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Engineering Design  
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## Project 1 - Plastic Water Bottle Lifecycle

1. Research and Development
  - a. The process of manufacturing and distributing water bottles has been applied for a long time, so companies don't allocate much research to the actual production process
  - b. There is however, a large portion of research done based around marketing and different ways to sell the same water bottles
2. Marketing
  - a. Marketed against tap water, trying to suggest that the bottled water is a better quality water by relating it to images of mountains and springs.
  - b. Uses scare tactics to make bottled water is more environmentally responsible and that tap water is bad for you
  - c. Often aimed towards "on-the-go" lifestyles
  - d. Marketed to sell in bulk so that consumers buy as many as possible and continue buying more and more
3. Manufacturing
  - a. Oil is extracted
  - b. cleaned at oil refinery
  - c. turned into pre bottle form at plastics factory then heated and formed to bottle
4. Packaging
  - a. Bottle is taken to a bottling plant and filled with water
  - b. Packaged together and shipped to stores
5. Sales, Distribution, and Transportation
  - a. Bottles are sold to companies
  - b. Shipments of bottles are taken to chain store distribution centers by truck
  - c. Chain stores ship bottles (with other products) by truck from distribution centers to the individual stores
6. Consumer Use
  - a. Bought at stores by consumers and briefly used
7. Final Disposition
  - a. Bottles are either thrown away or recycled
    - i. thrown away bottles go to a landfill
    - ii. recycled bottles are manufactured into things like carpet, fleece and other plastic products. These products, however, are also produced to be used for a short amount of time and are often then thrown away

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<http://storyofstuff.org/movies/story-of-bottled-water/>