

Data Source Project

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Introduction: In order to further our elementary school's sustainability, we would like to conduct a waste audit that asks the following comparative question: Will the the amount of trash (including single use plastics) produced in a given amount of time in the lunchroom decrease after students are made aware of the problem, take action to fix it and try a solution? Students will measure waste before trash audit and solution based problem solving and after educational practices are put into place. Beginning trash awareness at the Elementary School level is key to the success of building a more conservation conscientious group of citizens and future stewards of the earth. This also has a secondary effect, that by promoting and encouraging waste awareness other sustainable behaviors outside of trash often follow (James, 2015). Utilizing organizations like Terracycle allow students to not only recycle and compost trash, but shows them that upcycling or creating a new product out of trash is also another alternative to a landfill. This is a project that will include 80 fifth graders.

Data: As this model is used, students will need to collect data based on their observations and solution they came up with. In order to measure progress, I anticipate they will measure and examine the trash three times. I will provide the structure of the data tables to them for the first audit, but then will ask them to evaluate their methods of sampling to see if it will change and they will have different needs. After each audit, they will graph their data to analyze and make changes in the cafeteria. Actually doing a project that has multiple data points allows for authentic math applications to inform problem based solution planning. They will have to figure out how to measure a bag of garbage using a bathroom scale and a spring scale. Both of these options integrate math in their analysis and collection of data. Students are currently writing research reports in the ELA classroom, and many will be using the research they are writing about to inform and explore their solutions for the waste problem at our school.

Data Gathering Sheets	Link: https://docs.google.com/document/d/1Ne_ycB7v-4HrzvR0DEGpB9STC2ipZgOij8h3K44cQYU/edit?usp=sharing
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Sources:

James, L. (2016). Facilitating Lasting Changes at an Elementary School. *International Electronic Journal of Elementary Education*,8(3). 443-454.

<https://files.eric.ed.gov/fulltext/EJ1096578.pdf>

