**Lifecycle Analysis of an Artifact**

In this project, you will research the lifecycle of a consumer product or artifact, make a poster to illustrate and explain the lifecycle of your chosen artifact, and present your findings to the class. You may work in groups of 2 or 3.

**Focus: When researching the lifecycle of your artifact, consider the following questions.**

1. What are the raw materials that are needed to manufacture your artifact?
2. Where do these raw materials originate?
3. How is your artifact manufactured? (In other words, how does it go from raw materials to finished product?)
4. What happens to your artifact after it has been used?
5. How does the lifecycle of your artifact align with the Twelve Principles of Green Chemistry?

**When answering these questions, be specific and be careful not to regurgitate facts that you don’t really understand.**

**Format:** You must present your findings using a tri-fold poster. The center section should include a lifecycle diagram, similar to the examples given in class. The side panels should include explanations of each stage of the lifecycle. You must also turn in a properly-formatted works cited page with your poster.

**Sources:** You may use books, journals, websites, and other credible online sources; however, you may only use one encyclopedia-type resource, and this includes electronic encyclopedias. You need a total of at least three resources (including one that exists in printed form, even if you access it electronically).Note: Wikipedia is not an acceptable source but can lead to credible sources.

**Assessment:** You will be graded on the quality and detail of your research as well as the design of your poster. You will present your findings to the class, and this will also be included in the project grade. Furthermore, you must keep track of your progress with a daily journal. This journal will be turned in and graded as part of the total project grade as well.

**Timeline**: 1) Choose a partner if desired and the artifact you will be researching.

 2) Turn in your journal, demonstrating the completion of your research.

 3) Turn in a draft of your poster.

 4) Class presentations and peer evaluations.

**Teacher Notes**

* **Be sure to caution students that, in the case of an open loop lifecycle, there may be many possible endpoints for a particular product, and they should analyze all of those endpoints. In addition, some endpoints may be more favorable than others. For example, for plastic bottles.**
	+ Some may end up in landfills
	+ Some may end up in garbage patches in the ocean or elsewhere in the environment
	+ Others may be repurposed and used to manufacture another type of product
* **Some students may need assistance in selecting an artifact. The following is a list of possible suggestions for artifacts/products to choose:**
	+ Plastic water bottle
	+ Clothing
	+ Consumer cleaning products
	+ Fast food containers
	+ Styrofoam food containers (keep in mind if you are doing lesson 2 it will include research around polystyrene products)
	+ Furniture
	+ Toothbrush