

# Lab8

[Science](#), [Biology](#)



**ASSIGN  
BUSTER**

Due What goes into the landfill where the garbage truck is unloaded? For three days, keep track of the waste that you produce and throw into the trash. Do not include items you recycle; only what actually goes to a landfill.

Keep track of your waste in the following categories:

a. Paper and cardboard \_\_\_50\_\_\_ %

b. Organic Matter (food waste) \_\_\_5\_\_\_ %

c. Glass \_\_\_0\_\_\_ %

d. Plastic \_\_\_15\_\_\_ %

e. Metal \_\_\_5\_\_\_ %

f. Other waste \_\_\_25\_\_\_ %

Total = 100 %

At the end of three days, determine the percentage of your total waste that makes up each of the six categories. You don't have to weigh or even list the specific items in each category, only a rough estimate of the percentage.

How much trash do we carelessly dispose of along our country roads and in our neighborhoods? Take a walk of approximately one mile along a country road or walk at least 30 minutes in a city or town and record the trash that was improperly disposed of in the natural environment. (It's a good way to get some extra exercise this week too). Use the same categories as in question #1 above, but be more specific (i. e., how many glass or metal cans, how many old tires, etc.) were found along your walk. Keep your eyes open for all sorts of waste, which could be defined as anything that is not natural in the environment. If you try to help the environment by picking up the refuse, please wear protective gloves.

1. 12 aluminum cans

2. 16 plastic soda bottle/juices
3. 9 empty plastic bags
4. At least 2 dozen cigarette butts
5. 26 fast food wrapper/bags
6. Five used zip-lock baggie/plastic packaging
7. Miscellaneous and unidentifiable waste; more than can be counted

For this page of the lab (questions 3-8), use the following website

2. The United Kingdom alone disposes of over 40 million car, van, and truck tires annually.

a. What is the difference between reconditioning these tires and reprocessing these tires?

Recondition tires are retread tires; they are able to be repaired and can once again be used safely on a vehicle. Reprocessed tires are those tires that are too damaged to be reconditioned or repaired are often reprocessed tires, can reappear and be repurposed for application as in asphalt and road ways.

b. Give 1 end product of a reprocessed tire.

Reprocessed tires can reappear and be repurposed for application as in asphalt and road ways.

3. In today's society, we all rely heavily on computers.

a. How can computers be recycled?

Some computers can be refurbished and updated and once again can be a useful tool for the user.

b. Why cant you throw away computer terminals as garbage?

Computers should not be thrown away as mere garbage because many can be updated and certain parts are not necessarily biodegradable.

4. How can coffee shops get into the act of reducing waste?

Firstly, coffee grounds can be added to compost when saved, they can purchase local fresh fruits and vegetables to serve at their café, they can use real cups, as opposed to paper or plastic, selling used and donated books is also a very helpful contribution that many coffee houses could make.

5. Cardboard is a large waste product. How can it be reused or recycled by the shipping industry?

Recycling the packaging and reusing shipping boxes can be both money saving and environmentally friendlier. Companies can also switch from traditional packing popcorn and switch to a new packing material that can be disintegrate with water when no longer needed, unlike Styrofoam.

6. Many components of automobiles should be recycled (not reused) or treated as hazardous waste. Besides tires, name three components most auto mechanics do not just "throw away".

Motor Oil can be recycles and is very detrimental when simply dumped in the environment. CFCs, or Chlorofluorocarbons, found in cooling systems are environmentally damaging and should be collected. Finally, all of the cleaning solvents mechanics use to clean the working parts of vehicles, these should be collected.

7. List three basic guidelines to reduce wastes, according to the Savemor family of Recycle City.

The Savemor's reduce waste by maintaining household appliances and when they need replacing always invest in energy efficient models. They recycle all recyclable materials, glass, wood, paper, metal, and plastics. The Savemor's also reduce their overall waste by holding garage sales often and

eliminating things they do not need them and putting them in the hands of people who do.

8. What are two things you can personally do in your own life to help reduce waste?

I already recycle, I use the reusable shopping bags as often as I can instead of taking paper or plastic bags, and have had most of my monthly bills changed to come only via email as opposed to a paper bill.

9. What is your zip code?

My zip code is 48823. East Lansing Michigan

10. Toxics:

a. Are there any superfund sites in your area?

There are apparently 3 potential superfund sites in Ingham County, however the counties overall rating is rather high and positive.

b. Who and where are they?

Motor Wheel Inc, Barrels Inc, and Adam's Plating

11. Air Quality:

a. How does your county rank (what percentile compared to all counties in the US) in terms of your added cancer risk from hazardous air pollutants?

My County comes up as having less the good air quality, in fact in some cases it was considered so of the dirtiest air quality, somewhere in the top 10% of the dirtiest locales in relation to air quality.

b. Who are the top three polluters contributing to smog and soot in your community (based on the top three “ PM-10” emissions)?

Eckert Station, Michigan State University, and Mason Elevator Company.

12. Water Quality:

How does your county rank (what percentile compared to all counties in the US) in terms of water quality? (Use the Clean Water Act comparative ranking – “ Percentage of Surface Waters with Impaired or Threatened Uses”)

We sit at approximately 30%, which equates to having good and low pollutants in the water.

### 13. Environmental Justice:

How does your county rank (higher, lower, or about the same) compared to Los Angeles County, CA (90036) and Houghton County, MI (49930) in terms of toxics, air, water, land, and waste?

In the area of Toxins released into the environment we are equal to Los Angeles in having some of the worst toxicants being released; however Houghton ranks much lower. The same can be seen concerning the air quality. We and Los Angeles scored very poorly, while MI, again ranks much lower. In water quality we fall at about 30% to 40% and Los Angeles again scores the worst, and Houghton has some of the best water quality. In land and air my County scored well, but not as well as Houghton, and Los Angeles again has the worst, but it one of the least negative of scores. Finally the waster produced by animals in farming. We sit around the national average, while Houghton is much less, and Los Angeles, actually has a lower score than we do.

### PART2: Something Old

#### Pill Bottle Chandeliers

Everybody does or will take prescription medication throughout their lives; for many people it is a daily requirement. Instead of throwing away the plastic pill bottles, turn them into funky and fun chandeliers. As can be seen

in the picture below, it is an interesting artistic way to take something mundane and make reusable instead of just trash.

PART3:

The solution to the maze is as follows:

PWR stands for pressurized water reactor. PWR uses a uranium 235 as a fuel to heat water in another pool of water heated to create steam, which turns turbines to generate electric energy.