

Learning Cycle Planner

Consumer Product Disassembly Lesson

Common Curriculum Goal:

Topics: Systems thinking, global climate change, ecological preservation

Learning Objective: Students critically analyze the life cycle of products

Exploration Phase:

Hands-on Activity: Product Disassembly (Materials and Procedure below)

Exploration through Media:

1. Video: The Story of Stuff: <http://www.storyofstuff.com/index.html>
2. The Earth Day Network Footprint Calculator: <http://earthday.net/footprint/flash.html>
3. Video: Deconstruction Time Lapse <http://www.rebuildingcenter.org/deconstruct/>
4. Video: Mountain Top Removal Coal Mining in West Virginia:
<http://www.youtube.com/watch?v=zIUFW-7h1LM>

Concept Development Phase:

Concepts to be taught: Energy flow, cradle to cradle, human impacts on ecosystems, resource consumption, pollution and waste, recycling, and reuse, planned obsolescence, resource extraction

Procedures to be taught: Responsible consumerism

Activities: Newsweek Article, Toxic Tsunami:

<http://www.newsweek.com/id/207445>

60 Minutes News article and video, Following the Train of Toxic E-Waste

<http://www.cbsnews.com/stories/2008/11/06/60minutes/main4579229.shtml>

Discussion: Make connections between E-waste and human health. What can be done to stop this cycle of pollution?

Connections to other Lessons:

CO2 Aquariums- Bath Tub Simulation

Teaching across the Curriculum:

Social justice, Consumer rights

Product Disassembly

Allow two 45 minute class periods

Materials for each student or small group:

1 or 2 products (see list below), assorted plastic bags, screw drivers, pliers, other tools for disassembly of products, magnets

Examples of Products: blown speakers, old cell phones, radios, CD players, MP3 players, TVs, computers, computer monitors, and other electronics, sports balls, clocks, watches, neon lights, light bulbs, light fixtures, small motors, small pumps.

Procedure:

1. Students bring in a product from home that might be thrown away.
2. Disassemble products and keep all the pieces.
3. Collaborate to identify as many of the pieces as possible.
4. Research to find which pieces are recyclable and what products can be made in the recycling process.
5. Report all findings as a short class presentation.

Helpful Information:

Provide some of the products for students, for example, be sure to provide one old TV with a cathode ray tube. Assure students that disassembling the products is safe as long as no materials are burned, melted down, or ingested. If materials are difficult to identify use this as a basis for a discussion about the complexity of products and refer to The Story of Stuff.

References:

Pelley, S. (Writer). (2008). Following the trail of toxic e-waste. [Television new report]. In S. Granatstein (Producer), *60 Minutes*. Nov. 9, 2008. CBS. Retrieved July 26, 2009 from, <http://www.cbsnews.com/stories/2008/11/06/60minutes/main4579229.shtml>