

## A System Redesign, page 1

Below is a diagram of the materials economy, borrowed from *The Story of Stuff*.

### Directions:

1. For each step of the materials economy, list any negative impacts *below* that step in the diagram.
2. For each step, identify at least one thing that drives that step to produce the impacts identified. Write this information *above* each step of the diagram.

Extraction	Production	Distribution	Consumption	Disposal
Identify drivers/causal factors:				
List negative impacts:				

## A System Redesign, page 2

What if the materials economy could be redesigned? Where are points of intervention where you would redesign this system?

**Directions:** Review the following possibilities. For each possible solution, determine and list the effects it could have on the materials economy.

Possible Solution	Impacts
<b>1. biomimicry</b> —the use of models from nature to solve human problems; products are designed according to how things are designed in nature (e.g., energy efficient buildings inspired by termite mounds)	
<b>2. closed loop production</b> —a cyclical system of production in which waste products and energy used in manufacturing are reused, instead of disposed	
<b>3. conscious consuming</b> —an awareness among consumers of how their buying decisions impact the environment, their health, and the well-being of people who create products	
<b>4. consumer labeling</b> —designing product labels to include accurate and detailed information about where and how a product was made, providing consumers directly with information about a product	
<b>5. corporate social responsibility</b> —holding businesses accountable to adhere to ethical standards and international norms (for example, labor laws to protect workers) when creating products	
<b>6. cradle to cradle design</b> —a lifecycle design approach that tries to anticipate the environmental consequences throughout the entire life of a given product; everything in the chain of a product’s development, use, and disposal is reused or recycled to create something new	
<b>7. extended producer responsibility</b> —a belief that producers are responsible for reducing waste and toxic materials associated with producing material goods and should therefore be responsible for product disposal and pollution clean-up	
<b>8. fair trade</b> —a system of partnerships between businesses and producers; the Fair Trade Federation ensures all of its members agree to conditions like fair wages, environmental sustainability, and respect for cultural identity	
<b>9. government accountability</b> —government can create incentives, often in the form of tax-based subsidies, for sustainable goods and services, including renewable energy and clean production; governments can also enact and enforce laws designed to protect environmental and human health	
<b>10. green chemistry</b> —the design of manufactured goods by inventing nontoxic chemicals and processes that do not pollute	
<b>11. local living economies</b> —systems that value human and community needs and provide local resources, fair wages, and low environmental impacts for a community; these systems are made of businesses that are owned by people who share in the direct impacts of production	
<b>12. zero waste</b> —the design and management of products and processes to decrease the amount of waste and the toxicity of materials, and to ensure materials are not burned or buried	