

Cartersville Middle School- Eighth Grade Physical Science

Topic of Study	Structure and Properties of Matter	Principles of Energy & Matter	Motion	Forces	Waves
<p align="center">Core Ideas</p>	<ul style="list-style-type: none"> • Structure and properties of matter • Mixtures and solutions • Elements and compounds • Matter (structure & composition) • Thermal energy • Energy transformations • States of matter • Chemical and physical properties and changes • Conservation of matter 	<ul style="list-style-type: none"> • Energy • Energy transformations • Matter (structure and composition) • Kinetic and potential energy • Heat transfer (conduction, radiation, and convection) • Electric and magnetic forces (electromagnets) 	<ul style="list-style-type: none"> • Force and motion • Speed and acceleration • Speed and distance • Newton’s Laws of Motion • Balance and unbalanced forces • Energy transformations • Kinetic and potential energy 	<ul style="list-style-type: none"> • Matter (structure and composition) • Energy transformations • Forces (friction, gravitational, electrical, and magnetic) • Force fields • Conductors and insulators 	<ul style="list-style-type: none"> • Waves properties (frequency, amplitude, wavelength, and energy) • Energy (electromagnetic spectrum) • Light and sound • Wave propagation (reflection, refraction absorption, diffraction and transmission) • Lenses: characteristics
<p align="center">Science & Engineering Practices</p>	<ul style="list-style-type: none"> • Planning and carrying out investigations • Constructing explanations • Analyzing and interpreting data • Asking questions and defining problems • Developing and using models 		<p align="center">Overall Concepts</p>	<ul style="list-style-type: none"> • Cause & Effect • System/System Model • Matter & Energy • Patterns 	