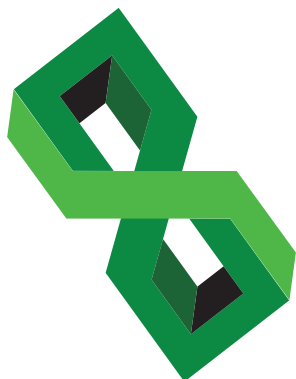


beyondbenign green chemistry education



Green Chemistry and Sustainable Science Education and Outreach

Beyond Benign's outreach, curriculum development and educator training programs are designed to bring the concepts and problem-solving methods of green chemistry and sustainable science to life in the classroom and in the laboratory.

Green chemistry, the science of creating safe, energy efficient and non-toxic products and processes, offers a concrete path towards solving the environmental problems our society faces today.

The concepts of green chemistry are integral knowledge for all future scientists and educated citizens as we build a more sustainable society. By relating science and sustainability to everyday lives, our programs spark students' passion for creating positive change.

Beyond Benign's educational programs are proven vehicles for bringing green chemistry concepts to students and educators and empowering college students to be stewards of their environment and communities.



Community Outreach

Fellows Program

Teacher Training

College & University



"I never knew that chemistry could be fun like this. You get to make stuff. Now, I want to be a green chemist!"

Middle School Student

"It's been quite a blessing to be a part of the innovation that comes from Beyond Benign ... it's made quite an impact on my life and future."

Ben Stewart
Outreach Fellow

"I think that what you are doing is wonderfully informative and relevant to today's world and we would definitely invite you back!"

Sylvia Klingzing
Teacher

"The workshop was valuable because I can truly use this in conjunction with my every day curriculum. Thank you so much!"

Mary Lytle
Teacher



“The group from Beyond Benign truly engaged our students and we’re thankful for their participation in our after school program, for getting students interested and thinking about science as it relates to their lives.”

Lindsey Borr
Teacher



Green Chemistry and Sustainable Science Outreach

Linking college student mentors with K-12 students & communities

Through this program, Beyond Benign staff train college student fellows from Massachusetts colleges. The fellows then work with our staff of scientists and education specialists to bring green chemistry to K-12 students. Staff and fellows discuss green chemistry topics, careers in science and lead lab experiments and hands-on activities at over 40 classroom and school events to demonstrate sustainable solutions to scientific, environmental and social challenges. College students inspire younger people to pursue studies in the sciences through our outreach mentoring program, while also raising awareness of environmental problems and environmentally benign solutions.

40
fellows

The fellows serve as ambassadors of green chemistry on a broader scale by helping to educate and inform the public on topics related to sustainability. Staff and fellows participate in over 20 community events annually throughout New England. By reaching out through activities based on real-world examples, we make science and sustainability relatable to everyone.

Demystifying science through outreach

When we make science accessible, students understand how they, as a scientist, could play an important role in creating a healthy future by designing the next generation of green and sustainable products and processes.

Beyond Benign outreach events involve:

- Hands-on, inquiry-based experiments and activities based on real-life examples and current events
- Age-specific activities that encourage cooperation and teamwork
- Demonstration of cutting edge green chemistry technologies that clearly relate to students day-to-day lives
- Links to state and national standards to enrich after school programs

4634
students & parents

“There are many students who are now interested in the sciences because of us fellows and that alone has made this experience worth while.”

Stephanie Intriago
Outreach Fellow



“It was so nice learning about green chemistry. I love to learn new things!”

Elementary School
Student



“Thanks to Beyond Benign, I was able to gain valuable “real world” experience by implementing my studies in a hands on manner.”

Eriko Watanabe
Outreach Fellow



“...the part where we took a lab we currently use in the classroom and made it green was so hard. I love a struggle. Thanks for making it all so relevant.”

Aaron Warner
Teacher

Green Chemistry K-12 Curriculum, Professional Development Workshops and On-Line Courses

For teachers by teachers

Beyond Benign teacher training institutes provide science educators with the tools and skills necessary for integrating green chemistry and other sustainable approaches into their classrooms. Teachers are provided and trained on our curriculum, which revolutionizes the way standards-based science content is delivered to students. Through engaging and relevant simulations, students apply the concepts of sustainability to business models that develop an understanding of the economic, social and philosophical implications of chemical processes and material science.

995 teachers

Teachers who currently use our curriculum in their classroom work with Beyond Benign's team of scientists and educators to lead summer training institutes for middle and high school level teachers. Through mentoring and immersion style training, teachers are introduced to the concepts and importance of green chemistry and Beyond Benign's curriculum.

Green Chemistry Middle School and High School Curriculum:

The middle and high school level curriculum connects chemistry to other disciplines to peak student interest and increase science literacy. The middle school lessons include a business simulation where students can clearly see the application of science in society. The high school curricula includes introductory lessons on green chemistry, replacement lessons for previously toxic labs, industry examples of green chemistry in action and a simulation project where students become materials chemists. All the lessons are linked directly to state and national learning standards, while also engaging students in the world of science that relates very clearly to their lives.

Green Chemistry On-Line Courses:

Beyond Benign runs on-line courses for high school teachers to reach a diverse audience. The course involves an introduction to green chemistry, as well as introducing teachers to the curriculum of Beyond Benign and teaching them to green their own lessons to reduce their impact and peak student learning in their classrooms.



“I am so excited to use this in my classroom with ANYTHING I'm working on. The lessons are very cross-curricular. I think this is one of the most important concepts in helping them understand their world.”

Kristin McFarland
Teacher





Green Chemistry in Colleges and Universities

Beyond Benign carries out work in higher education and beyond, bringing green chemistry curriculum and training to educators and students. Focus areas include the Green Chemistry Commitment, and the development of toxicology and environmental health science curricula for chemistry faculty.



The Green Chemistry Commitment

The Green Chemistry Commitment is a systematic response to the demand for safer, non-toxic products and processes, shifting our educational institutions to prepare students to enter the workforce armed with the skills and knowledge to create society's next generation of sustainable materials. The Commitment is a bottom-up approach, allowing for colleges and universities to begin to change the education of a scientist today.



Toxicology and Environmental Health Curriculum for Chemists

Beyond Benign staff work to design toxicology curriculum for chemistry faculty and students, bringing another tool to the design toolbox for scientists; that of understanding molecular design from a mechanistic level.



Partner with Beyond Benign today!

Educators and students:

Beyond Benign partners with educators and students in K-12 and college to bring green chemistry to classrooms and laboratories through curriculum development, professional development workshops and student programs. Contact us to learn more about how you can be involved.



Business and Industry:

Create sustainable partnerships between your business and local schools and communities by partnering with Beyond Benign in order to sustain green chemistry educational programs. Businesses can partner with Beyond Benign through a number of different formats in order to support the educational work in K-12, community or higher education.



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John C. Warner
Co-founder of Green Chemistry
President of Beyond Benign

www.beyondbenign.org

100 Research Drive, Wilmington MA 01887
p: 978.229.5450
e: info@beyondbenign.org

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