# Designing Science PresentationsA Visual Guide to Figures, Papers, Slides, Posters, and More

## **Carter, Matt**

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# Poster Don’ts and Dos

* Don't think of a scientific poster as a text-based document that reads like a large version of a research article
* Do think of a scientific poster as a visually rich presentation medium designed to complement what you say during an oral delivery
* Don't place your abstract on your poster itself
* Don't overwhelm your poster with text
* Do use tables, charts, diagrams, and photographs to enrich the visual impact of your poster
* Do begin designing a poster by making your figures and writing the text for the individual sections
* Do compose your hypothesis/question section first and always keep it in mind when composing the figures and text for your poster
* Don't include information on a poster that doesn't address your poster's central concept or goal

# Tables

Tables serve a useful purpose, but generally resonate less with audiences than figures. People may remember figures after a presentation, but nobody ever remembers a table. Therefore, use tables judiciously, more as a reference of important information than as a main communication tool. Do not use a table to convey differences, patterns, trends, or interactions between values. Don’t force your audience to do extra work to compare differences between different numbers. Figures are much better for highlighting the relationships between data.

# Charts and Graphs

* The key to creating a good graphic is to start by clearly defining what you want your audience to understand
* Well-designed charts should stand on their own
* Graphics should reinforce what you want to say about the data and not contain unnecessary things
* Titles should state the conclusions about the graphics content.

# Example Chart Titles

**Vague**: Mass of rats over time

**Conclusive**: Rats on a high fat diet statistically increase mass over time compared to rats fed normal chow

**Vague**: Effects of microstimulation of FEF on visual perception

**Conclusive**: Microstimulation of the FEF statistically increases performance on a visual perception task

**Vague**: Three-year prognosis after treatment

**Conclusive**: Increase in survival rate 3 years after treatment

# Charts: Don'ts and Dos

* Don't use a chart to show isolated data devoid of interesting comparisons or relationships that are best expressed in words or tables.
* Do use a chart to show patterns or trends in data, and differences or inter- actions among data.
* Don't design charts that depend on written or oral narration to be understood.
* Do design charts that can stand on their own.
* Don't trust graphing or spreadsheet software to make charts for you
* Do design your charts, deliberately choosing visual elements to best communicate your message
* Don't vary how you represent categories of data in multiple figures throughout a presentation
* Do be consistent about the colors and shapes you use to represent categories of data
* Do avoid clutter and represent your data as clearly as possible.

# Diagrams: Don'ts and Dos

* Don't ignore diagrams as a potential way to share information with audiences.
* Do use diagrams to introduce and summarize concepts, as well as to visualize experimental design and methodology
* Don't overwhelm a diagram with non-essential information that doesn't relate to your diagram's purpose
* Do test the communication power of your diagrams by soliciting feedback from others

# Photographs: Don'ts and Dos

* Don't use photographs as decoration.
* Do use photographs to show data or as a deliberate visual tool to enhance your scientific story
* Don't invite criticism of your experiments by showing images that don’t clearly convey supporting information
* Don't misrepresent data by unethically manipulating images
* Do consider cropping or adjusting the image settings of your photos to better suit your needs
* Do be picky about the images you use, selecting the best for your needs
* Don't allow labels in data figures to distract from the data themselves
* Don't burden your presentation files with unnecessarily large image files.