



MONROVIA UNIFIED SCHOOL DISTRICT
2009-2010 INSTRUCTIONAL PACING GUIDE
 "World Class Schools for World Class Students"

Department	Science
Course Name	Pre-AP Physics
Grade Level	9-12
Instructional Reference Material (s)	<ol style="list-style-type: none"> 1. Glencoe Science: Physics Principles and Problems (California Edition), McGraw Hill ©2008. 2. Modeling Instruction in Physics Curriculum, Arizona State University. 3. CASTLE (Capacitor-Aided System for Teaching and Learning Electricity), Modeling version.

Pre-AP Physics

- *E.S. – monthly (Tungston)
- *M.S. Math & English – 6 wks (Tungston)
- *M.S. Sci. & Soc.Sci. – 6 wk (benchmark @ 9 wk)
- *H.S. All Content – 9 wk (benchmark @ 9 wk)

Grading/ Benchmark Term	Standard	Topic & Resource Reference	Major Activities (tests, projects, tests, reports, performances)	Common Vocabulary (Content & Academic)	Differentiation Intervention (Skills level, SADIE)	Other Information
Quarter #1 (9 wks)	1a	Unit 1: Graphing and Data Analysis [1week] <i>Glencoe Science:</i> <ul style="list-style-type: none"> • Chapter 1: Physics Tool Kit Unit 2: Constant Velocity Motion [2 weeks] <i>Modeling Instruction:</i> <ul style="list-style-type: none"> • Unit 2: Constant velocity Model <i>Glencoe Science:</i> <ul style="list-style-type: none"> • Chapter 2: Representing Motion 	<ol style="list-style-type: none"> 1. Lab: M&M 2. Lab: Spaghetti Bridge 3. Lab: introduction to Logger Pro data analysis software 	Independent variable, dependent variable, slope, y-intercept, mathematical modeling		
	1b,d	Unit 3: Uniform Acceleration [3 weeks] <i>Modeling Instruction:</i> <ul style="list-style-type: none"> • Unit 3: Uniform acceleration Model <i>Glencoe Science:</i> <ul style="list-style-type: none"> • Chapter 2: Accelerated Motion Unit 4: Newton's 3rd and 1st Laws [3 weeks]	<ol style="list-style-type: none"> 1. Lab: Inclined rail 2. Lab: Video analysis of uniform acceleration. 3. Lab: Freefall 4. VPython programming of constant acceleration motion 	Position, displacement, distance, average velocity, time instant, time interval Instantaneous velocity, acceleration		
			1. Newton's 3rd Law Activities			

Grading/ Benchmark Term	Standard	Topic & Resource Reference	Major Activities (tests, projects, tests, reports, performances)	Common Vocabulary (Content & Academic)	Differentiation Intervention (Skills level, SADIE)	Other Information
Quarter #4 (9_wks)	5a, b, c, 5e 5f, g, h 6a, b, c, j, f, g, i, n	<p>Unit 9: Electrical Circuits [7 weeks] CASTLE: <ul style="list-style-type: none"> Unit 1-4 Unit 6 <i>Glencoe Science:</i> <ul style="list-style-type: none"> Chapter 22: Current Electricity Chapter 23: Series and Parallel Circuits </p> <p>Unit 10: Electrostatics [1week] <i>Glencoe Science:</i> <ul style="list-style-type: none"> Chapter 20: Static Electricity Chapter 21: Electric Fields </p> <p>Unit 11: Magnetism & Electromagnetic Induction [1 weeks] <i>Glencoe Science:</i> <ul style="list-style-type: none"> Chapter 12: Thermal Energy Chapter 13: States of Matter </p> <p>Investigation & Experimentation: These standards are embedded in the labs and experimental activities of all other units.</p>	CASTLE (Capacitor-Aided System for Teaching and Learning Electricity) <ol style="list-style-type: none"> CASTLE Unit 1 activities CASTLE Unit 2 activities CASTLE Unit 3 activities CASTLE Unit 4 activities CASTLE Unit 6 activities 1. Lab: Sticky Tape 1. Lab: Mapping magnetic fields 2. Lab: Making Electromagnets 3. Lab: Making Motors	Closed loop, open loop, circuit, continuous conduction path, charge, charge flow, current, resistance, voltage, power Charge, electric force, electric field Magnetic Field, magnetic force		