IPC Curriculum Bundle #10

Title	Suggested Dates
Chemical Reactions	3/21-4/15 (20 days)

Big Idea/Enduring Understanding	Guiding Questions
Atoms combine and recombine to form different compounds. These combinations and recombinations are made possible through the exchange of energy. Atoms form bonds to acquire a stable arrangement of electrons.	How are chemical reactions different from nuclear reactions? Why does the law of conservation of mass require balancing chemical equations?

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: conservation of mass, reactants, products, coefficients, subscripts, yields, synthesis, decomposition, single replacement, double replacement, combustion, exothermic reaction, endothermic reaction, activation energy, catalyst, fusion, fission		
IPC.7 Science concepts. The student knows that changes in matter affect everyday life. The student is expected to: **7B** recognize that chemical changes can occur when substances react to form different substances and that these interactions are largely determined by the valence electrons;	• Identify indications of a chemical change • Release of gas • Precipitate formation • Energy change • Classify chemical and physical changes	RXN Lab RXN power point
IPC.7 Science concepts. The student knows that changes in matter affect everyday life. The student is expected to: **7C** demonstrate that mass is conserved when substances undergo chemical change and that the number and kind of atoms are the same in the reactants and products;	Including • Identify the parts of a chemical equation • Reactants • Product • Balance chemical equations • Determine the number of atoms in a chemical compound • Classify different reaction types • Synthesis • Decomposition • Combustion • Single displacement • Double displacement	Balancing Equations worksheet

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IPC.7 Science concepts. The student knows that changes in matter affect everyday life. The student is expected to: **7D** analyze energy changes that accompany chemical reactions such as those occurring in heat packs, cold packs, and glow sticks and classify them as exothermic or endothermic reactions	Such as • Heat packs • Cold packs • Glow sticks • Exothermic reactions • Endothermic reactions • Activation energy • Catalysts	
IPC.7 Science concepts. The student knows that changes in matter affect everyday life. The student is expected to: **7E** describe types of nuclear reactions such as fission and fusion and their roles in applications such as medicine and energy production; and	Such as • Radioisotopes (radioactive decay) • Balance nuclear reactions (Fission and Fusion)	Mouse Trap Reaction (Video) Modeling Radioactive Decay Twizzler Decay lab Nuclear Reaction Video Nuclear Waste Containers Video