Studying School Waste

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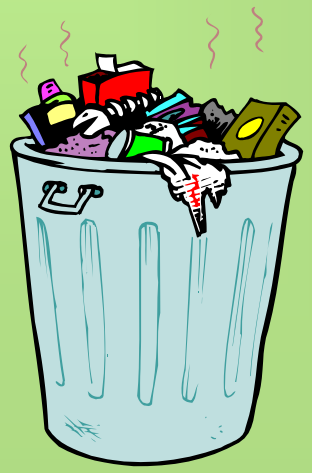
What is a waste composition study?

- Categorizing your trash to determine what waste can be minimized or recycled
- Data helps determine where money will be best spent to reduce waste
- Gives you a baseline to evaluate any progress made in your recycling program
- Waste Audit verse Waste Assessment



The Basics

- Decide how specific you want to be; **actual weights and numbers** (source separation and tip and sorts) **or estimations** (observe dumpsters and trash and recycling containers)
- Consider what you are purchasing, it will give you a good idea of what kind of wastes you are producing.
- Conduct a composition study of the trash in your classrooms, offices, cafeteria, kitchen, teacher's lounge, and dumpsters
- Research the results; what types of waste you are producing, how much, and if they are recyclable
- Locate problem areas for various materials and minimize usage
- Create a recycling program for materials disposed of in large quantities

Waste Audit Form

School_____

Name_____

Date/time_____

Other_____

Area of Audit (check one)

☐ Classroom ☐ Faculty room ☐ Playground

☐ Admin. Office ☐ Cafeteria ☐ Kitchen

☐ Library ☐

Total Weight and Volume

You need to determine the total weight of the garbage you are evaluating. If you have several containers, weight each one and enter you totals in the spaces below.

Total weight of full container(s) _____

Subtract weight of empty container(s) _____

Total weight of garbage _____

Total volume of garbage in container _____

What's In the Can?

List items separately or combine categories that have small quantities.

Item/Material type	Weight		Number	Volume	
Paper	Pounds	% of total	of Items	Gallons	% of total
white, colored					
computer					
cardboard					
paper bags					
junk mail					
magazines, catalogues					
milk cartons					
newspaper					
paper cups, plates					
Plastic					
plastic baggies					
plastic trays					
single-serve items					
plastic-ware					
Metals					
aluminum cans					
tin cans					
scrap metal					
Glass					
Food					
Totals					

Factors affecting the amount of garbage. _____

_____

☐ **Check if Re-Inspection**

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF SOLID WASTE SERVICES
101 MONROE STREET, 5TH FLOOR
ROCKVILLE, MD. 20850
(240) 777-6400

School: _____
Cluster: _____
Recycling Coord Name: _____
Principal Name: _____
DSWS Staff Name: _____
Date: _____

SCHOOL RECYCLING EVALUATION

FOCUS ON PRESENCE OF BASIC INFRASTRUCTURE

COLLECTION:

☐ Posters at each collection site

☐ All containers labeled

(0-Poor or None; 1-Adequate; 2-Good)

CONVENIENCE:

☐ Location of containers

☐ Sufficient container capacity

(0-Poor or None; 2-Adequate; 4-Good)

PARTICIPATION:

☐ Commingled materials

☐ Mixed paper

(0-Low; 2-Moderate; 4-High)

CONTAMINATION:

☐ Commingled materials

☐ Mixed paper

(0-High; 2-Moderate; 4-Low)

RECYCLABLES IN TRASH:

☐ Amount of recyclable materials in trash containers

(0-High Volume; 2-Moderate Volume; 4-Low Volume)

MANAGEMENT OR STAFF PARTICIPATION:

☐ Awareness

(0-Low; 1-Moderate; 2-High)

☐ # Of Coordinators:_____

(0- None; 1- One; 2- Two; 3- Committee)

PROGRAM IN PLACE:

☐ Recycling Plan

(0-No Plan Submitted to MCPS; 1-Written Plan)

☐ Student Participation

(0-None; 1-Minimal; 2-High)

OTHER:

☐ Yard Waste
(0-No; 1-Yes)

INSPECTION RATING TABLE:

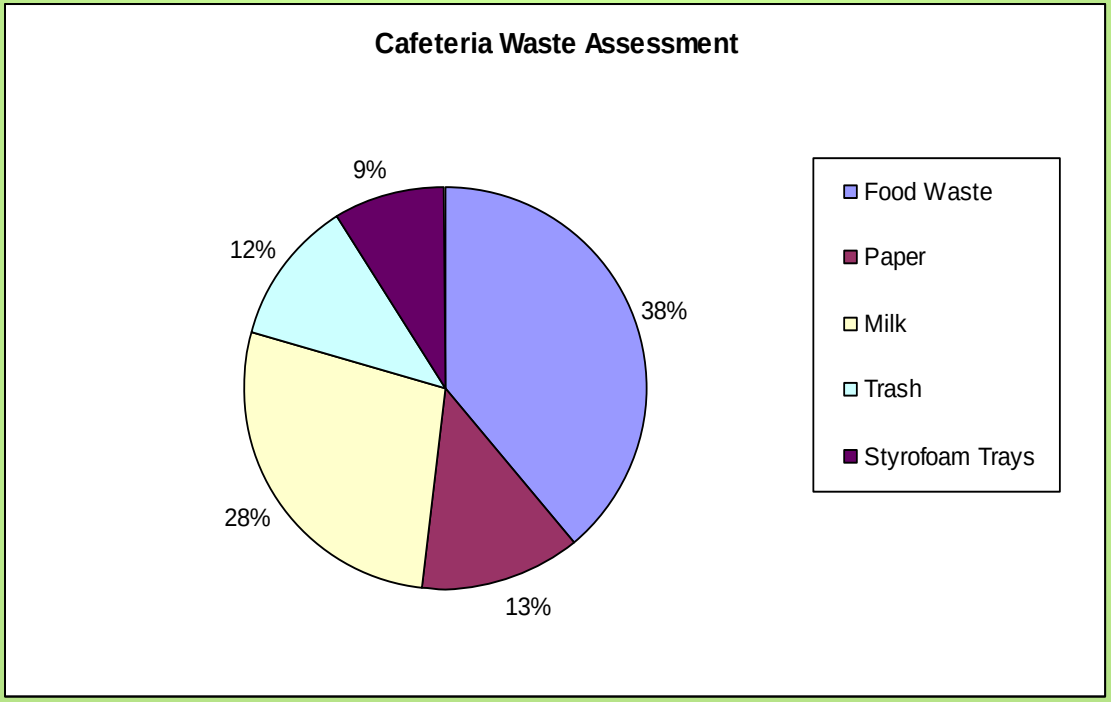
A = 37-41 B = 33-36 C = 29-32 D = 25-28 F= <24

TOTAL POINTS:	OVERALL RATING:

PROPOSED RE-INSPECTION DATE: _____

This evaluation focuses on the presence of basic recycling program infrastructure, and in no way assesses recycling rate, recycling capture, recycling set out and/or participation rate calculations.

Frank Porter Graham Elementary School

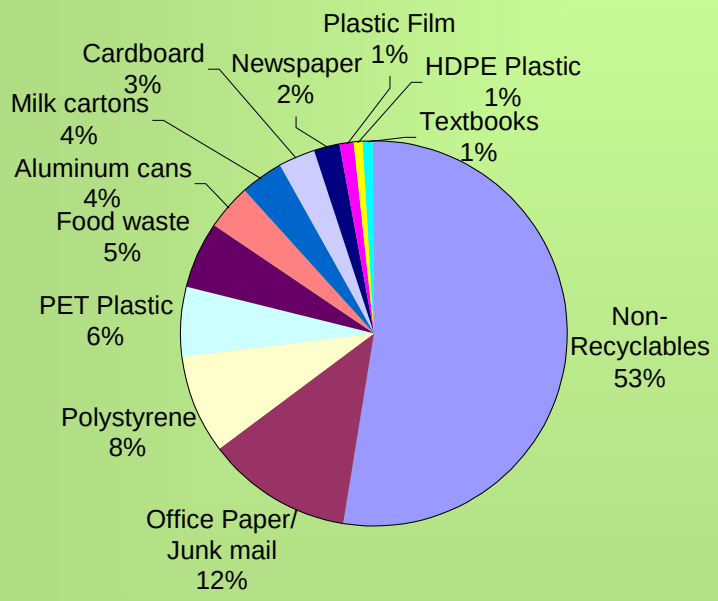


(based on collection of data for three (3) days, averaging 395 meals/day)
Total Waste: 246.6 Pound per day/1233 Pounds per week/24.6 Tons per year

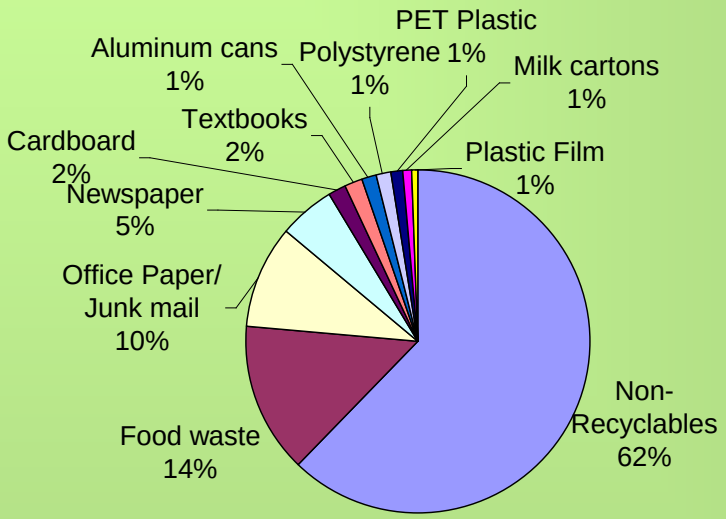
<u>Average Waste Generated per Day per Meal</u>
395 meals generates 246.6 Lbs = .62 Lbs per meal per day
Note: Styrofoam averages 22 Lbs per day by weight but take up 330 gallons or 8.15 cu.yd per week

Wake County School's Waste Composition Assessments

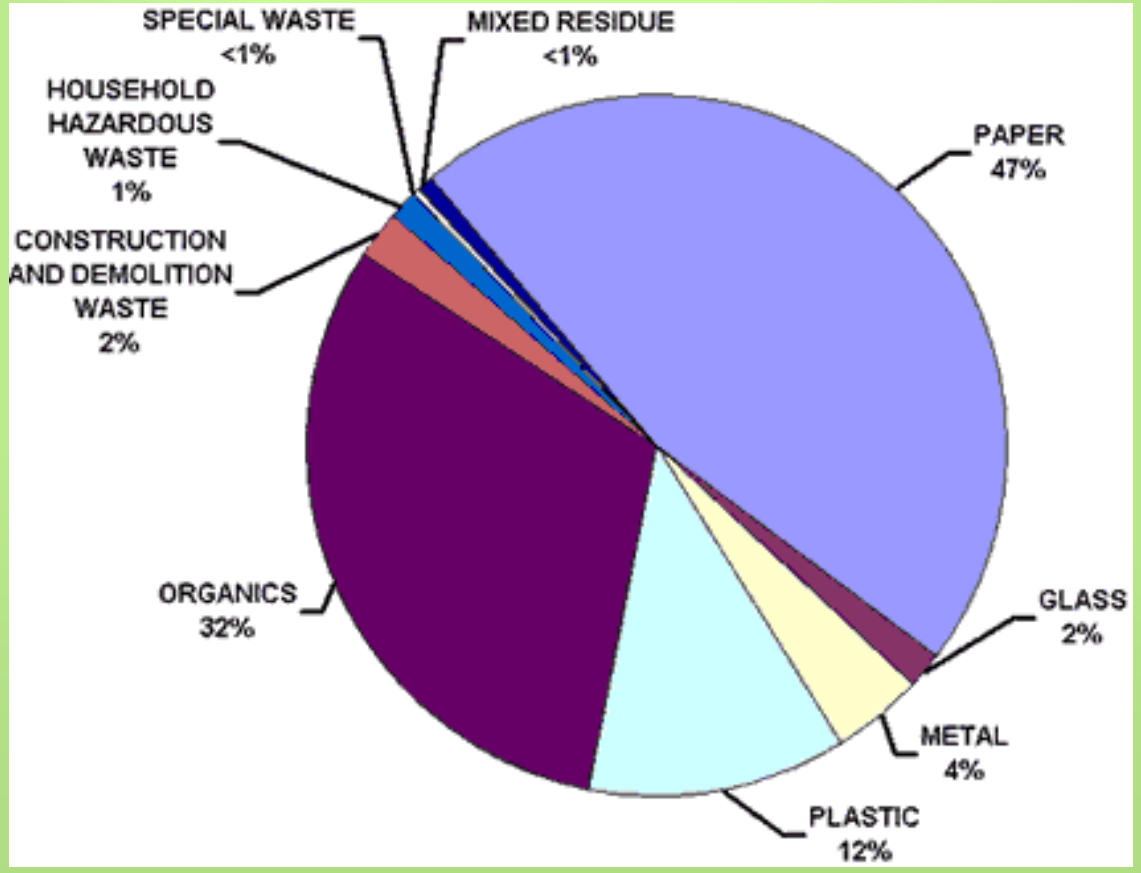
By Volume:



By Weight:



California School's Waste Characterization Study Results



Resources to help conduct a waste characterization study

- http://www.ciwmb.ca.gov/Schools/WasteReduce/; California's school waste reduction web page; includes information about conducting a waste composition study, the composition of their school's waste, waste reduction strategies, and model programs
- http://curry.edschool.virginia.edu/class/edis/590s4/Miller/School_Waste.htm; This web page provides a lesson plan for environmental studies, social studies, or math classes that gets students involved in a school waste assessment.
- http://www.mora.org/Pages/trashactivity1.html; The Missouri Recycling Association put together a lesson plan to get students involved in a waste audit. This lesson plan comes with details on the materials needed, the procedure, the results, and discussion questions.
- http://www.bridgingthegap.org/pdfs/September%202002%20CEE%20School%20Activity%20Series.pdf; Bridge the Gap is a Kansas City environmental organization that helps institute recycling programs and participates in environmental outreach and education.
- http://www.vtrecyclers.org/WASTE_KIT/wasteassessment.htm; This is the Association of Vermont Recyclers, whose web page explains how to conduct a waste composition study, complete with step-by-step instructions and a printable waste audit form

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