• half-life</li> <li>• radioactive contamination and irradiation</li> </ul>	Forces 1 <ul style="list-style-type: none"> <li>• scalars and vectors</li> <li>• contact and non-contact forces</li> <li>• gravity</li> <li>• resultant forces</li> <li>• resolving forces</li> </ul>	Forces 1 (cont) <ul style="list-style-type: none"> <li>• work done</li> <li>• forces and elasticity</li> </ul> Waves <ul style="list-style-type: none"> <li>• transverse and longitudinal waves</li> <li>• properties of waves</li> <li>• wave equation</li> <li>• electromagnetic waves</li> </ul>	Waves (cont) <ul style="list-style-type: none"> <li>• properties of electromagnetic waves</li> <li>• radiation and absorption</li> </ul> Forces 2 <ul style="list-style-type: none"> <li>• speed and velocity</li> <li>• distance-time graphs</li> <li>• acceleration</li> <li>• velocity-time graphs</li> <li>• uniformed acceleration</li> </ul>	Forces 2 <ul style="list-style-type: none"> <li>• Newton's Laws</li> <li>• inertia and mass</li> <li>• terminal velocity</li> <li>• stopping distance</li> <li>• momentum</li> <li>• conservation of momentum</li> </ul>	Revision of topics so far

Key skills to apply in assessment or exam	<ul style="list-style-type: none"> <li>• Use scientific vocabulary, terminology and definitions.</li> <li>• Explain every day and technological applications of science; evaluate associated personal, social, economic and environmental implications; and make decisions based on the evaluation of evidence and arguments.</li> <li>• Evaluate risks both in practical science and the wider societal context, including perception of risk in relation</li> </ul>	<ul style="list-style-type: none"> <li>• Use scientific vocabulary, terminology and definitions.</li> <li>• Interconvert units.</li> <li>• Interpreting observations and other data (presented in verbal, diagrammatic, graphical, symbolic or numerical form), including identifying patterns and trends, making inferences and drawing conclusions.</li> </ul>	<ul style="list-style-type: none"> <li>• Use scientific vocabulary, terminology and definitions.</li> <li>• Use a variety of models such as representational, spatial, descriptive, computational and mathematical to solve problems, make predictions and to develop scientific explanations.</li> <li>• Plan experiments or devise procedures to make observations, produce or characterise a substance, test hypotheses, check data or explore phenomena.</li> </ul>	<ul style="list-style-type: none"> <li>• Use scientific vocabulary, terminology and definitions.</li> <li>• Carrying out and represent mathematical and statistical analysis.</li> <li>• Interpreting observations and other data (presented in verbal, diagrammatic, graphical, symbolic or numerical form), including identifying patterns and trends, making inferences and drawing conclusions.</li> </ul>	<ul style="list-style-type: none"> <li>• Use scientific vocabulary, terminology and definitions.</li> <li>• Carrying out and represent mathematical and statistical analysis.</li> <li>• Use a variety of models such as representational, spatial, descriptive, computational and mathematical to solve problems, make predictions and to develop scientific explanations and understanding of familiar and unfamiliar facts.</li> </ul>	
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	to data and consequences.		<ul style="list-style-type: none"> <li>• Presenting observations and other data using appropriate methods.</li> </ul>			
Title of Knowledge Organiser	<ul style="list-style-type: none"> <li>• Atomic structure</li> </ul>	<ul style="list-style-type: none"> <li>• Forces 1</li> </ul>	<ul style="list-style-type: none"> <li>• Waves</li> </ul>	<ul style="list-style-type: none"> <li>• Forces 2</li> </ul>	<ul style="list-style-type: none"> <li>• Forces 2</li> </ul>	<ul style="list-style-type: none"> <li>• All previous KOs</li> </ul>

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Year 10 Separate Science	T1	T2	T3	T4	T5	T6
Content / Topic for Term	Year 9 content recap Atomic structure	Forces 1	Forces 1 (cont)	Waves	Waves	Forces 2
Key Knowledge for acquisition, recall and application in assessment or exam	Recap Year 9 content <ul style="list-style-type: none"> <li>• first three weeks review and recap key Year 9 content</li> </ul> Atomic structure <ul style="list-style-type: none"> <li>• the size and mass of atoms</li> <li>• history of the atom</li> <li>• discovery of atom</li> <li>• radioactive decay and nuclear equations</li> <li>• half-life</li> <li>• radioactive contamination and irradiation</li> </ul>	Forces 1 <ul style="list-style-type: none"> <li>• scalars and vectors</li> <li>• contact and non contact forces</li> <li>• gravity</li> <li>• resultant forces</li> <li>• resolving forces</li> <li>• work done</li> <li>• forces and elasticity</li> </ul>	Forces 1 <ul style="list-style-type: none"> <li>• moments, levers and gears</li> <li>• pressure in fluids</li> <li>• atmospheric pressure</li> </ul>	Waves		Forces 2 <ul style="list-style-type: none"> <li>• speed and velocity</li> <li>• distance-time graphs</li> <li>• acceleration</li> <li>• velocity-time graphs</li> <li>• uniformed acceleration</li> </ul>

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	<ul style="list-style-type: none"> <li>background radiation and intensity</li> <li>uses of radiation</li> <li>nuclear fission and nuclear fusion</li> </ul>					
Key skills to apply in assessment or exam	<ul style="list-style-type: none"> <li>Use scientific vocabulary, terminology and definitions.</li> <li>Explain every day and technological applications of science; evaluate associated personal, social, economic and environmental implications; and make decisions based on the evaluation of evidence and arguments.</li> <li>Evaluate risks both in practical</li> </ul>	<ul style="list-style-type: none"> <li>Use scientific vocabulary, terminology and definitions.</li> <li>Interconvert units.</li> <li>Interpreting observations and other data (presented in verbal, diagrammatic, graphical, symbolic or numerical form), including identifying patterns and trends, making inferences and drawing conclusions.</li> </ul>	<ul style="list-style-type: none"> <li>Use scientific vocabulary, terminology and definitions.</li> <li>Use SI units (eg kg, g, mg, km, m, mm, kJ, J) and IUPAC chemical nomenclature unless inappropriate.</li> <li>Use prefixes and powers of ten for orders of magnitude (eg tera, giga, mega, kilo, centi, milli, micro and nano).</li> <li>Interconvert units.</li> <li>Use an appropriate number of</li> </ul>			<ul style="list-style-type: none"> <li>Use scientific vocabulary, terminology and definitions.</li> <li>Carrying out and represent mathematical and statistical analysis.</li> <li>Interpreting observations and other data (presented in verbal, diagrammatic, graphical, symbolic or numerical form), including identifying patterns and trends, making inferences and</li> </ul>

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	science and the wider societal context, including perception of risk in relation to data and consequences.		significant figures in calculation.			drawing conclusions.
Title of Knowledge Organiser	• Atomic structure	• Forces 1	• Forces 1	• Waves	• Waves	• Forces 2