

IPC Curriculum Bundle #9



Title	Suggested Dates
Atoms, Molecules and Compounds	2/22-3/11 (14 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)
Vocabulary: atom, element, compound, valence electrons, ionic bond, covalent bond, metals, non-metals, metalloids, energy level, isotopes, atomic number, mass number, protons, electrons, neutrons, periods, groups, bonding, atomic theory, ions		
<p>IPC.3 Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:</p> <p>3F research and describe the history of physics and chemistry and contributions of scientists.</p>	<p>Such as</p> <ul style="list-style-type: none"> • Thompson • Dalton • Rutherford • Bohr • Mendeleev • Lewis 	
<p>IPC.6 Science concepts. The student knows that relationships exist between the structure and properties of matter. The student is expected to:</p> <p>6D relate the physical and chemical behavior of an element, including bonding and classification, to its placement on the Periodic Table;</p>	<p>Such as</p> <ul style="list-style-type: none"> • Metal salts • Light sources • Fireworks displays • Stars using spectral-analysis techniques • Flame testing for metals <p>Including</p> <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 	<p>Fire Works Lab</p> <p>“Fireworks” – video - http://streaming.discoveryeducation.com/search/assetDetail.cfm?guidAssetID=35792cf5-7de8-4164-abac-1bb1bd74ddd5&tabDisplay=districtContent&rand=73C519F5-1560-0CC5-36560C13DAB6</p> <p>“The Periodic Table of the Elements Lab” – Investigations in Chemistry and Physics</p> <p>“Bonding and Molecules Lab” – Investigations in Chemistry and Physics</p> <p>Bohr Model Games</p> <p>Comparing Covalent and Ionic Bonds & Dice</p>

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	<p>transition metals in the proper place on a 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 <p>Including</p> <ul style="list-style-type: none">• Pure substances – Elements and compounds	<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>Nomenclature Powerpoint Polyatomic Ion worksheet</p> <p>Greek Prefixes Worksheet A is for Atom video</p>
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