There are many ways to interpret data. Industry, government, and media may interpret data based on their own priorities. Once you understand the units and terms, you can look deeper and draw your own conclusions. These activities help you look critically, to find the numbers you care about most, and to challenge questionable claims about the data.

**A First Look at Challenging Claims**

Step through the process of finding and challenging dubious claims.

- Find numbers and data, even if they’re hidden
- Make sure there’s no mixup of units
- See if “typical” numbers really are typical.
- Verify that estimates or predictions are valid
- Check that the any health-based standards used were the most protective.
- Verify claim about increases or decreases
- Check for ambiguities and press for detail

After finding potential challenges, rate them based on how easy the challenge will be, and how much it might help your campaign.

**Finding Newsworthy Data**

Examine data to find and describe:

- Contaminants with the highest levels compared to legal limits
- Diseases with the highest rates compared to what’s typical
- Inconsistent or fluctuating data
- Contamination or disease rates coming down too slowly or rising suddenly
- Contamination not detected, but detection limits are set above health-based standards
Scrutinize data for more specific mistakes, mixups, and negligence.

The Summary vs. the Lab helps ensure the summary of a report accurately reflects lab data.

Inside Averages highlights ways an average can be presented as “typical” when it isn’t.

Sampling Plans helps a group think about where a site should be tested for contamination. Can be used before testing, or afterwards if the sampling plan was inadequate.

The report summary says the highest soil lead level was 62 µg/kg. But in the lab results, the actual reading was 62 mg/kg. That’s 1,000 times more!

The asphalt plant reported that their average monthly emissions are within their permit. But they operate 5 months per year – that average doesn’t represent what we’re breathing in July!

Three soil samples for each house is insufficient. We want 3 in the front yard, 3 in the back yard, and 2 on each side of the house.

Also, check out Pieces of the Risk Puzzle to analyze health risks. Consider factors like toxicity, exposure, and susceptibility. Think carefully about pursuing a health study to measure health effects.