



# Year 11 Physics - Waves - Knowledge Overview – Spring 1

#Year group:	Unit:	Date (from and to):	
Week beginning:	Big question / concept:	Learning intentions:	Resources
			Offline:
4 <sup>th</sup> and 11 <sup>th</sup> January 2021		<p><b>You should be able to:</b></p> <p><b>Label</b> a transverse wave with <b>wavelength</b>, <b>frequency</b> and <b>amplitude</b></p> <p><b>Describe</b> the difference between <b>longitudinal</b> and <b>transverse</b> waves</p> <p><b>Define</b> key terminology: <b>wavelength</b>, <b>frequency</b>, <b>wave speed</b>, <b>amplitude</b> and <b>period</b></p> <p><b>Label</b> <b>compression</b> and <b>rarefaction</b> on a longitudinal wave</p> <p><b>Recall</b> and <b>apply</b> the equation that links wave speed, frequency and wavelength (<math>v=f\lambda</math>)</p>	<p>Read page 4-5. Make notes from these pages Answer questions on slide 6 Check your answers on slide 7</p> <p>Read and make notes on page 8 Have a go at slide 9-10 Check your response on slide 11</p> <p><b>Lesson on wave properties</b> <a href="https://classroom.thenational.academy/lessons/wave-properties-60vk0d">https://classroom.thenational.academy/lessons/wave-properties-60vk0d</a></p> <p><b>Lesson on calculations with waves</b> <a href="https://classroom.thenational.academy/lessons/calculations-with-waves-6xh66e">https://classroom.thenational.academy/lessons/calculations-with-waves-6xh66e</a></p>

		<p>Make observations to identify the suitability of apparatus to measure frequency, wavelength and wave speed (REQUIRED PRACTICAL)</p>		<p>Lesson on measuring the speed of waves in water  <a href="https://classroom.thenational.academy/lessons/measuring-the-speed-of-waves-in-water-69k3jd">https://classroom.thenational.academy/lessons/measuring-the-speed-of-waves-in-water-69k3jd</a></p> <p>Lesson on measuring the speed of waves in solids  <a href="https://classroom.thenational.academy/lessons/measuring-the-speed-of-waves-in-solids-c9gk6t">https://classroom.thenational.academy/lessons/measuring-the-speed-of-waves-in-solids-c9gk6t</a></p>
<p>18<sup>th</sup> and 25<sup>th</sup> January 2021</p>		<p><b>You should be able to:</b></p> <p>State the waves that make up the electromagnetic spectrum in the correct order.</p> <p>Describe the relationship between the different waves of the EM spectrum based on wavelength, frequency and energy transferred.</p> <p>(HT only) Construct and draw ray diagrams to show the reflection of waves at different boundaries.</p> <p>(HT only) Explain refraction when waves travel from one medium to another.</p>	<p>Read and make notes from page 12-14 and 17          Have a go at the questions on slide 15, 18 and 19          Check your answers from slide 16 and 20</p> <p>Read and make notes from page 53-55          Have a go at the questions on slide 56          Check your answers from slide 57</p> <p>Please read page 58 and 59          Make notes once you have read them.          Answer the question on page 60          Check your response on page 61.</p> <p>Please read page 62-64          Make notes once you have read them.          Answer the question on page 65-66          Check your response on page 67</p>	<p>Lesson on electromagnetic spectrum part 1  <a href="https://classroom.thenational.academy/lessons/electromagnetic-spectrum-part-1-6dk62r">https://classroom.thenational.academy/lessons/electromagnetic-spectrum-part-1-6dk62r</a></p> <p>Lesson on refraction  <a href="https://classroom.thenational.academy/lessons/refraction-cmr64c">https://classroom.thenational.academy/lessons/refraction-cmr64c</a></p>

<p>1<sup>st</sup> February 2021</p>		<p><b><u>You should be able to:</u></b></p> <p><b>Investigate</b> how the amount of infrared radiation absorbed or radiated by a surface depends on the nature of that surface (REQUIRED PRACTICAL).</p>	<p>Read slide 68 on different surfaces. Make notes from this slide and then plan a practical on how you would carry this out?</p>	<p><b>Lesson on infrared (REQUIRED PRACTICAL)</b>  <a href="https://classroom.thenational.academy/lessons/infrared-60u3cd">https://classroom.thenational.academy/lessons/infrared-60u3cd</a></p>
<p>8<sup>th</sup> February 2021</p>		<p><b><u>You should be able to:</u></b></p> <p>(HT only) <b>Explain</b> the link between radio waves and oscillations in electrical circuits.</p> <p><b>Draw</b> conclusions, from given data, about the risks and consequences of exposure to radiation.</p> <p>State some everyday uses for each electromagnetic wave.</p> <p><b>Explain</b> why each electromagnetic wave is suitable for its practical application.</p>	<p>Please read page 69-74          Make notes once you have read them.          Answer the question on page 75          Check your response on page 76</p>	<p><b>Lesson on electromagnetic spectrum part 2</b>  <a href="https://classroom.thenational.academy/lessons/electromagnetic-spectrum-part-2-c9h3cr">https://classroom.thenational.academy/lessons/electromagnetic-spectrum-part-2-c9h3cr</a></p> <p><b>GCSE Pod videos on specific latent heat and specific heat capacity</b>  <a href="https://members.gcsepod.com/shared/podcasts/title/10981">https://members.gcsepod.com/shared/podcasts/title/10981</a></p> <p>Exam question on specific heat capacity and specific latent heat  <a href="https://luselex.exampro.net/">https://luselex.exampro.net/</a></p>