

## Suggested 8<sup>th</sup> Grade Georgia Performance Standards (GPS) Yearlong Curriculum Alignment

**NOTE:** The *Characteristics of Science (S7CS1-9)* and *Reading in All Curriculum Areas (S7CS10)* should be integrated throughout all Standards taught.

These co-requisites should be incorporated daily. All standards and elements should be reemphasized throughout the year where appropriate.

Use your textbook as one resource for instructional purposes.

Skills	First Six Weeks	Second Six Weeks	Third Six Weeks	Fourth Six Weeks	Fifth Six Weeks	Sixth Six Weeks
Ongoing Activities	Dates: 8/13 – 9/21 Theme: Atoms, Molecules, Compounds	Dates: 9/24 – 11/02 Theme: Chemical and Physical Changes	Dates: 11/05 – 12/21 Theme: Electromagnetic Spectrum	Dates: 1/08 – 2/14 Theme: Transformations of Energy	Dates: 2/19 – 3/28 Theme: Force, Mass and Motion of Objects	Dates: 3/31 – 5/23 Theme: Gravity, Electricity, Mag.
<p>Problem of the Day, Trivia Questions, Problem Solving, Manipulatives, Technology, Real World Connections, Journal Writing, Classification, Measurement</p> <p><b>Co-requisites:</b>  <b>Characteristics of Science Emphasis (throughout school year)</b>  <b>S7CS1: Importance of curiosity, honesty, openness, skepticism, etc.</b>  <b>S7CS2: Safety practices</b>  <b>S7C3: Computation/Estimation</b>  <b>S7CS4: Tools for Measurement</b>  <b>S7CS5: Use of system, model, and change</b>  <b>S7CS6: Communication</b>  <b>S7CS7: Question scientific claims/arguments effectively</b>  <b>S7CS8: Scientific knowledge achievement</b>  <b>S7CS9: Scientific Inquiry</b></p>	<p><b>S8P1 Students will examine the scientific view of the nature of matter.</b>  S8P1c. Describe the movement of particles in solids, liquids, gases, and plasma states.  d. Distinguish between physical and chemical properties of matter as physical (i.e., density, melting point, boiling point) or chemical (i.e., reactivity, combustibility).  e. Distinguish between changes in matter as physical (i.e., physical change) or chemical (i.e., development of a gas, formation of precipitate, and change in color).  g. Identify and demonstrate the Law of Conservation of Matter</p>	<p><b>S8P1 Students will examine the scientific view of the nature of matter.</b>  S8P1 a. Distinguish between atoms and molecules.  b. Describe the difference between pure substances (elements and compounds) and mixtures.  f. Recognize that there are more than 100 elements and some have similar properties as shown on the Periodic Table of Elements</p>	<p><b>S8P4 Students will explore the wave nature of sound and electromagnetic radiation.</b>  a. Identify the characteristics of electromagnetic and mechanical waves.  b. Describe how the behavior of light waves is manipulated causing reflection, refraction, diffraction, and absorption.  c. Explain how the human eye sees objects and colors in terms of wavelengths.  d. Describe how the behavior of waves is affected by medium (such as air, water, solids).  e. Relate the properties of sound to everyday experiences.  f. Diagram the parts of the wave and explain how the parts are affected by changes in amplitude and pitch.</p>	<p><b>S8P2 Students will be familiar with the forms and transformations of energy.</b>  a. Explain energy transformation in terms of Law of Conservation of Energy.  b. Explain the relationship between potential and kinetic energy.  c. Compare and contrast the different forms of energy (heat, light, electricity, mechanical motion, and sound) and their characteristics.  d. Describe how heat can be transferred through matter by the collisions of atoms (conduction) or through space (radiation). In a liquid or gas, currents will facilitate the transfer of heat (convection).</p>	<p><b>S8P3 Students will investigate relationship between force, mass, and the motion of objects.</b>  a. Determine the relationship between velocity and acceleration.  b. Demonstrate the effect of balanced and unbalanced forces on an object in terms of gravity, inertia, and friction.  c. Demonstrate the effect of simple machines (lever, inclined plane, pulley, wedge, screw, and wheel and axle) on work.</p>	<p><b>S8P5 Students will recognize characteristics of gravity, electricity, and magnetism as major kinds of forces acting in nature.</b>  a. Recognize that every object exerts gravitational force on every other object and that the force exerted depends on how much mass the objects have and how far apart they are.  b. Demonstrate the advantages and disadvantages of series and parallel circuits and how they transfer energy.  c. Investigate and explain that electric currents and magnets can exert force on each other.</p>

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