

Integrated Physics and Chemistry

Science

Year at a Glance

First Six-Weeks	Second Six-Weeks	Third Six-Weeks
<p>Safety, Scientific Methods, Measurements, & Models</p> <ul style="list-style-type: none"> Scientific methods are used to problem-solve, communicate, acquire new knowledge, and evaluate information to get answers to questions. Safety procedures will be followed when using equipment and taking measurements. <p>Fluid Forces</p> <ul style="list-style-type: none"> Properties of fluids will be analyzed including density, viscosity, and buoyancy. 	<p>Properties of Matter</p> <ul style="list-style-type: none"> Physical and chemical properties can be used to classify matter <p>Atoms, Molecules, and Compounds</p> <ul style="list-style-type: none"> Molecules and compounds are composed of atoms bonded together in various combinations 	<p>Chemical Reactions</p> <ul style="list-style-type: none"> Atoms combine and recombine to form different compounds. These combinations and recombinations are made possible through the exchange of energy. Atoms form bonds to acquire a stable arrangement of electrons. <p>Water and Solutions</p> <ul style="list-style-type: none"> Solutes dissolve in solvents to produce solutions with many uses. pH can be used to describe the properties of solutions.
Fourth Six-Weeks	Fifth Six-Weeks	Sixth-Six Weeks
<p>Motion & Forces</p> <ul style="list-style-type: none"> Forces cause changes in motion Momentum is a quantity of motion that is unchanged in any interactions of a system Speed and acceleration can be measured, calculated, and graphed. Newton's Laws can be demonstrated with toys, vehicles, and falling objects. 	<p>Electricity and Magnetism</p> <ul style="list-style-type: none"> Electricity is a useful, yet sometimes dangerous form of energy with many different sources. Electromagnetic energy is a wave with electric and magnetic compounds. <p>Energy</p> <ul style="list-style-type: none"> Forms of energy will be demonstrated including potential and kinetic Energy conversions will be analyzed to demonstrate the law of conservation of energy. <p>Heating and Cooling</p> <ul style="list-style-type: none"> Thermal energy can be transferred by conduction, convection and radiation. Temperature does not measure thermal energy, but there is a relationship between the two. 	<p>Energy Sources</p> <ul style="list-style-type: none"> Energy sources impact the environment. <p>Waves</p> <ul style="list-style-type: none"> All types of waves transfer energy. Waves interact with other waves and with matter. <p>Sound</p> <ul style="list-style-type: none"> Sound waves interact with other waves and with matter. <p>Light and Optics</p> <ul style="list-style-type: none"> Light is an electromagnetic wave and can be placed on a spectrum according to frequency or wavelength. The properties of light allow it to be manipulated with lenses, mirrors and other optical devices.