



GREEN CHEMISTRY EDUCATION

An Interview With Johanna Brown, Pullman High School Chemistry Teacher

How did you become interested in green chemistry?

Chemistry teacher Johanna Brown is passionate about green chemistry and she shares her boundless enthusiasm with her students. Ever since she attended introductory green chemistry sessions presented by Saskia VonBergen from the [State of Washington Department of Ecology](#) and [Beyond Benign](#) she has been hooked. Johanna uses green chemistry as a way to engage more fully with her high school junior students to get them excited about learning. And it is working!

How do you incorporate green chemistry into your curriculum?

Johanna introduces her students to green chemistry with a short unit on green chemistry principles and then follows up with hands-on engineering challenges. Students are asked to focus on resources in each of the challenges and think about how to use our limited resources and wisely.

Some of the activities include:

- Students make play-doh in a very inefficient way, looking at multiple recipes and learning about MSDS sheets
- Students look at innovative types of sustainable packaging and then design their own six-pack carrier using recycled materials
- Students learn about life cycle assessments by doing an assessment of cupcakes and then applying what they have learned to a product of their choosing
- Students do a chemical hazard assessment – they take on the careers of Synthetic Chemist, Toxicologist and Environmental Scientist to do some inquiry-based work around determining if specific chemicals carry too much risk



What challenges have you overcome in preparing to teach green chemistry and offering the curriculum at your school?

Johanna's school has been very supportive. Reading and math skills are a major focus at schools so it can be hard to find time for science. However Using a business angle focus, students look at product designs and think about what consumers want and how to market them.

Where should green chemistry education for teachers be focused?

The best target audience for green chemistry education is elementary school teachers. It is important to engage children with tangible green chemistry concepts at an early age.

Recommended Resources

- [Beyond Benign](#)
- [National Science Teaching Association](#)
- [Washington Science Teachers Association](#)
- [The Biennial Conference on Chemical Education \(BCCE\)](#)
- [Federal Green Challenge Awards](#)

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