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Curriculum Units by Fellows of the National Initiative

2014 Volume V: Place Value, Fractions, and Algebra: Improving Content Learning through the Practice Standards

Protect My House: Developing a Family Over the Counter Drug Dosage Chart

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This unit was designed to be taught to high school chemistry students at the beginning of the school year. It has an overarching goal to fill in core gaps in students' mathematical knowledge. Students will create a poster for their household that will have a list of over the counter drugs that their family uses, along with the correct calculated dosages for each of their family members. By having students create a product (poster) that directly relates to their family's well-being, I hope to capture their buy-in regarding why they need to learn math skills that apply to life; these are, in fact, the same skills required to succeed in chemistry. While this unit lays the foundational framework for stoichiometry, the emphasis of the unit is on the development of mathematical concepts and practices of arithmetic, fractions, and proportional relationships. As such, this unit can be used in any of the high school math class sequences including pre-algebra, algebra I, geometry, and algebra II. By focusing on teaching students how to read, interpret, and mathematically manipulate information from OTC drug labels, the end product will not only be applicable for the students, but will be a great starting point for many of the essential stoichiometric conversions that will be necessary in general chemistry.

(Developed for Chemistry, grades 10-12, and AP Chemistry, grades 11-12; recommended for Chemistry, grades 10-12; PreAlgebra and Algebra I, grades 8-10; and Algebra II, grades 9-12)

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