



Year 10 Physics – Particle model of matter - Knowledge Overview – Spring 1

Year group:	Unit:	Date (from and to):	Resources	
Week beginning:	Big question / concept:	Learning intentions:	Offline: S	Online including links on how to access these:
4 th and 11 th January 2021	What is heavier – a tonne of bricks or a tonne of feathers?	<p><u>You should be able to:</u></p> <p>Define and apply the equation for density</p> <p>Recognise and draw simple diagrams to model the difference between solids, liquids and gases</p> <p>Use appropriate apparatus to make and record measurements to determine the density of regular and irregular objects (REQUIRED PRACTICAL)</p>	<p>Read and make notes on page 5-6 of the particle model of matter pack.</p> <p>Complete exam question on page 8</p> <p>Read and make notes on page 7 of the particle model of matter pack.</p> <p>Complete exam question on page 10</p> <p>Check your response using page 11</p>	<p>Lesson on particle models https://classroom.thenational.academy/lessons/particle-models-6tj34r</p> <p>Lesson on density of solids https://classroom.thenational.academy/lessons/density-of-solids-60w3at</p> <p>Lesson on density of liquids https://classroom.thenational.academy/lessons/density-of-liquids-64tp8c</p> <p>Lesson on: Density REQUIRED PRACTICAL https://classroom.thenational.academy/lessons/density-required-practical-6hhk2r</p> <p>GCSE Pod video on density required practical https://members.gcsepod.com/shared/podcasts/title/10980/67628</p> <p>Exam question on Density required practical https://iuqupaq.exampro.net/</p>

<p>18th January 2021</p>		<p><u>You should be able to:</u></p> <p>Describe different changes in state, when mass is conserved.</p>	<p>Read and make notes on page 13 of the particle model of matter pack. Complete exam question on page 14-15 Check your answers on page 16-17</p>	<p>Lesson on heating and cooling substances https://classroom.thenational.academy/lessons/heating-and-cooling-substances-c4wp4c</p> <p>Exam question on Density required practical https://eeueruf.exampro.net/</p>
<p>25th January 2021</p>		<p><u>You should be able to:</u></p> <p>Define internal energy</p> <p>Explain the link between changes in internal energy and temperature change or change in state.</p>	<p>Read and make notes on page 20-21 of the particle model of matter pack. Complete exam question on page 22-25</p>	<p>Lesson on internal energy https://classroom.thenational.academy/lessons/internal-energy-70t6ad</p> <p>GCSE Pod video on heat and temperature https://members.gcsepod.com/shared/podcasts/title/10981</p> <p>Exam question on internal energy and particle theory https://oazikux.exampro.net/</p>

<p>1st February 2021</p>	<p>Why does a cup of tea only cool down to room temperature?</p>	<p><u>You should be able to:</u></p> <p>Apply and rearrange the equation for specific heat capacity to calculate different components</p> <p>Define specific latent heat</p> <p>Apply and rearrange the equation for specific latent heat to calculate a component during a change in state</p> <p>Interpret heating and cooling graphs that involve a change in state</p> <p>Distinguish between specific heat capacity and specific latent heat</p>	<p>Read and make notes on page 27-28 of the particle model of matter pack. Complete exam question on page 29-33</p> <p>Read and make notes on page 35-36 of the particle model of matter pack.</p> <p>Read and make notes on page 37 of the particle model of matter pack. Complete exam question on page 38-41</p>	<p>Lesson on specific latent heat https://classroom.thenational.academy/lessons/latent-heat-chjk2r</p> <p>Lesson on multi-step energy calculations https://classroom.thenational.academy/lessons/multi-step-energy-calculations-crv36r</p> <p>GCSE Pod videos on specific latent heat and specific heat capacity https://members.gcsepod.com/shared/podcasts/title/10981</p> <p>Exam question on specific heat capacity and specific latent heat https://luselex.exampro.net/</p>
<p>8th February 2021</p>	<p>How do hot air balloons fly?</p>	<p><u>You should be able to:</u></p> <p>Explain how the motion of molecules in a gas is related to both its temperature and pressure</p> <p>Explain the relationship between temperature of a gas and its pressure at a constant volume</p>	<p>Read and make notes on page 44-46 of the particle model of matter pack. Complete exam question on page 47-49</p>	<p>Lesson on gas pressure https://classroom.thenational.academy/lessons/gas-pressure-69hp6r</p> <p>Exam question on gas pressure https://vehanif.exampro.net/</p>