



Affordable Medical Care: Using Chemistry Concepts to Lower Consumer Cost for Medications and Vaccines

Guide for Curriculum Unit 19.03.07

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The cost of healthcare is one of the largest personal expenditures worldwide, with residents of the United States spending upwards of \$10,000 each year. A significant portion of healthcare costs in the United States and many other countries comes from paying for prescription medications. This unit is designed to give 9-12th grade chemistry, pharmacology, or biology students an introduction to prescription drug costs and what scientific measures can be taken to lower costs. Topics necessary for this unit include the relationship between structure and function, pH, activation energy, the relationship between temperature and reaction rate, catalysts, inhibitors, among additional concepts. This unit functions as an end-of-year project incorporating all of the topics listed above and challenges students to conduct research, design their own strategy to lower drug costs, and prove their viability and cost-saving potential through calculation. Individually or in pairs students must pick a strategy or technology, spend a day or more researching it, two days writing a research paper on it, one day preparing a class presentation, and one day for presentations. Student's ability to effectively prove the viability of their strategies/technologies as well as estimate the cost savings to consumers will be weighted heavily

(Developed for Chemistry, grade 11; recommended for Biology, Economics, and Pharmacology, grades 9-12)

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