



# LifeSmarts

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## 2017 National LifeSmarts Championship

### Competition 1: Conducting a Food Waste Audit

#### Detailed Measurement Instructions

There are several steps to a successful food waste audit. Use this document to help you prepare.

1. Conduct a measurement audit. Categories of waste you will measure are:
  - a. Unopened food (pre-packaged, unopened by students, e.g. milk carton)
  - b. Food waste (all food may be mixed together for this audit)
  - c. Liquid waste (milk, juice, water, soda, etc.)
  - d. Recyclables (paper, plastic bottles, metal cans, glass bottles, etc.)
  - e. Other/landfill (all other waste, such as: plastic bags, straws, wrappers, etc.)
  
2. Use signs to inform students. It is important for students to have clear instructions when throwing away their waste. This helps to ensure that they discard items in the correct bin. One key to this is clear signage on the bins, as well as informational posters. High priority will be placed on areas where waste is discarded. It is recommended that you place signs in these areas two weeks prior to the waste audit. This will allow students to see the signs, and practice sorting waste into the correct bins. The Environmental Research & Education Foundation (EREF) [provides signs you can use to print and post](#). You will need to make your own sign for liquids, and you may make all your own signs if you wish.
  - a. Print and place the signs in designated areas in the lunchroom. Print signs for each type of waste to be measured (i.e. recycling, food, liquid, landfill, unopened food).
  - b. A sign should be placed on each bin indicating what goes into the bin, and should be clearly visible.
  - c. An informational poster, showing all of the bins, can be used to prepare students before entering the line to throw away their waste. Preferred areas for the informational signs are:
    - a. Near the lunch line
    - b. Walls, and other easily visible areas
    - c. Around the entrances to the lunchroom
    - d. Above the waste bins (if they are located against a wall)

3. Record weight measurements. On the day of your audit, complete the weighing activity and record the data to submit to LifeSmarts. ([Click here](#) to view a PDF version of the form.)
  - a. During lunch, monitor the bins and help students correctly sort their waste.
  - b. When lunch has ended (or as the bins are full), weigh the bins following the Bin Weighing Instructions and record your data.
  
4. Take Digital Photos.
  - a. Use a smartphone or digital camera to take photos. If an HD option is available, please select it.
  - b. Take 1-2 pictures per type of bin.
  - c. Pictures should be close enough so that the contents of the bins are easily determined.
  - d. Choose the best 10 photos to upload with the Food Waste Audit Submission form you submit to complete Competition 1.

### **Bin Weighing Instructions**

#### **Materials:**

- Data sheets
- Clipboard and pen
- Gloves (recommended)
- Scale
- Piece of wood or flat object (if needed)
- Milk crate or box (if needed)
- Permanent marker and/or tags to label waste bags (if needed)

#### **Preparing the weigh station:**

1. Place the scale on a flat surface, for example a wood or tile floor.
2. If using a piece of wood or other flat object on top of the scale to hold the bin, place it on the scale.
3. Tare the scale so that it reads 0.0 lbs/kg/etc.
4. Record the units of your scale on the data sheet, for example pounds (lbs), kilograms (kg) or ounces (oz)

#### **Weighing instructions:**

After lunch has concluded, or when a bin becomes full, the bin should be weighed and measurements should be recorded on the data sheet using the following steps:

1. Match the type of waste to the data sheet.

2. Check that the scale is tared. If not, repeat the procedures above (preparing the weigh station).
3. Lift the full bin onto the scale. If the bin is attached to wheels, weighing is often easier if the wheels are removed.
4. Record the weight of the bin under "total weight."
5. Remove the bin from the scale.
6. Take a picture of at least one bin of each type.
7. Estimate how full the bin is, and record the percentage in the column marked "percent full." For example, if the bin is half full, write "50%."
8. Remove the bag of waste from the bin. Dispose of the bag as usual.
9. Place the empty bin onto the scale.
10. Record the weight of the empty bin under "weight of empty bin."
11. Repeat the process until all bins containing waste have been weighed.

### ***Weighing unopened food***

1. Take a picture showing all of the unopened food.
2. Depending on the amount of unopened food, a box may be used to place it on the scale. If using a box, make sure to tare the scale with the box already on the scale.
3. Sort the unopened food into categories such as "unopened milk," "unopened pre-packaged food," "sandwiches," and "unopened snack containers."
4. Record the type of food as the "label" on the data sheet.
5. Place the food sorted by group into the box.
6. Record the weight of the unopened food under "total weight."
7. Count the number of individually packaged items in the group and record the number on the data sheet.
8. Dispose of the unopened food as usual.
9. Repeat the process with each group of unopened food until all groups have been weighed.

### ***Notes about unopened food/drink***

- This is food that could potentially be eaten by someone else. This is food where the seal is not broken in any way.
- To collect this data, volunteers can help students place their unopened food/drink on a table before the students dispose of their waste in the appropriate bins.
  - Unopened food/drink includes both pre-packaged food and items from home. For example, if a student brings a sandwich in a bag and has not opened nor touched the food, this should be placed with the unopened food.
  - If your school has access to a portable cooler students can put unopened perishables (such as milk and cold cut sandwiches) in the cooler.

### **Notes:**

- If it is anticipated that the weight of the waste is such that it may cause injury, please change bags/liners even if the bin is not full. To minimize the risk of injury, it is advised to avoid bin

weights over 50 pounds. An object, such as a milk crate, could be placed in the bin before adding the bag/liner to take up space and cause the bin to appear full sooner.

- Use the “notes” section on the data sheet to record any additional observations or unusual things about the waste or data.
- If a bin only contains a small amount of waste, it should still be weighed.

Thanks to the Environmental Research & Education Foundation (EREF) for sharing these resources with LifeSmarts and allowing us to adapt them for this activity.