



Handout 6.3: Waste Audit Data Sheet and Scale Up

Name: _____ Date: _____ Period: _____

Print pages 1 to 3 for every student. Page 4 is the sample data set for classes that could not collect their own, and for grade 6. Use the **grams** column if you weighed, and the **items** column if you counted. Every calculation works the same way in either unit.

Part 1. Where food waste happens

Where	One real example	About what share of all food waste
On the farm		
At the store		
At home		
In cafeterias and restaurants		

Circle the one that surprised you.

My guess before the lesson: _____ pounds per person per year. The real number is about: _____ pounds per person per year.

Part 2. Our audit

Our method (circle one): we weighed / we counted items

Days collected: _____ **Number of people the bins came from:** _____

Bin	Weight in grams	Weight in ounces	Number of items
EDIBLE (somebody could have eaten it)			
NOT EDIBLE (peels, cores, bones, grounds)			
TOTAL			

The edible bin is the one we do the math on. Peels and cores were never going to be eaten, so they are not the number we are trying to change.

The one thing in the edible bin that bothered me most: _____

Part 3. The math

Show your work in every box. Label every answer with its unit.

Calculation 1: per person per day

Total edible waste _____ divided by number of people _____ = _____ per person for all the days

Then divide by the number of days _____ = _____ **per person per day**

Work:





Calculation 2: per person per school year

Per person per day _____ times 180 school days = _____ **per person per school year**

Work:



Convert to pounds: divide grams by 454, or divide ounces by 16.

_____ **pounds per person per school year**

Calculation 3: the whole school

Per person per school year _____ times number of students in the building _____
= _____

In pounds: _____ **pounds of edible food per school year, whole school**

Work:





Check your units. Circle the unit of your final answer: grams / ounces / pounds / items

Part 4. Three changes

Each change has to name **who** does **what** and **when**. “Waste less” is not a change.

#	Who	What they do	When
1			
2			
3			

Which of your three costs nothing? _____

Which one would still be happening in a month? _____ Why that one?



Class vote result, the three changes we are actually doing:







Exit card

Our class wastes about _____ pounds a year, and the one change I will actually do is _____.

Page 4: Sample data set

Use this if your class could not collect its own data. Say out loud that it is sample data and not ours.

A class of 24 students collected food scraps for 2 days. EDIBLE bin: 1,440 grams total. NOT EDIBLE bin: 2,160 grams total. The building has 600 students.

Work it through:

1,440 divided by 24 = ____ grams per person for 2 days ____ divided by 2 = ____ grams per person per day ____ times 180 = ____ grams per person per school year ____ divided by 454 = about ____ pounds per person per school year ____ times 600 students = about ____ pounds for the whole school

Grade 6 version: do the first four lines only. Stop before the whole-school line.

Page 5: Grade 8 stretch, put a dollar on it

Use an average food price per pound from this week's store circular. *[Update from this week's circular.]*

Average price per pound I am using: \$_____ (what food? _____)

Question	Work	Answer
What does one person's yearly edible waste cost?		\$
What does the whole school's yearly edible waste cost?		\$
What could the FACS room buy with that?		

One sentence: the number that surprised me most was _____ because _____.

Teacher key

Part 1 answers (use current figures the week you teach it):

Where	Example	Share
On the farm	A crop left in the field because the price dropped, a harvest lost to weather, or produce rejected for size or shape	roughly 15 to 20 percent of food loss
At the store	Produce pulled for looks, bakery and deli items pulled at closing, food pulled at a best-by date that is a quality date and not a safety date	roughly 10 percent
At home	Food bought and forgotten, leftovers not eaten, portions too large. This is the single biggest piece in the United States	roughly 40 to 50 percent
In cafeterias and restaurants	Whole unopened items discarded, plate waste, over-prepared batches	roughly 20 to 25 percent

Overall: about a third of the food produced in this country is never eaten, and the per-person figure most commonly cited is roughly 200 to 300 pounds a year of food thrown away. *[Sal: pull the current USDA or EPA figure the week you teach it. Students will look it up on their phones, and it is better if your number matches theirs.]*

Part 3, sample data answers: 60 grams per person for 2 days; 30 grams per person per day; 5,400 grams per person per school year; about 12 pounds per person per school year; about 7,200 pounds, or about 3.6 tons, for a 600 student school.

The two errors to watch for:

1. Multiplying by 180 before dividing by the number of days. The redirect is one question: “is 60 grams one day or two?”
2. Losing the unit. Ask “grams or ounces?” at every table. A number without a unit is not an answer.

Part 4, what a real change looks like:

- “The Station Manager puts unopened leftovers in the labeled bin at the end of every lab, and the next class gets first call on them.”
- “Toppings Chief measures cheese into a cup instead of pouring from the bag, starting with the next lab.”

- “Whoever sets the trash bin puts the compost bin next to it, so peels do not go in the trash by default.”
- “At lunch, anyone who does not want their unopened milk puts it on the share table instead of the tray.”

Not a change: “everybody should be less wasteful,” “the cafeteria should make better food,” “recycle more.”

Grade 8 stretch, sample: at \$2.00 a pound, 12 pounds per person is about \$24 a year per student, and 7,200 pounds is about \$14,400 for a 600 student school. That number is the one that lands.

Scoring: the data sheet is daily work, scored complete, partial, or missing. The two things to look for: correct units on all three calculations, and three changes that each name a who, a what, and a when.

One handling note: the class number is a class number. Do not report per-station or per-student waste in a way that identifies who wasted what. If one lab’s scraps are much larger, say it as a recipe problem, not a behavior problem.