



GL Physics
Year at a Glance (YAG)
2023-2024



First Semester		Second Semester	
1 st Nine Weeks		3 rd Nine Weeks	
<p>TEKS <u>Introduction: Processes of Physics Investigations (1 day for the entire unit)</u> P.1A, P.1B, P.2A, P.2B, P.2C, P.2D, P.2E, P.2F, P.2G, P.2H, P.2I, P.2J, P.3A, P.3B, P.3C, P.3D, P.3E</p> <p><u>Unit 01: Kinematics in One Dimension and Graphing Motion (24 days for the entire unit)</u> P.1A, P.2A, P.2B, P.2C, P.2D, P.2E, P.2F, P.2G, P.2H, P.2I, P.2J, P.3A, P.3B, P.3E, P.4A, P.4B</p> <p><u>Unit 02: Two Dimensional Motion (9 days for the entire unit)</u> P.1A, P.2D, P.2E, P.2F, P.2G, P.2I, P.2J, P.3A, P.3B, P.3E, P.4C</p>	<p>Introduction to Scientific Processes Students will review the scientific process and be able to describe how physics relates to the other areas of science. Students will review algebraic methods of solving literal equations.</p> <p>Unit 1: One Dimensional Motion Students will investigate the relationship between acceleration, velocity and position. Students will describe and analyze motion graphs by using equations and various sensors to measure quantities such as displacement.</p> <p>Unit 2: Projectile Motion Students will use the properties of projectile motion to solve problems. Students will use vector addition to find relative velocity and use equations to analyze motion in 2 dimensions.</p>	<p>TEKS <u>Unit 06: Universal Gravitation (5 days for the entire unit)</u> P.2C, P.2D, P.2E, P.2F, P.2H, P.2I, P.2J, P.3A, P.3E, P.3C, P.3E, P.5A, P.5B</p> <p><u>Unit 07: Thermodynamics (7 days for the entire unit)</u> P.1A, P.2C, P.2D, P.2E, P.2F, P.2I, P.2J, P.3A, P.3B, P.3C, P.3D, P.3E, P.6E</p> <p><u>Unit 08: Waves (18 days for the entire unit - will spill over into 4th 9 weeks with Light)</u> P.1A, P.2D, P.2E, P.2F, P.2G, P.2H, P.2I, P.2J, P.3A, P.3B, P.3D, P.3E, P.7A, P.7B, P.7C, P.7D, P.7E</p>	<p>Unit 6: Universal Gravitation Students will describe and calculate how mass and distance affect the magnitude of gravitational force between objects.</p> <p>Unit 7: Thermodynamics Explain everyday examples that illustrate the four laws of thermodynamics and the processes of thermal energy transfer.</p> <p>Unit 8: Waves Students will examine and describe oscillatory motion. They will investigate and analyze wave characteristics such as amplitude and frequency, and how those relate to wavelength and other properties. Students will investigate and describe wave behavior for both mechanical and electromagnetic waves.</p>
2 nd Nine Weeks		4 th Nine Weeks	
<p>TEKS <u>Unit 03: Newton's Laws of Motion (14 days for the entire unit)</u> P.1A, P.2C, P.2D, P.2E, P.2F, P.2G, P.2H, P.2I, P.2J, P.3A, P.3B, P.3C, P.3D, P.3E, P.4D</p> <p><u>Unit 04: Conservation of Energy (18 days for the entire unit)</u> P.1A, P.2C, P.2D, P.2E, P.2F, P.2G, P.2H, P.2I, P.2J, P.3A, P.3B, P.3E, P.6A, P.6B, P.6C, P.6D</p> <p><u>Unit 05: Conservation of Momentum (10 days for the entire unit)</u> P.1A, P.2C, P.2D, P.2E, P.2F, P.2G, P.2H, P.2I, P.2J, P.3A, P.3B, P.3E, P.6C, P.6D</p>	<p>Unit 3: Forces & Newtons Laws Students will investigate Newton's 3 Laws of Motion, as well as calculate and describe the effect forces have on objects. Students will draw free body diagrams to find resultant forces or find missing forces</p> <p>Unit 4 : Conservation of Energy Students will investigate and be able to calculate for missing values in problems associated with conservation of energy, work energy theorem and power. Students will investigate and describe examples of energy transformation.</p> <p>Unit 5: Momentum Students will investigate and be able to calculate for missing values in problems associated with conservation of momentum and impulse. Students will also demonstrate the law of conservation of momentum in a lab setting.</p>	<p>TEKS <u>Unit 09: Electrical and Magnetic Forces and Fields (12 days for the entire unit)</u> P.1A, P.2D, P.2E, P.2F, P.2H, P.2I, P.2J, P.3A, P.3B, P.3C, P.3E, P.5A, P.5C, P.5D</p> <p><u>Unit 10: Current Electricity (16 days for the entire unit)</u> P.1A, P.1B, P.2D, P.2E, P.2F, P.2G, P.2H, P.2I, P.2J, P.3A, P.3B, P.3C, P.3D, P.3E, P.5E, P.5F</p> <p><u>Unit 11: Atomic, Nuclear, and Quantum Physics (7 days for the entire unit)</u> P.1A, P.2C, P.2E, P.2H, P.2I, P.2J, P.3A, P.3E, P.3C, P.3D, P.3E, P.5A, P.8A, P.8B, P.8C, P.8D</p>	<p>Unit 9: Electricity and Magnetism Describe and calculate how the magnitude of the electric force between two objects and identify and describe examples of electric and magnetic forces in everyday life.</p> <p>Unit 10: Current and Electricity Investigate and calculate current, potential difference across, resistance, and power used by electric circuit elements connected in both series and parallel combinations.</p> <p>Unit 11: Atomic Interactions Describe the photoelectric effect and the dual nature of light. Compare and explain the emission spectra produced by atoms. Calculate and describe the applications of the mass-energy equivalence.</p>



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Resources

1st Nine Weeks	2nd Nine Weeks	3rd Nine Weeks	4th Nine Weeks
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