Algebra Connections in Chemistry and Physics

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Synopsis

This curriculum unit is centered on Conservation of Mass and Energy, two laws that govern Chemistry and Physics. My intent is for students to understand that they are applying basic algebraic concepts as they work with conservation laws. After all, if the "Before" is equal to the "After," then there must be a mathematical equation that can be written. Along the way, students will learn some basics about chemistry (atomic structure) and nuclear physics (subatomic particles), but don't be scared off! The miniscule size and very brief lifetimes of some particles are the context for learning mathematical concepts from measurement and scientific notation to exponents to solving systems of equations and exponential equations. I am writing this unit for my 9^{th} and 10^{th} grade Algebra students, but the content and activities could also be used for Chemistry and Physics classes.