

Physics (revised 2008)	Physics Levels: I - introduced; P - Practiced; M - mastered			
CONCEPT	SKILLS	LEVEL	CHAPTER	TEACHING NOT
I. Introduction to Physics				
A. Introduce Physics	1. Describe the nature of physics and its related fields	P,M	1	can move quick through this ma
	2. Practice scientific notation	P,M		
	3. Use of basic SI units	P,M		
	4. Distinguish between accuracy and precision	P,M		
	5. Present various ways of summarizing data	P,M		
II. Mechanics				
A. Motion in one-dimension	1. Introduce the relationships between displacement, time, speed, and velocity.	P,M	2	demos- use motion dete
	2. Describe the difference between accelerated and nonaccelerated motion.	I,P,M		labs- DC timers & fre
	3. Explore freely falling bodies as examples of uniformly accelerated motion.	I,P,M		
B. Motion in two-dimensions	1. Differentiate between scalar and vector quantities.	P, M	3	demos-
	2. Apply trigonometric methods to find resultant vectors and vector components.	P, M		horiz./vert ball c lab-
	3. Explain and solve problems involving projectile motion.	I, P, M		air rockets
	4. Describe relative motion in terms of vector operations.	I, P, M		
C. Forces	1. Define force and introduce free body diagrams.	P, M	4	demos -
	2. State Newton's Laws of Motion.	P, M		fan cart 3rd law
	3. Identify action-reaction pairs.	I,P,M		labs-
	4. Explain the difference between mass and weight.	P, M		F=ma - cart/dc t
	5. Use coefficients of friction to calculate frictional force.	I,P,M		
D. Work and Energy	1. Define work and perform calculations with work.	I, P, M	5	demos-
	2. Identify and show calculations using kinetic energy & potential energy.	I, P, M		Newton's cradle
	3. Explain the conservation of mechanical energy.	I, P, M		
	4. Relate work, energy, time, and power.	I, P, M		
E. Momentum	1. Define momentum and impulse.	I, P, M	6	
	2. State and apply the law of conservation of momentum.	I, P, M		demos -
	3. Identify the three types of collisions & solve problems involving momentum and kinetic energy in these collisions.	I, P, M		air tracks labs air track lab onl carts & DC time

IV. Electricity & magnetism	Physics			
	(do not always have time for this unit)			
A. Static Electricity	1. Describe electric fields and forces.	I, P, M	16	
A. Static Electricity	2. Describe electrical energy and capacitance.	I, P, M		demos-
				VandeGraff gen
				iron filings/fields
				basic static kits
B. Current Electricity	1. Define current and resistance.	I, P, M	17	
	2. Use Ohm's law to calculate current and resistance.	I, P, M		demos-
	3. Draw simple and complex circuit diagrams.	I, P, M	18	simple circuits
	4. Calculate effective resistances for circuits.	I, P, M		labs -
	5. Define and solve problems with electrical power.	I, P, M		build circuits &
				measure V,I,R
C. Magnetism	1. Explain magnetic fields and magnetization.	I, P, M	19	
	2. Calculate magnetic fields and forces	I, P, M		
	3. Define and explain induction.	I, P, M		
	4. Define and explain alternating current.	I, P, M		
Text Chosen for 2008-2009				
Holt Physics				
Holt , Rinehart and Winston				
Serway & Faughn				
2009				
ISBN-13:978-0-03-036817-2				
ISBN-10:0-03-036817-0				