Green Chemistry & Environmental Sustainability: A Middle School Module

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Agenda

• Overview of Green Chemistry Program at Pfizer
• Background on The Pfizer Foundation and science education outreach
• Middle School Module Overview
• Q&A
Green Chemistry at Pfizer

• Formal program began in 2001
• Multi-disciplinary approach
• Site-based and Corporate-wide efforts
• EPA Presidential GC Award – 2002 (Sertraline)
• UK IChemE Crystal Faraday Award – 2003 (Sildenafil)
• Closely linked to Corporate Citizenship philosophy
Green Chemistry at Pfizer

**Internal Elements**

Site-based teams
Corporate Steering Committee
Seminars
Symposia
Site-based awards
*Pipeline* articles
Annual program goals
Metrics
Branding/logo
Green Chemistry at Pfizer

External Elements

Journal publications
Conference presentations
Validation/Recognition
Student sponsorship
Academic partnerships
Graduate workshops
### Pfizer Philanthropy

#### Access to Medicines
- Pfizer Helpful Answers
- Patient Assistance Programs
- Trachoma Initiative
- Sharing the Care/Connection to Care
- Diflucan Partnership

**$500-600 million/year**

#### Colleague Programs
- United Way
- Global Health Fellows
- Matching Gifts Program
- Volunteer Program

#### Caring for Community
- Global Health
- Community Programs
- Science Education
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- Global Health
- Community Programs
  - Science Education

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Pfizer Foundation Science Education Program

Goals are to:

• Help raise the standards of scientific literacy for all students;

• Broaden the pool of future scientists;

• Improve the quality of the workforce in a high-tech environment; and,

• Offer opportunities for students from diverse backgrounds.
SMART Program

- Science & Math Are Really Terrific
  - SAMJAM – Science & Math Jamboree
- School partnerships
- Teacher training programs
  - Job shadowing
  - Site visits/tours
  - Conference attendance sponsorships
Convergence

• Natural fit to align efforts of Green Chemistry and Science Education Programs
• Middle and high schoolers have a concern for the environment
• Create a learning experience that embraces both chemistry and the environment – they can co-exist through green chemistry!
The Middle School Module

- A set of exercises, readings and experiments to teach children about environmental sustainability and green chemistry through a ten day, interdisciplinary module
  - Science
  - Math
  - Language Arts
  - Social Studies
- Based on a team-based product development project
- Mapped to national education standards
The Middle School Module

• Goals
  – Inspire middle schoolers to pursue science and math education
  – Provide an elemental awareness of triple bottom line concept and environmental stewardship/ sustainability
  – Learn basics of green chemistry
  – Children to self-discover complexity of industrial and societal challenges
Timeline

- 1Q04 - Grant secured from The Pfizer Foundation
- 2Q04 - Project launched
- 3Q04 - Teachers oriented and solicited to participate
- 3Q04 - Selected “volunteer” teachers to work with The Keystone Center
- 4Q04 – First draft written
- April 2005 - Teacher training
- Classroom testing April-June, Sept-Nov., 2005
Next Steps

• Incorporate learnings into revised version
• Roll out module to Pfizer SMART schools
• Make available to any who are interested, free of charge (haven’t determined mechanism yet)
• Develop a High School version, with more detail and complexity around the 12 Principles and triple bottom lines
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