

FROM TRAY TO TRASH: A
LOOK AT FOOD WASTE IN
TOLEDO PUBLIC SCHOOLS 6-
8th Grades

TFT 250

McTigue Elementary School
Penny K Choma

Question: What school provided food is being consumed by students in the elementary buildings in Toledo Public Schools?

Rationale: Despite understanding the significant connection between hunger and student achievement, we continue to serve students food that they will not eat. Entire trays of food are thrown away daily by hundreds of students in the district.

Literature Review:

An estimated 30-40% of food is wasted in America, while more than 41 million Americans face hunger, including nearly 13 million children. Food waste in U.S. Schools is estimated to be 530,000 tons annually. (WWF 2019). In the fiscal year of 2022, the national school lunch program cost the United States federal government around 28.7 billion U.S. dollars. Yet, schools are often not implementing policies that help ensure that the food served at schools is actually consumed.

Study Design:

Students in grades 6-8 at McTigue Elementary, completed a daily survey about food choices for breakfast and lunch. The survey was completed as a Google Form and was shared with students via Google Classroom by their classroom teacher. Students were asked specific questions regarding if they ate each meal at school, home or chose not to eat. If students ate at school, they were asked to select how much of each food item was eaten or if the food was given to a peer or simply thrown away. Circle graphs were generated from the daily data and are included at the end of this paper.

Data/Analysis:

An average of 82 sixth through eighth grade students (63%) answered the daily Google Form questions. Some of the highlights from the data include:

- Nearly 40% of students stated that no breakfast was eaten daily. Informal conversations with my 6th graders suggested that some students avoid breakfast because there are too many students/ the environment is chaotic.
- Nearly one quarter of students surveyed (24.6%) chose to not eat any lunch daily.
- 30.6% of students reported throwing out the breakfast milk without even opening it. 25.2% reported the same for lunch.
- Vegetables are not being eaten. Cooked carrots were eaten by only 4 students surveyed (7.7%). Celery sticks were consumed entirely by only 1 out of the 100 students surveyed (2.2%) Similarly, only 1 out of 89 students reported eating all/most of the refried beans. Zero students surveyed reported eating all or most of the cooked peas.
- The Mixed berry fruit cup is served daily and yet only 13.3% of students reported eating all/most of it.
- Orange juice is the preferred drink choice. Regardless of time of day (breakfast or lunch), over 65% of students surveyed reported drinking all/ most of the orange juice.

Recommendations/Next Steps:

Toledo Public Schools has its own food distribution center where student meals are assembled and packaged for distribution. This allows for some flexibility in meal creations while keeping in mind that federal guidelines must still be met. We **must** consider changing some of our offerings if we hope to increase the food consumption for our students. If we continue with the current offerings, we are throwing money in the trash with every item the students refuse to eat.

The first recommendation is to complete a food survey to track which foods are and are not being consumed is relatively easy to construct and implement. Toledo Public Schools should complete such an audit at least once a year. These results should be used to replace wasted offerings with food the students will eat.

Another option is to offer more choice. Currently high schools have taco and salad bars available. Research shows that increasing choice results in increased consumption of fruit and vegetables. (Cohen et.al). Similar buffet choice offerings in the elementary schools for the upper grades could increase consumption. Allowing students to choose between two fruits or two vegetables has also been shown to improve food consumption.

Additionally, the palatability of food is important. Serving lunches in plastic bags results in an unappealing option. Crusts are soft and food is often overcooked. If food could be plated in house and items cooked in ovens, food consumption would likely increase.

Toledo Public Schools could start a Culinary Arts program to help develop recipes that are both affordable and enjoyable. This type of magnet school could prepare students who are interested in cooking as a career. The U.S. Bureau of Labor Statistics says the need for chefs and head cooks will rise by 25% by 2030. An average of about 18,800 openings for chefs and head cooks are projected each year over the decade.

References:

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Chefs and Head Cooks, at <https://www.bls.gov/ooh/food-preparation-and-serving/chefs-and-head-cooks.htm>.

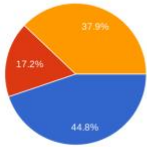
Cohen JFW, Hecht AA, Hager ER, Turner L, Burkholder K, Schwartz MB. Strategies to Improve School Meal Consumption: A Systematic Review. *Nutrients*. 2021 Oct 7;13(10):3520. doi: 10.3390/nu13103520. PMID: 34684521; PMCID: PMC8538164.

Robert Wood Johnson Foundation (2021) Promising and Low-Cost Strategies to Improve School Meal Consumption

World Wildlife Fund (2019) FOOD WASTE WARRIORS A deep dive into food waste in US schools.

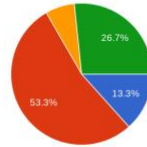
Data from Google Surveys: Monday

Breakfast
87 responses



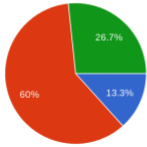
- I ate breakfast at home
- I ate breakfast at school
- I did not eat any breakfast today

Did you drink any orange juice?
15 responses



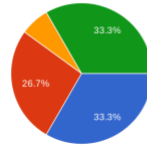
- I drank a little
- I drank all
- I gave mine away to another student
- I threw mine away without drinking any

Did you drink any milk?
15 responses



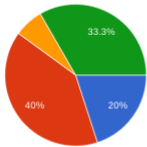
- I drank a little
- I drank all
- I gave mine away to another student
- I threw my entire milk away without drinking any

Did you eat any pancakes?
15 responses



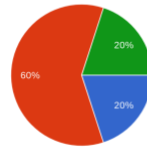
- I ate a little
- I ate most/all
- I gave mine away to another student
- I threw mine away without eating any

Did you eat any sausage links?
15 responses



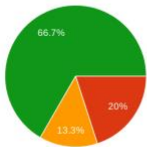
- I ate a little
- I ate most/all
- I gave mine away to another student
- I threw mine away without eating any

Did you eat any cereal?
15 responses



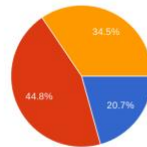
- I ate a little
- I ate most/all
- I gave mine away to another student
- I threw mine away without eating any

Did you eat any mixed berry fruit cup?
15 responses



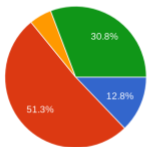
- I ate a little
- I ate most/all
- I gave mine away to another student
- I threw mine away without eating any

What did you have for lunch today?
87 responses



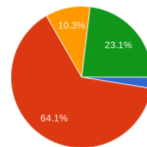
- I packed my lunch from home
- I ate at school
- I chose to not get any lunch today

Did you drink any milk?
39 responses



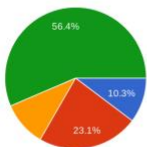
- I drank a little
- I drank all
- I gave mine away to another student
- I threw my entire milk away without drinking any

Did you drink any orange juice?
39 responses



- I drank a little
- I drank all
- I gave mine away to another student
- I threw my mine away without drinking any

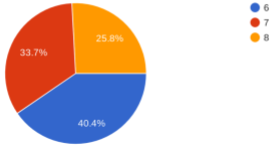
Did you eat any potato rounds?
39 responses



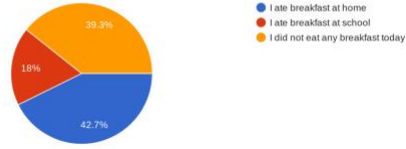
- I ate a little
- I ate most/all
- I gave mine away to another student
- I threw mine away without eating any

Tuesday

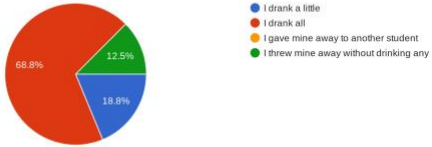
What Grade are you in?
89 responses



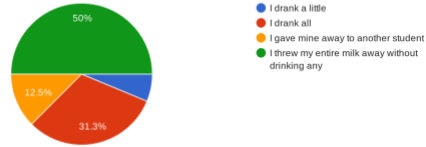
Did you eat/drink anything provided by the school for breakfast today?
89 responses



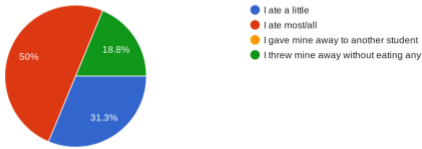
Did you drink any orange juice?
16 responses



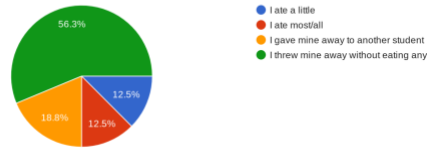
Did you drink any milk?
16 responses



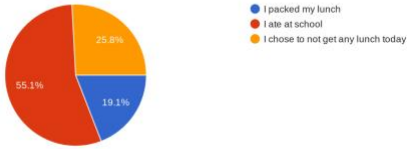
Did you eat any maple mini waffles?
16 responses



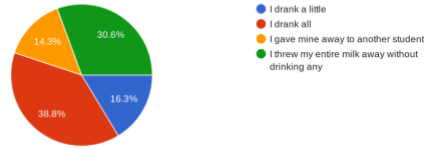
Did you eat any mixed berry fruit cup?
16 responses



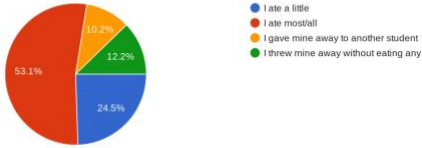
Did you eat/drink anything provided by the school for lunch today?
89 responses



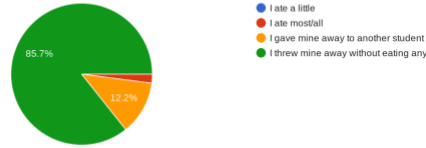
Did you drink any milk?
49 responses



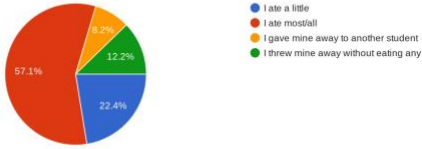
Did you eat any beef, bean and cheese burrito?
49 responses



Did you eat any refried beans?
49 responses

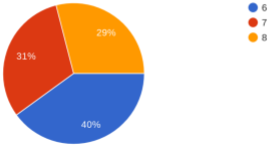


Did you eat any sliced apples?
49 responses

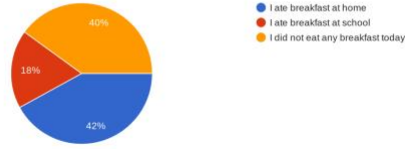


Wednesday

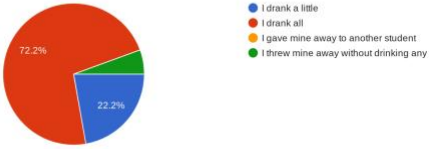
What Grade are you in?
100 responses



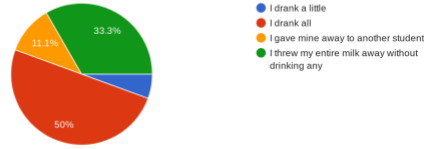
Did you eat/drink anything provided by the school for breakfast today?
100 responses



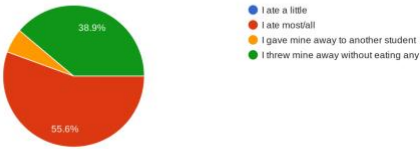
Did you drink any orange juice?
18 responses



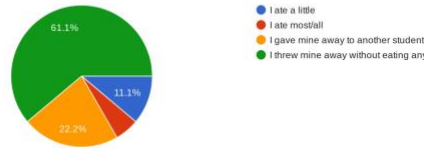
Did you drink any milk?
18 responses



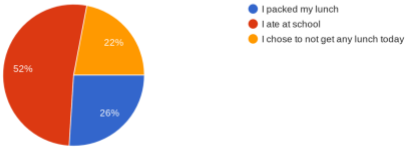
Did you eat any uncrustable breakfast sandwich?
18 responses



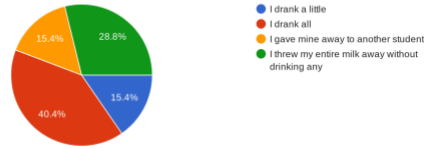
Did you eat any mixed berry fruit cup?
18 responses



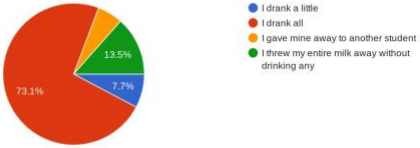
Did you eat/drink anything provided by the school for lunch today?
100 responses



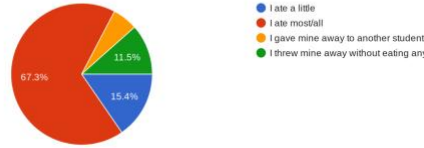
Did you drink any milk?
52 responses



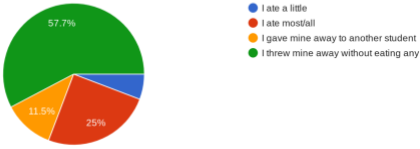
Did you drink any orange juice?
52 responses



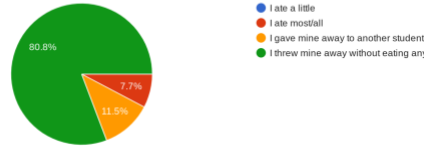
Did you eat any breaded chicken fry sticks?
52 responses



Did you eat any bread?
52 responses

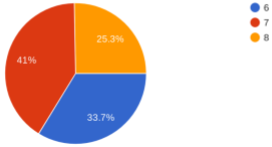


Did you eat any diced carrots?
52 responses

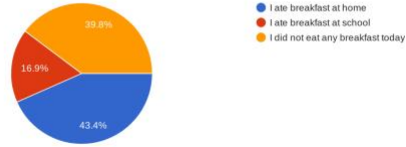


Thursday

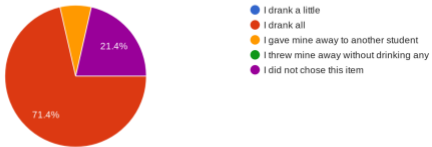
What Grade are you in?
83 responses



Did you eat/drink anything provided by the school for breakfast today?
83 responses



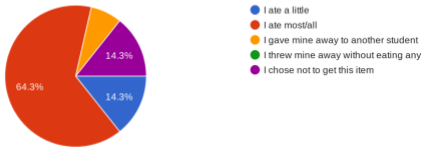
Did you drink any orange juice?
14 responses



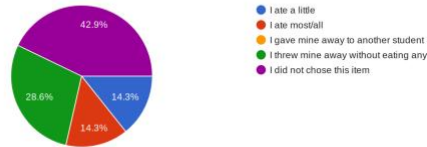
Did you drink any milk?
14 responses



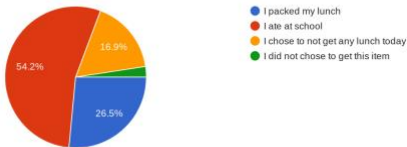
Did you eat any mini cinnamon rolls?
14 responses



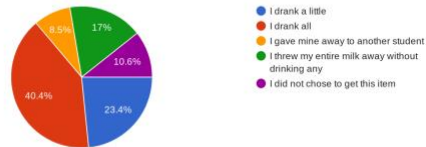
Did you eat any mixed berry fruit cup?
14 responses



Did you eat/drink anything provided by the school for lunch today?
83 responses



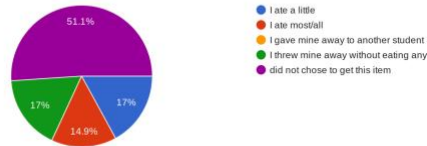
Did you drink any milk?
47 responses



Did you eat any pepperoni pizza?
47 responses



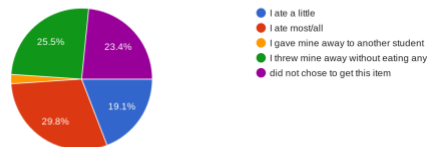
Did you eat any salad?
47 responses



Did you eat any celery sticks?
47 responses

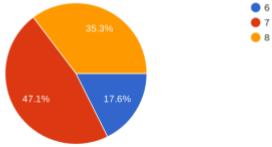


Did you eat any banana?
47 responses

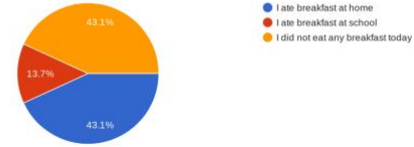


Friday

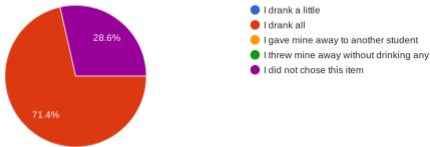
What Grade are you in?
51 responses



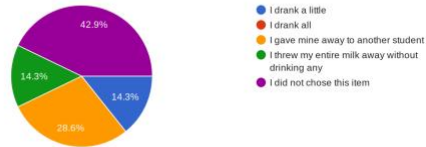
Did you eat/drink anything provided by the school for breakfast today?
51 responses



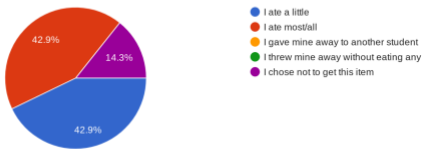
Did you drink any orange juice?
7 responses



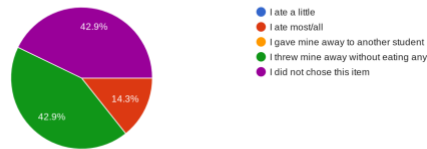
Did you drink any milk?
7 responses



Did you eat any Scooby Doo Crackers?
7 responses



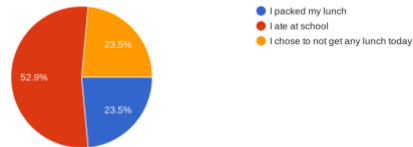
Did you eat any mixed berry fruit cup?
7 responses



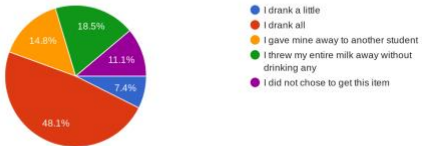
Did you eat any yogurt?
7 responses



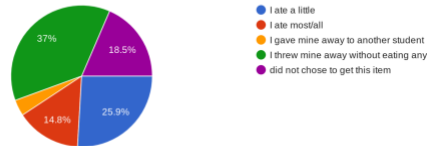
Did you eat/drink anything provided by the school for lunch today?
51 responses



Did you drink any milk?
27 responses



Did you eat any macaroni and cheese?
27 responses



Did you eat any bread?
27 responses



Did you eat any peas/vegetable side?
27 responses

