

Regents Chemistry Curriculum Map

Grade: 11 Content: Regents Chemistry Teacher: Morgan Nuesell

	Time Period	Focus Standard (NYS P-12 Science Learning Standards)	Assessment	Essential Questions	Resources	Differentiation
Unit 1: Introduction to Chemistry	Approximately 2 weeks (15 43-minute class periods)			<ul style="list-style-type: none"> • What is chemistry? • What is matter? • How is matter classified? • How do chemical and physical changes differ? 		
Unit 2: Atomic Structure and the Periodic Table	Approximately 2 weeks (15 43-minute class periods)	HS-PS1-1. Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.				
Unit 3: Chemical Names,	Approximately 2 weeks (15 43-minute class					

Regents Chemistry Curriculum Map

Formulas, and Equations	periods)					
Unit 4: Bonding	Approximately 2 weeks (15 43-minute class periods)					
Unit 5: Moles and the Math of Chemistry	Approximately 2 weeks (15 43-minute class periods)					
Unit 6: Periodicity	Approximately 2 weeks (15 43-minute class periods)	<p>HS-PS1-1. Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.</p>				

Regents Chemistry Curriculum Map

<p>Unit 7: Chemical Reactions and Stoichiometry</p>	<p>Approximately 2 weeks (15 43-minute class periods)</p>	<p>HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of patterns of chemical properties.</p> <p>HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends on the changes in total bond energy.</p> <p>HS-PS1-7. Use mathematical representations to support the claims that atoms, and therefore mass, are conserved during a chemical reaction.</p> <p>HS-PS1-12. Use evidence to illustrate that some</p>				
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Regents Chemistry Curriculum Map

		<p>chemical reactions involve the transfer of electrons as an energy conversion within a system.</p> <p>HS-PS3-2. Develop and use models to illustrate that the energy at the macroscopic scale can be accounted for as the combination of energy associated with the motions of particles (objects) and energy associated with the relative position of particles (objects).</p>				
<p>Unit 8: Physical Behavior of Matter</p>	<p>Approximately 2 weeks (15 43-minute class periods)</p>	<p>HS-PS1-9. Analyze data to support the claim that the combined gas law describes the relationship among volume, pressure, and temperature for a sample of an ideal gas.</p> <p>HS-PS1-10. Use evidence to support claims regarding the</p>				

Regents Chemistry Curriculum Map

		formation, properties and behaviors of solutions at bulk scales.				
Unit 9: Solutions	Approximately 2 weeks (15 43-minute class periods)	HS-PS1-10. Use evidence to support claims regarding the formation, properties and behaviors of solutions at bulk scales.				
Unit 10: Kinetics	Approximately 2 weeks (15 43-minute class periods)	HS-PS1-5. Apply scientific principles and evidence to explain how the rate of a physical or chemical change is affected when conditions are varied. HS-PS1-6. Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of product at equilibrium.				

Regents Chemistry Curriculum Map

		<p>HS-PS1-12. Use evidence to illustrate that some chemical reactions involve the transfer of electrons as an energy conversion within a system.</p> <p>HS-PS3-2. Develop and use models to illustrate that the energy at the macroscopic scale can be accounted for as the combination of energy associated with the motions of particles (objects) and energy associated with the relative position of particles (objects).</p>				
<p>Unit 11: Redox</p>	<p>Approximately 2 weeks (15 43-minute class periods)</p>	<p>HS-PS1-12. Use evidence to illustrate that some chemical reactions involve the transfer of electrons as an energy conversion within a system.</p>				
<p>Unit 12: Acids and Bases</p>	<p>Approximately 2 weeks (15 43-minute class)</p>	<p>HS-PS1-11. Plan and conduct an investigation to</p>				

Regents Chemistry Curriculum Map

	periods)	compare properties and behaviors of acids and bases.					
Unit 13: Organic Chemistry	Approximately 2 weeks (15 43-minute class periods)						
Unit 14: Nuclear Chemistry	Approximately 2 weeks (15 43-minute class periods)	HS-PS1-8. Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.					
Unit 15: Regents Review	Approximately 2 weeks (15 43-minute class periods)						

