Writing Research Articles
How to Write Figures, Tables & Legends

Figures:
1. Often the first thing you will put together for an article. A good way to assess whether
   a. Your story is "complete" (are you missing an experiment, a control? Does the story "flow"?)
   b. The quality of your photos is sufficient (do you need to reshoot?)
2. Not the same as for a poster or slide presentation (though they overlap)
   a. Show definitive data (as opposed to preliminary data in poster)
   b. Multiple panels are OK (whereas they can be illegible on slides)
3. Show your most representative data (not the outliers, unless you label them as such)
4. Each figure should have a topic or make a specific point (summarized in figure title)
   a. do all panels belong in this figure?
   b. Do you have two figures making the same point?
5. Use of colors and symbols wisely
   a. Colors can be costly or distracting: make sure you use color to help clarify the meaning of a diagram, not just to break the monotony!
   b. Symbols should be simple, easy to distinguish once the figure is reduced to its final size
6. Will details still be visible once the figure is reduced to fit the journal format?
7. Photos:
   a. Contrast, colors (avoid blue on black)
   b. Photo versus drawing
8. Graphs:
   a. Bar graph versus line graph
   b. Clear names for X and Y axes, and clear scales (good font size)
   c. Clear symbols

Tables:
1. Table versus graph:
   a. Data that cannot be quantified
   b. Too many variables to fit in a graph
   c. Large amount of data
2. Table versus photo/diagram:
   Too much data for a figure (but you can show a subset of the data in an accompanying figure)

Legends:
1. Title: "Effect of X on Y", "Increase of X in response to Y", "Electron micrograph of X cells showing enlarged mitochondria after treatment with Y"
2. Refer to panels in sub-titles or explanations: "A: Growth curve as a function of diet in two mouse strains. B: Ratio of fat to total body mass as measured by XX." Or: "Cells from wild-type (A,C) and mutant (B,D) were stained with antibodies against X (A,B) and Y (C,D)"
3. Include some experimental details—not too much.
4. Point out important results or features you want to draw attention to. "Note the sharp decline in body weight in mutants compared to controls after two days of YuckeyChow diet."
5. Define abbreviations and symbols.
6. Mention statistically significant data and test used to assess significance.