



Chemistry

Timeline	Unit/theme	Standard	Student Focused Objective	Resources/ Suggested Activities
15 days	Unit 1/ Intro to Chem	1c. Analyze and interpret data to identify or describe an element based on its number of protons, its relative abundance of isotopes, its organization and placement of electrons, and its light emission spectrum	I can understand how measurements are taken and valued in chemistry. I can begin to see the how and why the periodic table is organized.	It's Not Rocket Science Curriculum, Lab Equipment, Gum
18 days	Unit 2/ The Atom	1. Use the periodic table as a model to predict the structure and properties of atoms and elements. a. Assess the merits and limitations of historic and modern atomic models pertaining to the presence, position, mass, and charge of subatomic particles. b. Develop and use models of an element's subatomic particles to compare and contrast its atoms, ions, and isotopes. c. Analyze and interpret data to identify or describe an element based on its number of protons, its relative abundance of isotopes, its organization and placement of electrons, and its light emission spectrum. d. Ask questions to determine the relationship between an element's physical and chemical properties and its position on the periodic table e. Construct explanations of how periodic trends can be used to predict the properties of elements.	I can understand the history and development of atomic theory. I can understand and identify the various trends of the periodic table. I can understand and predict the structures and components of atoms based on periodic trends.	It's not Rocket Science Curriculum, Lab equipment.
15 days	Unit 3/ Electrons	2. Construct explanations of the formation of intramolecular and intermolecular forces and their effects on atomic and molecular interactions. a. Develop and use Lewis dot diagrams to model the formation of covalent and ionic bonds. d. Develop and use models based on valence	I can understand the importance of electrons when it comes to chemical and molecular tendencies.	It's Not Rocket Science Curriculum, Lab Equipment, Chemical Kim Lab Demonstration

MAGIC CITY ACCEPTANCE
ACADEMY

		<p>shell electron pair repulsion (VSEPR) theory to predict the shape of a molecule up to four electron domains around the central atom</p> <p>f. Analyze and interpret data from the periodic table to derive chemical formulas and names for ionic and covalent compounds.</p>		
25 Days	Unit 4/ Chemical Bonds	<p>2. Construct explanations of the formation of intramolecular and intermolecular forces and their effects on atomic and molecular interactions</p> <p>b. Construct an explanation of the change in potential energy that occurs when chemical bonds are formed.</p> <p>c. Plan and carry out an investigation to identify specific physical and chemical properties of compounds formed from ionic, covalent, and metallic bonding</p> <p>d. Develop and use models based on valence shell electron pair repulsion (VSEPR) theory to predict the shape of a molecule up to four electron domains around the central atom.</p> <p>e. Construct an explanation of the polarity of a molecule based on electronegativity data and molecular geometry.</p> <p>g. Analyze and interpret data to compare the strengths of intermolecular forces and to explain how these forces affect physical properties</p>	I can understand and predict how bonds are formed. I can investigate in a laboratory setting how and why reactions take place. I can interpret the forces that drive these reactions.	It's Not Rocket Science Curriculum, Lab Equipment, Chemical Kim Lab demonstration
16 days	Unit 5/ Reactions	<p>3. Develop and use multiple types of models to represent chemical reactions.</p> <p>a. Use qualitative and quantitative reasoning to describe and balance chemical equations to satisfy the law of conservation of matter.</p> <p>b. Use qualitative and quantitative reasoning to classify chemical reactions, predict the products of single replacement and double replacement reactions, and represent chemical reactions using ionic equations.</p> <p>c. Analyze and interpret temperature and bond energy data to classify a reaction as endothermic</p>	I can understand how reactions happen and predict how theoretical reactions take place. I can describe and classify reactions. I can reason why various reaction variables affect the rate of reaction.	It's Not Rocket Science Curriculum, Lab Equipment, Chemical Kim lab demonstration

MAGIC CITY ACCEPTANCE
ACADEMY

		or exothermic. d. Construct an explanation, using particle diagrams and collision theory, for how particle size, concentration, and temperature affect the rate of a chemical reaction.		