

Summative Assessment: Green Chemistry Part 2

In this project, student teams will apply knowledge of both green chemistry and engineering design to design an object that is functional, economical, and environmentally safer than existing alternatives. After designing and testing the alternative mushroom material product in comparison to a traditional polystyrene product of similar design and use, the teams will create either a poster or slide presentation. That presentation will be delivered to the classroom and also to a larger audience of concerned stakeholders, including parents, school officials and appropriate community members who may be interested in finding a substitute for polystyrene products. The following elements of a team's experimental protocol must be covered in their presentation:

- Purpose
- Materials and Methods
- Data and Analysis
- Discussion/Conclusions/Applications
- Identify sources of error
- Green Chemistry Connections:
 1. What polystyrene-based product did you test and replace?
 2. What are the environmental issues around your polystyrene product?
 3. Did your Ecovative product perform as well as the polystyrene? Why or why not?
 4. If your polystyrene product were to be replaced with your Ecovative product, which of the 12 Principles of Green Chemistry would be met?
 5. Are there any drawbacks to the switch to your Ecovative product?

Each team member will also be required to keep a Reflective Learning Journal that will be handed in every week during the project.

Team members will be graded on the basis of the rubric below.

Driving Question: How can we become a sustainable community through the 12 Principles of Green Chemistry?

Things we can improve:	Base Criteria	Things that were amazing:
	<p>Research: teams are continually reviewed for their research efforts. The research includes how thoughtfully they investigated, selected and engineered their alternative mycelium product and how well they developed and carried out every stage of their experimental design protocol.</p>	
	<p>Presentation: team clearly presents the findings of their experiment, associated with both the original polystyrene product and with the sustainable mycelium alternative. Team members are well-prepared to answer audience questions related to their work.</p>	
	<p>Team Agreements and Contracts: each team member built and abided by their agreements and followed their contract to be helpful and positive as a team. Each member was respectful toward other members and contributed to achieve an effective result.</p>	
	<p>Self Reflections: using tools such as peer review, reflective journal entries and teacher informal and formal feedback, made adjustments and improvements throughout the period of the project.</p>	