Rubric for the Judging of Data Visualizations

Score	**Overall Impact of the Display (Poster Design)** Poster design aspects, colors/patterns, grammar, spelling, dimensionality, readability, neatness	**Technical Aspects (Statistical Correctness)** Age appropriate use of statistical methods, calculations, and interpretation	**Clarity of the Message (Statistical Process)** How well is the four-step investigative process* implemented? How well is a story told?	**Appropriateness of the Graphs for the Data** Statistical Appropriateness of Graphics	**Creativity (Topic is of Interest)** Data collection methods, sample size issues, who cares factor
5	Poster uses colors/patterns well. Correct grammar and spelling are used. Poster is neatly constructed, including good use fonts, pictures, and extras. Addresses multiple dimensions of the question or problem. Readable and neat. The overall display is eye-catching but retains statistical substance.	Statistical methods used are appropriate to the question being addressed and the data being analyzed. Sufficient information to suggest statistics are calculated correctly. No errors in interpretation.	Question or purpose is clearly stated, and the presentation leads to the conclusion on a path that is easy to follow. The results of the study are immediately obvious to the viewer.	Graphs are appropriate for the question asked and the data used. Graphs are correctly constructed.	Overall question is interesting, phrasing of titles, captions, and question is creative. Shows creative thought in topic, graph design, or data collection. Data collected appropriately. Answers an important topic.
4	Better use of colors/patterns would help the presentation, but in general the poster grabs the attention of the viewer. Correct grammar and spelling are used. Addresses multiple dimensions of a question. Level of neatness and size of fonts do not detract from the message.	Appropriate use and interpretation of statistical methods but lacking clarity in calculations.	One or two steps in the progression from question to conclusion are missing or difficult to follow.	Minor errors are present in at least one graph. More appropriate display(s) would improve the presentation.	Overall question is interesting. Some creativity in design or data collection. Collects appropriate data.
3	Use of more or different colors/patterns, would vastly improve the appeal of the poster. Minor grammar and/or spelling mistakes. Addresses multiple dimensions of a question. Readability or neatness detract from the overall appeal of the poster.	Minor errors in choice of statistical method selection, calculations, or interpretation.	More than two steps in the progression from question to conclusion are missing or difficult to follow. The information on the back is needed to confirm.	Significant gap exists in the demonstration of understanding of the graphs, or how the graphs relate to the purpose of the poster.	Overall question is interesting. Some creativity. Minor issues with data collection.
2	Serious problems with colors/patterns, grammar, spelling, neatness, and/or organization prevent the poster from being eye-catching and understandable. Multiple dimensions of the question addressed.	Major conceptual errors in method selection or interpretation.	The information on the back is required in order for any relationships in the poster to be understood.	Substantial errors in the graphs lead to invalid or inappropriate conclusions.	Minimal creativity. Topic is of minimal interest. Data collection could be improved.
1	The poster isn't consistent with colors or patterns and has multiple grammar and/or spelling errors, so much so that it severely distracts from the poster. The poster is unidimensional. Major neatness or readability issues.	Little evidence of statistical calculation or analysis.	The poster is virtually incomprehensible.	The displays are inappropriate and incorrect (i.e., 3-D bar charts and pie charts where third dimension is unnecessary or visually misleading) for the research question and data types. The question is badly misunderstood and the results are nonsensical.	The poster demonstrates little or no creativity or improper data collection methods.

Penalties: **Use of Space for Graphics**: < 75% (excluding title block) deduct 2; < 50% deduct 4; <25% deduct 6. **Inadequate Size of Text** (except for plot symbols) < half inch, deduct 2
Improper Poster board Size: measurements not between 18 and 24 inches high and 24 and 30 inches wide, deduct 3
* GAISE four-step investigative process: 1. Formulate Questions; 2. Collect Data; 3. Analyze Data; 4. Interpret Results (http://www.amstat.org/asa/files/pdfs/GAISE/GAISEPreK-12_Full.pdf)