

**Year 9 Physics ( 1 hour per week)**

**Target**

Revisit the topics of particle model, radioactivity and motion that we have covered this year. We will reinforce these topics so we are ready to build on them in September. We will also use this time to develop our extended writing skills, particularly the work on PEEJ we are doing in English.

<p>Week 1 : <b>Particle model</b> Key principles of the model Writing extended answers</p>	<p>1. <b>Video</b> outlining the key principles of the particle model. 2. <b>Task.</b> Modelling of the 3 states of matter, make a model of a solid, liquid and gas. <b>Assessment</b> An extended question on the particle model. Structuring answers using bullet points. Submitted on TEAMS</p>
<p>Week 2 : <b>Density and the required practical</b></p>	<p>1. <b>Video</b> on the key topics covered on density and the required practical. 2. <b>Task</b> Home activities to reinforce the idea of measuring density using kitchen equipment. <b>Assessment</b> answer a question on density, linked to the required practical. Submitted on TEAMS</p>
<p>Week 3: <b>Specific heat capacity and Latent Heat.</b> Link to the required practical work we did in the lessons and also in the first 2 weeks.</p>	<p>1. <b>Video</b> outlining the key principles of heat capacity and latent heat. 2. <b>Task</b> Choose a context and explain using SHC or latent Heat. This could be examples such as hand warmers, sea and land breezes, microwaved food. <b>Assessment</b> calculation questions to develop mathematical skills. Submitted on TEAMS</p>
<p>Week 4 <b>Models of the atom.</b> With emphasis on the nuclear model and the plum pudding model.</p>	<p>1. <b>Video</b> going through the key principles of the models and how the nuclear model of the atom was developed from the plum pudding model. 2. <b>Task.</b> Make a model, or draw diagrams of the nuclear model and the plum pudding model. Describe the experiment Rutherford carried out and explain how the model was developed. <b>Assessment</b> extended writing question on Rutherford's experiment to develop the nuclear model of the atom. Self mark with the scheme and then submit on TEAMS.</p>
<p>Week 5 <b>Radioactivity, types of radiation and half-life.</b> Key terms Radioactive, alpha, beta, gamma radiation.</p>	<p>1. <b>Video</b> Radioactivity and types of radiation. 2. <b>Task</b> Make a summary chart, video, podcast on the radioactivity and the types of radiation. <b>Assessment</b> questions on radioactivity and types of radiation submitted on TEAMS</p>
<p>Week 6 <b>Radioactivity in context.</b> Medical and industrial uses.</p>	<p>1. Video introduction explaining how to link use of radioactive materials to the properties of the isotopes. 2. <b>Task</b> choose a context and research its use. Link the use to the properties of the radiation</p>
<p>Week 7 <b>Motion Speed and Graphs</b> Mathematical skills.</p>	<p>1. <b>Video</b> on speed and graphs. 2. <b>Task</b> Summary of the key features of graphs. Extended questions</p>

Year 10 Physics (1 hour per week)	
<p><b>Target</b>            We will complete the “waves” topics on electromagnetic radiation and uses and then review the topics covered in the paper 1 exam.            This will set us up for the trial exam in September. You will have regular assessment questions on the topics which will be set on TEAMS            We will go through the motion work again when we complete the forces topic in year 11.</p>	
<p><b>Week 1</b>            Wave properties            ( Earthquake waves Separates)</p>	<p>1. <b>Video</b> to reinforce the work covered on waves or a video on earthquakes for separate students.            2. <b>Task</b> summarise Wave features and properties in a mind map.            Assessment exam questions on waves</p>
<p><b>Week 2</b>            Waves refraction            ( Earthquake waves Separates)</p>	<p>1. <b>Video</b> to illustrate the way we can use ideas of reflection and refraction and how this comes up in exam questions.( Additional video on earthquakes for separate students )            2. <b>Task</b> Students use mirrors and beakers of water to look at examples of reflection and refraction. Guidance will be given.            Assessment extended writing exam questions</p>
<p><b>Week 3</b>            Electromagnetic spectrum.            Focus on a new topic, which extends the waves ideas covered in the half term to June.</p>	<p>1. A video to illustrate the electromagnetic spectrum and its key uses.            2. <b>Task</b> Students should make a wall chart of the electromagnetic spectrum to include types of radiation, properties and uses.            Submit a picture of the chart.</p>
<p><b>Week 4</b>            Electricity            Circuits basics ( Trilogy )            Electricity Static ( Separate )</p>	<p>1. <b>A video</b> lesson outlining the basic principles of circuits and current and P.D            2. <b>Task</b> complete a summary of the rules for circuits, and the rules for current and P.D ( Upload this to TEAMS ). Make a model of a circuits to show how the components are connected. Upload to TEAMS  <b>Separates.</b> Summarise the rules for charging an object. Complete some home practicals to show the effects of static electricity. These will be on TEAMS. Upload some pictures of your results,  <b>Assessment.</b> Circuit problems of varying standards uploaded onto TEAMS.</p>
<p><b>Week 5</b>            Electricity circuits including RP            Electricity calculations</p>	<p>1. <b>A video</b> lesson outlining how to calculate resistance in a practical and graphs of components.            2. <b>TASK.</b> Describe how to measure resistance in a circuit. Write down all the equations and learn these. Write a guide on when to use which equation and how to rearrange them. Upload a picture onto TEAMS.            Assessment calculation questions. Submit to <b>TEAMS</b></p>

<p>Week 6 Electricity mains</p>	<ol style="list-style-type: none"> <li>1. A video lesson explaining the difference between AC and DC and the risks associated with mains electricity.</li> <li>2. <b>Task</b> Write a leaflet explaining the features of mains electricity and the risks. Submit on <b>TEAMS</b></li> </ol>
<p>Week 7 – Work, GPE, KE and Power. Chance to develop mathematical skills.</p>	<ol style="list-style-type: none"> <li>1. <b>A video</b> explaining GPE, KE, Work and Power. At foundation level this will be on using the equations in their direct form. At higher level this will involve rearranging and linking equations.</li> </ol> <p><b>Task</b> This will involve many questions and practice with equations.</p>