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Curriculum Units by Fellows of the National Initiative
2011 Volume V: Chemistry of Everyday Things

Bad Hair Days? Chemistry to the Rescue

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This curriculum unit is designed for a college prep chemistry class composed mostly of sophomores and a sprinkling of juniors and seniors who have already completed college prep biology, algebra 1 and geometry. However, the unit may be modified as enrichment in a college prep biology class or an extension module of a biochemistry unit in honors or AP biology.

The unit is divided into three parts. Part I focuses on the structure of proteins. Part II deals with the relationship between the physical structure and chemical composition of hair and hair properties, shape and color. Part III covers the chemistry behind a perm, straightening and coloring.

To appreciate how chemistry can come to the "rescue" of a bad hair day, students will engage in a variety of activities that illustrate that science is not only a body of knowledge but is also a way of doing and thinking. They will construct models, perform laboratory experiments, collaborate with peers, use 3-D graphic organizers, and find information and report findings through various platforms which include the use of online resources and digital devices. Through this unit, students will see not only the relevance of chemistry in every day life but also how it is not a spectator sport - to learn chemistry is to do chemistry!

(Developed for CP Chemistry, grades 10-12; recommended for College Prep Chemistry, Honors Chemistry, Biology Honors, and AP Biology, grades 10-12; College Prep Biology, 9-12; and AP Chemistry, 11-12)

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