Houston County School District
General Physical Science
Chemistry Component **2011-2012**

Suggested Teaching Week	Alabama State Department of Education Science COS #	National Science Standards	Prentice Hall Physical Science: Concepts in Action, 2006 Resources/Activities	Test Item Included-(Number of Questions)	Mapping Comments/Section Objectives Covered	Date(s) Taught
1 & 2	12 Identify metric units for mass, distance, temperature, velocity, acceleration, density, force, energy, power	A-1, A-2, B-1, B-2, B-4, B-5 D-4, E-2, F-1, G-1, G-2, G-3	Ch 1 and Lab Safety Density lab Density Rainbow lab	1.2.4, 1.3.4 (3)	All Sections • Covert between common metric prefixes • Analyze data using graphs	
3 & 4	5 Describe physical and chemical changes in terms of endothermic and exothermic processes.	A-1, A-2, B-2, B-3, E-2, F-1 G-1, G-2, G-3	Ch 2 Phase change lab Chemical reaction demo Cyalume sticks	2.1.1, 2.1.2, 2.1.5, 2.3.1, 2.3.3 (6)	All Sections • Classify matter as substances or mixtures • Distinguish changes as chemical or physical	
5 & 6	2, 5 Identify solutions in terms of components, solubility, concentration, and conductivity. Describe physical and chemical changes in terms of endothermic and exothermic processes.	A-1, A-2, B-2, F-5, G-1, G-2, G-3	Ch 3 Cold and hot packs	3.1.1,3.1.2, 3.1.3, 3.3.3, 3.3.4 (8)	Section 1 and Section 3 • Identify states of matter • Explain phase changes • Describe changes as exothermic or endothermic	
7 & 8	1 Recognize periodic trends of elements including the number of valence electrons, atomic size, and reactivity	A-1, A-2, B-1, B-2, B-6, E-1, E-2, G-1, G-2, G-3	Ch 4 Reactivity of metals	4.1.3, 4.2.1, 4.2.2, 4.3.2, 4.3.3 (7)	All Sections • Describe contributions to the model atomic model • Determine the numbers of subatomic particles present in isotopes	

Houston County School District
General Physical Science

Suggested Teaching Week	Alabama State Department of Education Science COS #	National Science Standards	Prentice Hall Physical Science: Concepts in Action, 2006 Resources/Activities	Test Item Included- (Number of Questions)	Mapping Comments/Section Objectives Covered	Date(s) Taught
9 & 10	1 Recognize periodic trends of elements including the number of valence electrons, atomic size, and reactivity	A-1, A-2, B-1, B-2, B-3, C-1, C-5, F-1, F-3, F-5, G-1,G-2, G-3	Ch 5 Flame tests Spectrum tubes	5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.3.1, 5.3.2 (9)	All Sections • Compare element properties using periodic trends	
11 & 12	3, 4 Contrast the formation of ionic and covalent bonds based on the transfer or sharing of valance electrons Use nomenclature and chemical formulas to write balanced chemical equations.	A-1, A-2, B-1, B-2, B-3, B-6 E-2, G-1, G-2, G-3	Ch 6 Naming and formulas Lab	6.1.1, 6.1.2, 6.1.4, 6.1.5, 6.3.1, 6.3.2 (8)	All Sections • Draw dot diagrams • Describe properties of ionic, covalent, and metallic bonds • Name and write formulas for compounds • Identify the diatomic molecules	
13 & 14	4 Use nomenclature and chemical formulas to write balanced chemical equations	A-1, A-2, B-1, B-2, B-3, F-1, F-5	Ch 7 Types of reactions lab	7.1.1, 7.1.2, 7.3.1, 7.3.3 (5)	Section 1, 2.1 and 3 • Balance chemical equations • Classify types of Reactions	
15 & 16	2 Identify solutions in terms of components, solubility, concentration, and conductivity	A-1, A-2, B-2, B-3, E-1, F-1	Ch 8 Conductivity Lab	8.1.2, 8.1.3, 8.2.1, 8.2.2 (4)	Sections 1, 3, 3.1 and 3.2 • Describe the formation Of a solution • Determine the conductivity of a solution	
17 & 18	11 Describe the nuclear composition of unstable isotopes and the resulting changes to their nuclear composition	A-1, A-2, B-1, B-3, B-5, D-1, F-1, F-2, F-4, F-5, G-1, G-2, G-3	Ch 10 Science in Motion lab M & M lab *Ch 9 optional – time permitting	10.1.1 (1)	Sections 1, 2, and 4 • Distinguish between the 3 basic types of nuclear decay • Determine & graph the half-life of an isotope	
End of 1st Semester				**(51) Total**	**Semester Test**	

Houston County School District
General Physical Science

Physics Component

Suggested Teaching Week	Alabama State Department of Education Science COS #	National Science Standards	Prentice Hall Physical Science: Concepts in Action, 2006 Resources/Activities	Test Item Included- (Number of Questions)	Mapping Comments/Section Objectives Covered	Date(s) Taught
19 & 20	7 Relate velocity, acceleration, and kinetic energy to mass, distance, force and time	A-1, A-2, B-4, D-1, E-2, F-1, G-1,G-3	Ch 11 and Ch 12 Speed and velocity lab Acceleration lab	11.1.2, 11.2.3, 11.2,1, 11.2.2, 11.2.3, 11.3.1, 11.3.2, 11.3.4, (8)	Sections 11.1, 11.2, 11.3 and 12.1 • Calculate velocity and acceleration • Determine proper units for all quantities	
21 & 22	7 Relate velocity, acceleration, and kinetic energy to mass, distance, force and time	A-1, A-2, B-4, E-1, F-1, G-1, G-2, G-3	Ch 12 Force Lab	12.1.1, 12.1.2, 12.1.4, 12.1.5, 12.2.1 (8)	Sections 12.1, 12.2, 12.3 • Calculate force • Compare and contrast The 4 types of friction	
23 & 24	7 Relate velocity, acceleration, and kinetic energy to mass, distance, force and time	A-1, A-2, B-4. E-2, G-1, G-2, G-3	Ch 13 Investigating siphons Determining Bouyant Force	13.3.2, 13.2.3, (2)	All Sections • Explain the effect of buoyancy on the apparent weight of an object • Explain how a hydraulic system works to change a force	
25 & 26	7 Solve problems for velocity, acceleration, force, work and power	A-1, A-2, B-4, G-1, G-2, G-3	Ch 14 Simple Machine Lab K'nex Lab	14.1.2, 14.1.3, 14.3.3 (5)	All Sections • Calculate work and power • Analyze and compare real machines to ideal machines	
27 & 28	8 Relate the law of conservation of energy to transformation of potential energy, kinetic energy, and thermal energy	A-1, A-2, B-1, B-3, B-4, B-5, B-6, G-1, G-2, G-3	Ch 15 Potential energy lab	15.1.1, 15.1.2, 15.1.5, 15.2.1, 15.2.2, 15.2.3 (7)	Section 1 and Section 2 • Create energy conversion diagram showing how energy is conserved	

Houston County School District
General Physical Science

Suggested Teaching Week	Alabama State Department of Education Science COS #	National Science Standards	Prentice Hall Physical Science: Concepts in Action, 2006 Resources/Activities	Test Item Included- (Number of Questions)	Mapping Comments/Section Objectives Covered	Date(s) Taught
29 & 30	8 Relate the law of conservation of energy to transformation of potential energy, kinetic energy, and thermal energy	A-1, A-2, B-2, B-5, B-6, D-1, G-1, G-2, G-3	Ch 16 Calorimeter lab Radiation lab	16.1.1, 16.1.2, 16.2.1, 16.2.2 (5)	Sections 1, 2.1 and 2.2 • Measure the specific heat of a substance • Measure the thermal energy transferred in a system Distinguish the methods of thermal energy transfer	
31 & 32	9 Compare methods of energy transfer by mechanical and electromagnetic waves	A-1, A-2, B-6, C-6, E-2, F-1, F-2, F-5,G-1	Ch 17 Stinky lab Doppler lab-tuning forks	17.1.1, 17.1.2, 17.1.3, 17.2.1, 17.4.1 (7)	Sections 1, 2 and 4.1 • Draw waves of differing frequencies and label wave characteristics • Distinguish between transverse and longitudinal waves	
33 & 34	9 Compare methods of energy transfer by mechanical and electromagnetic waves	A-1, A-2, B-5, B-6, E-1, E-2, F-1, F-5, G-1, G-2, G-3	Ch 18 Polarized film Spectrophotometer	18.2.1, 18.2.2, 18.3.1 (7)	Section 2 and Section 3 • Rank and classify electromagnetic waves based on frequencies	
35 & 36	10 Explain the relationship between electricity and magnetism	A-1, A-2, B-4, B-5, B-6, F-1, F-5,G-1, G-2, G-3	Ch 20 and Ch 21 Iron in cereal (Total) Ohm's law lab Magnet lab	20.1.1, 21.1.1 (2)	Sections 20.1 20.2, 21.2, & 21.2.1 • Relate electricity to magnetism • Calculate Ohm's law • Create diagrams of electrical and magnetic field lines	
End of 2nd Semester				**(51) Total**	**Semester Test**	