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Curriculum Units by Fellows of the National Initiative
2009 Volume V: Green Chemistry

# The Science of Environmental Justice: Can Green Chemistry Change Our World?

Guide for Curriculum Unit 09.05.10, published September 2009
by Catherine Salvin

Fundamentally, environmental justice can be defined as the right of all people-regardless of race or class-to live, work, play, and learn in healthy, safe environments. The Southeast corner of San Francisco, where our school is located and almost all of my students live, is a case study in environmental injustice, carrying a hugely inequitable toxic burden compared to the rest of the city. This unit utilizes chemistry as a means of better understanding the toxicity our community faces, and draws upon green chemistry for its potential to address environmental injustice.

Through studying the fundamentals of chemistry-atomic structure, chemical bonds, polarity, ions and isotopes-students will understand four categories of toxicity present around them: reactivity, solubility, radioactivity, and volatility. Examining the atomic and molecular structures shared within these families of toxins will allow students to identify what makes a toxin toxic, and how each type of toxin can affect human health and the environment. Students will then turn to the field of green chemistry, analyzing its principles and practice to determine its potential and limitations in offering solutions that will help achieve environmental justice.

(Developed for Environmental Science, grades 9-12; recommended for Environmental Science, Social Studies, Social Justice, Chemistry, Environmental Justice, and Urban Studies, grades 9-12)