## Course Syllabus McDougall-Littell (2006)

Chapter	Objective(s)	Labs
1	2: Investigate how a	Mixtures, Compounds &
Introduction	pure substance can be	Elements (MCE)
to Matter	distinguished from	1.1 Finding the Conductor
	another based on	1.4 Separating Mixtures
	characteristic	
	properties.	
2	3: Conduct	MCE
Properties of	investigations to	1.2 Filtering a Mixture
Matter	differentiate among	1.8 Mixing Solutions
	compounds, mixtures,	
	and solutions.	
	5: Observe and analyze characteristic properties of	
	substances before &	
	after substances	
	combine to determine	
	if a chemical or physical	
	reaction has occurred	
3	13: Create and analyze	GPE/KE Lab
Energy	displays of data	
	illustrating the	
	relationships of kinetic	
	energy to the mass &	
	speed of an object.	
	14: Use models to	
	explain how a system	
	of objects may contain	

	varying types and amounts of potential energy. 16: Apply the Law of Conservation of Energy to develop arguments supporting the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.	
4 Temperature & Heat	<ul> <li>15: Analyze &amp; interpret data to determine how various factors affect energy transfer as measured by temperature.</li> <li>4: Investigate &amp; determine changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.</li> </ul>	Make a thermometer lab or teacher demonstration MCE 5.1 Changing Mixtures
5 Atomic Structure & the Periodic Table	1: Analyze patterns within the periodic table to construct models.	Atomic Bohr Models

6	1: Analyze patterns	Electron Dot Diagrams &
Chemical	within the periodic	Atomic Molecular Models
Bonds &	table to construct	
Compounds	models.	
7	6: Create a model	Electrolysis
Chemical	diagram or simulation	
Reactions	to describe the Law of	Balance Chemical Reactions
	Conservation of Mass	
	in chemical reactions	
	and explain the	
	resulting differences	
	between products &	
	reactants	
8	5: Observe and analyze	MCE
Solutions	characteristic	5.1 Changing Mixtures
	properties of	5.3 Solid Solutions
	substances before &	
	after substances	
	combine to determine	
	if a chemical or physical	
	reaction has occurred	
	7: Design, construct, &	
	test a device that either	
	releases or absorbs	
	thermal energy by	
	chemical reactions.	
10	9: Use Newton's 2 <sup>nd</sup>	
Motion	Law of Motion to	
	explain how changes in	
	an object's motion	
	depend on the sum of	
	the external forces on	

	the object and the	
	the object and the	
	mass of the object.	
11	8: Use Newton's 1 <sup>st</sup> Law	Simulations in the
Forces	of Motion to	classroom
	demonstrate that an	
	object is either at rest	Experimenting with Forces
	or moves at a constant	& Motion (EFM)
	velocity unless acted	10.1 Mousetrap Car
	upon by an external	
	force.	
	9: Use Newton's 2 <sup>nd</sup>	
	Law of Motion to	
	explain how changes in	
	an object's motion	
	depend on the sum of	
	•	
	the external forces on	
	the object and the	
	mass of the object.	
	10: Use Newton's 3 <sup>rd</sup>	
	Law of Motion to	
	design a model to	
	demonstrate and	
	explain the resulting	
	motion of two colliding	
	forces.	
	16: Apply the Law of	
	Conservation of Energy	
	to develop arguments	
	supporting the claim	
	that when the kinetic	

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evaluate how various	Magnetism	•	
		factors affect the	

strength of electric and magnetic forces.	
12: Construct an argument from evidence explaining that fields exist between objects exerting forces on each other even when the objects are not in contact.	