

Flaws of Averages PBL Unit Goals

- Students will learn the basic concepts of histograms and distributions, including their averages, medians, modes and extreme values. They will understand how histograms that display their data provide more insights than averages alone, and that averages may in fact be misleading.
- By working in small student teams focused on a local community safety issue, they will become comfortable planning and executing an applied research strategy that identifies potential problems, maps out a data collection plan, collects and displays the data, and makes recommendations based not only on average values found, but on all other attributes of their empirical distribution(s). If possible, teams will meet with appropriate community professionals once their findings are completed, to share their work and to receive feedback.

Final Products

- Each team will submit a 10-page written essay that should explain and display their selected community-oriented Flaws-of-Averages topic to a general audience, including professionals in the community who have responsibility over the topic chosen, but not forgetting family and friends!
- At the project's [Final Event](#), each team will discuss their findings employing a slide presentation that builds off information included in their essay. Histograms and photographs should be included in the slides.

What products will students be turning in to assess their progress and understanding of the subject?

- A ten-page essay, with histograms and illustrative photographs from their community research, addressed to a general community/newspaper audience.
- Slide presentation (shared electronically).
- A bibliography of all sources used