



## KS4 Physics – Year 9

	Key content (knowledge)	Key skills	Assessments	Challenge and enrichment
Autumn half term 1	Energy stores and transfers Kinetic and gravitational potential energy calculations Elastic potential energy	Using and rearranging equations Practical skills: following instructions	Low stakes quiz in class	Explore the Physics of rollercoasters: <a href="#">Roller Coaster Physics   HowStuffWorks</a> <a href="#">The Physics of Roller Coasters (travelandleisure.com)</a> Find out why elastic potential energy is important: <a href="#">Elastic Potential Energy: Explained (academichelp.net)</a> Equating ideas about kinetic and potential energy.
Autumn half term 2	Reducing unwanted energy transfers and efficiency  Particle model and states of matter Density Internal energy	Using and rearranging equations  Practical skills: required practical on measuring density.	End of energy topic test	Find out who Archimedes was and what his principle is: <a href="#">Archimedes' principle   Description &amp; Facts   Britannica</a> Devise different methods for finding density of materials

Spring half term 1	Conduction Radiation Insulation	Practical skills: required practical investigating insulating materials. Practical skills: investigating radiation from different surfaces.	Low stakes equation tests	Research different insulating materials for the home. <a href="#">Why Insulation Is Important for Houses? - Energy Advice Helpline</a> Link to ideas about climate change. Explore why specific heat capacity is important to life: <a href="#">Why is the High Specific Heat of Water Important for Life on Earth?</a> ( <a href="http://studysmarter.co.uk">studysmarter.co.uk</a> )
Spring half term 2	Specific heat capacity Specific latent heat Gas pressure, temperature and volume	Practical skills: required practical in finding specific heat capacity. Using and rearranging equations. Research skills	Thermal energy transfers and density test	Find out about different temperature scales <a href="#">Temperature Scales</a> ( <a href="http://nasa.gov">nasa.gov</a> )
Summer half term 1	Energy resources	Research and presentation skills	End of topic test on particle model and thermal energy	Read about the future of energy resources <a href="#">What the Future of Renewable Energy Looks Like   Earth.Org</a>

Summer half term 2	Energy resources	Practical skills: setting up circuits. Problem solving Practical skills: required practical investigating how length of a wire affects resistance.	End of year exam	Read about the future of energy resources <a href="#">What the Future of Renewable Energy Looks Like   Earth.Org</a>
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