

Physics 12 Year Plan 2018-2019

August 28, 2018--November 1, 2018	November 4, 2018--January 17, 2019	January 20, 2019--March 21, 2019	March 24, 2019--June 3, 2019
<p>Chapter 1: The Science of Physics Section 1 – What is Physics? Section 2 – Measurements in Experiments Section 3 – The Language of Physics</p> <p>Chapter 2: Motion: One Dimension Section 1 – Displacement/Velocity Section 2 – Acceleration Section 3 – Falling Objects</p> <p>Chapter 3: Two Dimensional Motion, Vectors Section 1 – Intro. to Vectors Section 2 – Vector Operations Section 3 – Projectie Motion Section 4 – Relative Motion</p> <p>Chapter 4: Forces & the Laws of Motion Section 1 – Changes in Motion Section 2 – Newton's 1st Law Section 3 – Newton's 2nd & 3rd Laws Section 4 – Everyday Forces</p> <p>Chapter 5: Work & Energy Section 1 – Work Section 2 – Energy Section 3 – Conservation of Energy Section 4 – Power</p> <p>Chapter 6: Momentum & Collisions Section 1 – Movement & Impulse Section 2 – Conservation of Momentum Section 3 – Elastic & Inelastic Collisions</p>	<p>Chapter 7: Circular Motion & Gravitation Section 1 – Circular Motion Section 2 – Newton's Law of Universal Gravitation Section 3 – Motion in Space Section 4 – Torque & Simple Machines</p> <p>Chapter 8: Fluid Mechanics Section 1 – Fluids & Buoyant Force Section 2 – Fluid Pressure Section 3 – Fluids in Motion</p> <p>Chapter 9: Heat Section 1 – Temperature & Thermal Equilibrium Section 2 – Defining Heat Section 3 – Changes in Temperature & Phase</p> <p>Chapter 10: Thermodynamics Section 1 – Relationships Between Heat & Work Section 2 – 1st Law of Thermodynamics Section 3 – 2nd Law of Thermodynamics</p> <p>Chapter 11: Vibrations & Waves Section 1 – Simple Harmonic Motion Section 2 – Measuring Simple Harmonic Motion Section 3 – Properties of Waves Section 4 – Wave Interactions</p>	<p>Chapter 12: Sound Section 1 – Sound Waves Section 2 – Sound Intensity & Resonance Section 3 – Harmonies</p> <p>Chapter 13: Light & Reflection Section 1 – Characteristics of Light Section 2 – Flat Mirrors Section 3 – Curved Mirrors Section 4 – Colour & Polarization</p> <p>Chapter 14: Refraction Section 1 – Refraction Section 2 – Thin Lenses Section 1 – Optical Phenomena</p> <p>Chapter 15: Interference & Diffraction Section 1 – Interference Section 1 – Diffraction Section 1 – Lasers</p> <p>Chapter 16: Electric Forces & Fields Section 1 – Electric Charge Section 1 – Electric Force Section 1 – The Electric Field</p> <p>Chapter 17: Electrical Energy & Current Section 1 – Electrical Potential Section 2 – Capacitance Section 3 – Current & Resistance Section 4 – Electric Power</p>	<p>Chapter 18: Circuits & Circuit Elements Section 1 – Schematic Diagrammes & Circuits Section 2 – Resistors in Series or in Parallel Section 3 – Complex Resistor Combinations</p> <p>Chapter 19: Magnetism Section 1 – Magnets & Magnetic Fields Section 2 – Magnetism from Electricity Section 3 – Magnetic Force</p> <p>Chapter 20: Electromagnetic Induction Section 1 – Electricity from Magnetism Section 2 – Generators, Motors, Mutual Inductance Section 3 – Electromagnetic Waves</p> <p>Chapter 21: Atomic Physics Section 1 – Quantization of Energy Section 2 – Models of the Atom Section 3 – Quantum Mechanics</p>
<p>Global Citizenship Develop a working model of a community water pump that will save labour, especially the labour of women, in terms of access and economy of effort, health and safety issues</p>	<p>Global Citizenship Develop a model of a closed (home) system that reduces the degree of heat loss to conduction, convection & radiation</p>	<p>Global Citizenship Design a stove from recycled tin cans that that can reduce harmful smoke emissions and increase fuel efficiencies in particularly developing nations</p>	<p>Global Citizenship Examine issues related to the storage of nuclear waste and connect them to the practicalities of dealing with these issues in regions such as the Gulf (U.A.R)</p>