

KEVICC KS3 Curriculum:	Subject: Science	Key terms and vocabulary.
Year: 9 Term: Across the year	Topic: Physics	<i>Which words will be explicitly taught & how frequently will understanding be checked? How will assimilation of new vocab be checked?</i> Keywords:
<p>What is the essential knowledge from this unit? What do students need to remember and understand?</p> <p>Autumn term – Conservation and Dissipation of energy</p> <p>This unit introduces students to the ideas that there is a fixed amount of energy in the universe and it is moved between different ‘stores’ and that useful work can be done when energy is transferred between stores or it will be ‘wasted’ to the thermal energy store.</p> <p>Key Practicals – Measuring and calculating potential, elastic and kinetic energy.</p> <p>Spring Term – Energy transfer by heating</p> <p>Students learn about the transfer of thermal energy between different objects and how much energy it takes to heat up objects.</p> <p>Key practical – measuring the specific heat capacity of an object.</p> <p>Summer term – Energy resources</p> <p>Students will look at how energy resources are used to meet the energy demands of modern society. There is a detailed look at renewable and non-renewable resources in terms of their reliability and environmental effects.</p> <p>Key practicals: Investigating solar energy.</p>		<p>conservation of energy, dissipated energy, dissipation of energy, efficiency, elastic potential energy</p> <p>Hooke’s Law, input energy, power, spring constant, useful energy, wasted energy, work.</p> <p>black body radiation, infrared radiation, specific heat capacity, thermal conductivity.</p> <p>biofuel, carbon-neutral, geothermal energy, national grid nuclear fuel, nucleus, reactor core, renewable energy.</p>
<p>What prior learning supports understanding of this content?</p> <p>Conservation and Dissipation of energy – from Y8 students have already studied the relationship between energy and temperature and power.</p> <p>Energy transfer by heating - In Y8 students were introduced to the difference between heat and temperature and what radiation means.</p> <p>Energy resources – In Y8 students looked at the basics of the conservation of energy and the use of resources.</p>	<p>How does this content link to future learning?</p> <p>Conservation and Dissipation of energy – students go on to look at how energy transfer is altered by the properties of objects and insulation.</p> <p>Energy transfer by heating – students learn to determine the difference between internal energy of particles and the external energy of objects</p> <p>Energy resources – connections between the consequences of energy resource use and environmental damage are reinforced in biology topics..</p>	<p>Vocabulary will be modelled by teachers and tested in periodic short tests and scientific literacy is marked during feedback.</p> <p>Scientific communication is directly reported to parents as part of the college report.</p>
<p>Reading: <i>Where in the unit are students supported to read complex academic text?</i></p> <p>Reading activities from textbook and comprehension activities in the integrated Skills Tests that run throughout the year. Scientific literacy also includes reading graphs and tables in order to extract meaning from data.</p>	<p>Writing: <i>Independent writing tasks and how they are structured</i></p> <p>Writing skills include concise and accurate communication that includes appropriate keywords. Scientific literacy includes the ability to draw graphs and tables to effectively communicate data. Conclusions to practical work is the most important form of scientific communication.</p>	
<p>Key assessments:</p> <p>Biology questions in Autumn , Spring 1, Spring 2 and Summer assessments</p> <p>Skills tests 1 to 13 which are set as independent learning tasks.</p> <p>How will feedback be received? Students will be given feedback via DIRT sheets after each topic, regular feedback on skills tasks 12 times a year and tests 4 times a year. The students will be actively involved in all of these processes via ‘purple pen’.</p> <p>What will be seen in books? Books will include notes on the content and practical/skills along with feedback via DIRT sheets (see above), skills sheets and tests will be found with purple pen relating to them all.</p>		