

<p><b>GCSE to A-Level Bridging Work</b></p> <p><b>Physics</b></p>	 <p><b>Read</b> the information on Units and Homogeneity. Follow the link.</p> <p><b>Watch</b> the YouTube clip on the same subject.</p> <p>Information – Units and Homogeneity  <a href="https://en.wikibooks.org/wiki/OCR_A-Level_Physics/The_SI_System_of_Units">https://en.wikibooks.org/wiki/OCR_A-Level_Physics/The_SI_System_of_Units</a></p> <p><a href="https://www.youtube.com/watch?v=ZXnHzGcOhGQ">https://www.youtube.com/watch?v=ZXnHzGcOhGQ</a></p> <p><b>Time: 30 min</b></p>	 <p><b>Complete</b> the task on Units and Homogeneity of equations. Follow the link below.</p> <p>Task Sheet – Units and Quantities  <a href="https://pmt.physicsandmathstutor.com/download/Physics/A-level/Topic-Qs/OCR-A/2-Foundations-of-Physics/Set-M/Physical%20Quantities%20and%20Units%20QP.pdf">https://pmt.physicsandmathstutor.com/download/Physics/A-level/Topic-Qs/OCR-A/2-Foundations-of-Physics/Set-M/Physical%20Quantities%20and%20Units%20QP.pdf</a></p> <p><b>Time: 1hr</b></p>	 <p><b>Read</b> the two articles about the feasibility of a space elevator. They explore the idea of a link between the Earth and space, an 'elevator', that would improve space exploration. This will develop your skills to both support and argue against a hypothesis.</p> <p>Write a short paragraph explaining whether or not you think this is a feasible concept.</p> <p><a href="#">Space Elevator</a></p> <p><b>Time: 1hr</b></p>
 <p><b>Listen</b> to this podcast about some pressing physics questions like why do some parts of the moon appear darker than others; what is the large hadron collider for and what can quantum computers do for science?</p> <p><a href="#">Dr Karl: The Moon, Particle Physics and.. 5 Live Science Podcast</a></p> <p><b>Time: 1hr</b></p>	 <p><b>Watch</b> the TED talks. Five mind-bending questions from Physics. Each one lasts between 15 to 20 minutes.</p> <p><a href="#">Mind-bending questions from physics</a>  TED Talks</p> <p><b>Time: 1hr 20 min</b></p>	 <p><b>Watch</b> the information on Scalars and Vectors. Make sure that you pause the videos as you go, make notes and copy down any examples done.</p> <p><a href="https://www.youtube.com/watch?v=VNB8E29K6DY">https://www.youtube.com/watch?v=VNB8E29K6DY</a></p> <p><a href="https://www.youtube.com/watch?v=iTqbdMnk0A">https://www.youtube.com/watch?v=iTqbdMnk0A</a></p> <p><b>Time: 30 min</b></p>	 <p><b>Complete</b> the task sheet on Scalars &amp; Vectors. Follow the link below.</p> <p>Questions – Scalars and Vectors  <a href="https://pmt.physicsandmathstutor.com/download/Physics/A-level/Topic-Qs/OCR-A/2-Foundations-of-Physics/Set-M/Nature%20of%20Quantities%201%20QP.pdf">https://pmt.physicsandmathstutor.com/download/Physics/A-level/Topic-Qs/OCR-A/2-Foundations-of-Physics/Set-M/Nature%20of%20Quantities%201%20QP.pdf</a></p> <p><b>Time: 1hr</b></p>
 <p><b>Complete</b> a profile on Isaac Newton and Christian Huygens. Include information on their background, their individual theories on light and what evidence they gathered. Compare the two theories and explain the significance of their theories on science.</p> <p><b>Time: 1 hour</b></p>	 <p><b>Listen</b> to this podcast about Paul Dirac, a Bristolian theoretical physicist, ranked alongside Einstein by his peers, who won a Nobel for his work on quantum mechanics.</p> <p><a href="#">Paul Dirac</a>  In Our Time</p> <p><b>Time: 50 min</b></p>	 <p><b>SUBMITTED TASKS</b>  Answer the following questions that cover content learned at GCSE and during completion of this home learning menu.</p> <ol style="list-style-type: none"> <li>1. Explain the difference between a scalar quantity and a vector quantity, give two examples of each and give the SI Units of each of the quantities. An athlete runs a lap around a 400m track, what is their distance travelled and their displacement? Explain your answer. (6 Marks)</li> <li>2. A boat travels 400km North and 200km West. Draw a vector diagram showing this, state the distance travelled by the boat and the final displacement of the boat. (6 Marks)</li> <li>3. Use the internet to research at least two different methods that can be used to determine the value of gravity on Earth – based on the methods you have read, write your own method to an experiment you could do determine the strength of g on Earth. Include links to your sources. (6 Marks)</li> </ol>	