UBC Geering Up Engineering Outreach
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Sustainable Chemistry (8-9)

Hello! This document includes a brief outline of our Sustainable Chemistry workshop, as well as relevant BC ADST curriculum connections. In this workshop, students will learn about green chemistry, an area of chemistry focusing on minimizing hazardous material usage, by creating edible water bottles.

BC Curriculum Ties (In addition to satisfying multiple core competencies)	BC Applied Design, Skills, and Technologies Curriculum Links 8-9:
	
	Complex tasks require the acquisition of additional skills & complex tasks may require multiple tools and technologies.
	• *Applied Design:*
	  ○ *Making - Making a product using known procedures/tutorials and modeling of others & trial and error.*
	• *Understanding Context:*
	  ○ *Empathize with potential users to find issues and uncover needs and potential design opportunities.*
	
	BC Science Curriculum Links 8-9:
	
	Understanding Green Chemistry.
	• *Questioning and predicting*
	  ○ *Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest.*
	  ○ *Make observations aimed at identifying their own questions about the natural world.*
	• *Applying and innovating*
	  ○ *Contribute to care for self, others, community, and world through personal or collaborative approaches.*

Grade Levels	8-9

Time	1~1.5 Hours
Goals of the Workshop	1. To introduce green chemistry through a hands-on experiment 2. To consider the ethical and environmental implications of our daily decisions 3. To learn about new applications of organic and synthetic chemistry

Activity Descriptions

A Closer Look at Plastic

Objective: For students to learn the advantages & disadvantages of plastic, as well as learn the concept of green chemistry & its applications in today's society

Participants will:

- Learn about what plastic is & why society's current plastic usage is unsustainable.
- Examine various plastic products using a pocket microscope.
- Learn about what green chemistry is & the different projects sustainable chemists work on.

Edible Plastic

Objective: For students to complete their own science experiments & create edible plastic, as well as discuss the feasibility of discontinuing plastic water bottle usage nationwide.

Participants will:

- Create their own edible plastic using water & apple juice by completing their own science experiment.
- Discuss the pros & cons of edible plastic, then explore and brainstorm future applications of green chemistry

We can't wait to connect with your school & expose your students to the STEM field with our exciting, hands-on STEM activities!