

Science: Physics for Everyday Living

UNIT/Weeks	Timeline/Topics	Essential Questions
5	<p><u>Force and Motion</u></p> <ul style="list-style-type: none"> • Time, Distance, and Speed • Velocity • Acceleration • The Law of Inertia • Newton's 2nd Law • Momentum • Newton's 3rd Law • Potential and Kinetic Energy 	<ul style="list-style-type: none"> • What is the importance of the scientific method and the metric system? • Why do some objects not move when a force is applied? • How can a rock possess energy? • How does the topic apply to everyday living?
5	<p><u>Energy and Systems</u></p> <ul style="list-style-type: none"> • Work • Energy • Power • Machines • Gravity • Friction • Circular Motion • Centripetal Force 	<ul style="list-style-type: none"> • How do machines make our lives better? • How do satellites not crash into the earth? • How does the topic apply to everyday living?
5	<p><u>Matter and Energy</u></p> <ul style="list-style-type: none"> • The Nature of Matter • Elements • Compounds • Mixtures • Heat and Temperature • Density • Sub-atomic Particles 	<ul style="list-style-type: none"> • Why does it take more energy to heat water than Steel? • How does a steel boat float? • How do forces on earth compare • How does the topic apply to everyday living?
5	<p><u>Energy and Change</u></p> <ul style="list-style-type: none"> • Chemical Energy • Electric Energy • Mechanical Energy • Solar Energy • Ionic and Covalent Bonds • Ions • Reactants • Products • Photosynthesis • Respiration 	<ul style="list-style-type: none"> • Why do some heat engines use only 13% of the available fuel energy? • How is energy converted from one form to another? • Why do certain atoms bond with others? • How does the topic apply to everyday living?
4	<p><u>Electricity</u></p> <ul style="list-style-type: none"> • Electric current • Electric circuit 	<ul style="list-style-type: none"> • What happens in stars?

	<ul style="list-style-type: none"> • Circuit diagram • Electrical symbols • Resistor • Closed circuit • Open circuit • Switch • Series Circuit • Parallel Circuit • Short Circuit 	
4	<p><u>Magnetism and Electromagnetism</u></p> <ul style="list-style-type: none"> • Permanent Magnet • Temporary Magnet • Magnetic Field • Electromagnet • Compass • Solenoid • Generator • Transformer 	<ul style="list-style-type: none"> • How can things be magnetized? • How are magnets used in our everyday lives?
4	<p><u>Vibrations, Waves, and Sound</u></p> <ul style="list-style-type: none"> • Harmonic Motion • Vibration • Frequency • Wave • Wave Length • Doppler Effect 	<ul style="list-style-type: none"> • How does the topic relate to music? • How does the topic relate to everyday living? • How scientists use the Doppler Effect?
4	<p><u>Light and Optics</u></p> <ul style="list-style-type: none"> • Properties of Light • RGB Color Process • The Effects of Matter on Light • The Electromagnetic Spectrum 	<ul style="list-style-type: none"> • Why do we perceive color? • How do lenses affect light? • How does the topic relate to everyday living?