


IPC Curriculum Bundle #9

Title	
Atoms, Molecules, and Compounds	Suggested Dates 2/23 – 3/12/2010 (13 days)

Big Idea/Enduring Understanding	Guiding Questions
Molecules and compounds are composed of atoms bonded together in various combinations.	How do scientists know so much about something that can't be seen? How can atoms combine to form a new & different substance?

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	District Specificity/Examples	Suggested Resources (See note above)
Allow one day for College Board MyRoads I. D. Me activity within this bundle.		
7 The student knows relationships exist between properties of matter and its components. 7B Research and describe the historical development of the atomic theory.	Such as <ul style="list-style-type: none"> • Thompson • Dalton • Rutherford • Bohr • Mendeleev • Lewis 	
7 The student knows relationships exist between properties of matter and its components. 7C Identify constituents of various materials or objects.	Such as <ul style="list-style-type: none"> • Metal salts • Light sources • Fireworks displays • Stars using spectral-analysis techniques • Flame testing for metals 	Fire Works Lab “Fireworks” – video - http://streaming.discoveryeducation.com/search/assetDetail.cfm?guidAssetID=35792cf5-7de8-4164-abac-1bb1bd74ddd5&tabDisplay=districtContent&rand=73C519F5-1560-0CC5-36560C13DAB6BDB8
7 The student knows relationships exist between properties of matter and its components. 7D Relate the chemical behavior of an element including bonding, to its placement on the Periodic table.	Including <ul style="list-style-type: none"> • Compare and contrast ionic, covalent, and metallic bonds • Use the periodic table to determine the number of protons, electrons, and neutrons in an atom • Determine an element’s placement as related to period and group • Place metals, nonmetals, metalloids, and transition metals in the proper place on a 	“The Periodic Table of the Elements Lab” – <u>Investigations in Chemistry and Physics</u> “Bonding and Molecules Lab” – <u>Investigations in Chemistry and Physics</u> Bohr Model Games Comparing Covalent and Ionic Bonds & Dice

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	<p>periodic table</p> <ul style="list-style-type: none"> • Identify elements by their symbols • Recognize polyatomic ions • Predict oxidation numbers • Write basic chemical formulas • Naming compounds • Apply octet-rule/Lewis dot diagram • <i>relate chemical properties of substances to the arrangement of their atoms or molecules</i> • <i>analyze physical and chemical properties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity</i> • <i>relate the physical and chemical behavior of an element, including bonding and classification, to its placement on the Periodic Table</i> 	<p>Game(chem. Resource folder)</p> <p>Density is a Periodic Property</p> <p>Element Ad Project</p> <p>Element Brochures Project</p> <p>“Chemical Formulas Lab” – <u>Investigations in Chemistry and Physics</u></p> <p>Nomenclature Challenge on Dry-Erase Boards for naming compounds and determining Formulas</p> <p>Greek Prefixes Worksheet</p>
<p>7 The student knows relationships exist between properties of matter and its components.</p> <p>7E Classify samples of matter from everyday life as being elements, compounds, or mixtures.</p>	<p>Including</p> <ul style="list-style-type: none"> • Pure substances – Elements and compounds 	