


Year 8: Physics	Curriculum Intent: Students will build upon the core subject knowledge and procedural knowledge in four key areas; Energy, Forces, Space and Electricity. The models and explanations become more complex, and links with work in year 7, in particular Motion, are developed. Application of the core knowledge of the scientific method is expanded into areas such as energy, which builds on the work done on motion and investigative skills from magnetism investigations. Key questions will continue to be the central focus to lessons, and retrieval of the knowledge from earlier topics will be crucial part of this.			
	Topic 1 energy	Topic 2 Forces	Topic 3 Space	Topic 4 Electricity (part 2)
Key ideas	<p>That there are different types of energy called stores. That energy can be transferred between stores That heat can be transferred in 3 ways. How heat transfer can be reduced using insulation How thermal power stations work. The cost of energy.</p>	<p>That there are 3 different types of forces. That there are 3 effects of forces. How to measure forces. Investigating the effects of forces in real life scenarios.</p>	<p>The structure of the solar system. What causes day and night and the seasons. Formation of the solar system and the life cycle of stars. Difference between weight and mass.</p>	<p>That circuit properties can be changed by adding more paths/loops. That current at a junction splits and that sum of currents entering a junction equals the sum of currents leaving a junction That each branch receives the same voltage from the cell Is there a relationship between current and voltage in a wire?</p>
Sequence of Learning - Key Questions	<ol style="list-style-type: none"> 1. What are the different energy stores? 2. How can energy be transferred between the different stores? 3. What are the differences between conduction convection and radiation? 4. Which materials make good insulators? 5. How is energy transferred using a thermal power station? 6. What are the costs of the energy we use in homes? 	<ol style="list-style-type: none"> 1. What are the effects of balanced and unbalanced forces? 2. What are the 3 effects of a force? 3. How can we measure forces? 4. How can forces and pressure be calculated? 5. Which forces can act at a distance? 	<ol style="list-style-type: none"> 1. What are the different 5 things that make up the solar system? 2. What causes day and night? 3. What causes the seasons? 4. What are the 2 types of eclipse and how do they happen? 5. How was the solar system formed? 6. Are stars the same for ever? 7. What is mass and how is it different from weight? 	<ol style="list-style-type: none"> 1. What differences are there between series and parallel circuits? 2. How does current split at a junction? 3. How is voltage shared between loops? 4. Is there a relationship between current and voltage in a wire?

<p style="text-align: center;">Vocabulary</p>	<p>Thermal Gravitational Chemical Magnetic Kinetic Nuclear Electrostatic Forces Waves Heating Current Conduction Convection Radiation</p>	<p>Force Newton Resultant Friction Weight Mass Gravity Pressure Pole Field Pascal</p>	<p>Sun Moon Earth Asteroids Planets Comets Lunar eclipse Solar eclipse Mass Weight Main sequence Red giant White dwarf Red supergiant Supernova Black Hole Neutron star</p>	<p>Series Parallel path components current series parallel voltage potential difference resistance flow energy</p>
<p style="text-align: center;">Practical Skills</p>	<p>Measuring changes in temperature with a thermometer Investigating the effect of insulation</p>	<p>Measuring force with a Newtonmeter</p>		<p>Wiring a circuit Drawing circuit diagrams Measuring current and potential difference</p>
<p style="text-align: center;">Assessment (Related to mastery grids)</p>	<p>Report of investigation providing method, results, analysis and conclusion.</p>	<p>Written assessment of key topics</p>	<p>Written assessment of key topics</p>	<p>Written assessment of key topics</p>