

# Biodiesel Lessons and Labs For High School Science



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Dear Teacher,

I teach honors first-year and AP Chemistry. My intention with these lessons was to introduce biodiesel as an alternative fuel to my students by replacing traditional chemistry labs with labs and activities pertaining to biodiesel. My students have found that these lessons have made chemistry labs more interesting and relevant to their lives and they have thoroughly enjoyed doing them. There is a lab suitable for each major topic in a standard chemistry textbook and these labs can also be adapted for other classes such as environmental science. These labs should work in conjunction with each other; some labs require information and/or fuel from previous lab activities. You can either use these lessons throughout your entire course or you can pick and choose the lessons that you think are best. If you are not interested in doing all the lessons, the three most valuable are the Stoichiometry, Properties of Liquids, and Heat trio that all work together.

My personal interest in biodiesel began when I purchased my Volkswagen Beetle TDI. Like my students, I was utterly fascinated by the fact that I could make fuel for my car on something that I could eat. From my natural interest, I began discussing it with my students and they were immediately intrigued and constantly wanted to know more.

I began working with the Georgia Intern-Fellowships for Teachers (GIFT) program in the summer of 2005 (for more about GIFT visit <http://www.ugastars.org> ). For the past couple summers I have been fortunate enough to work with Mr. Dan Geller, Dr. Tom Adams, and Dr. John Goodrum at the University of Georgia doing research on biodiesel. These lessons were written as part of the GIFT program and I've enjoyed using them in my classroom with my students.

These lessons and experiences through the GIFT program have allowed me to expand my activities in my classroom much further than I could have anticipated through subsequent grants and trips. For a complete description on all the extended activities I've done with my students, visit my website: <http://www.teachbiofuels.org> . Also feel free to email me with any questions or concerns, [erin@alumni.rose-hulman.edu](mailto:erin@alumni.rose-hulman.edu) .

Sincerely,

Erin L. Gawron

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