

CHECKLIST OF DESIGN STRATEGIES FOR SCIENTIFIC FIGURES

Reference this checklist for a quick reminder of design principles as you work through revisions of your scientific figures before submitting for publication.

■ MESSAGE

The purpose of this figure is to _____

[compare/contrast, show a pattern, show a process, show a relationship/connection, show change, show variability]

■ COMPOSITION

- Draw your intended path for the viewer's eyes as they "read" through the figure. Is it a straight line, or more of a circle or zig-zag?
- Rework the composition to lead the viewer's eyes from left to right or top to bottom.

■ SIMPLICITY

- Remove all unnecessary:
 - bounding boxes
 - lines around shapes
 - frequent grid lines
 - frequent increment markers
 - background colors
 - shadows or shading
 - repetitive elements
 - minor steps in a process
- Assign symbols to repetitive labels and add a legend that defines the symbols
- If entries in the legend are one-to-one (one entry in the legend for one element in the figure), remove the legend and integrate labels into the figure.
- If your figure is a collection of panels, consolidate panels of similar content if possible. Think about which elements of the current panels can instead exist in the same space.

■ COLOR

- Simplify the color palette. Identify similar elements and assign similar colors or different shades of the same color.
- Identify elements that are only included for context, not a part of the essential data, and convert to shades of gray.
- Remove colors that serve no function or colors that represent an aspect not relevant to the message.
- Apply vibrant colors to most important elements
- Apply warm colors vs. cool colors for compare/contrast data
- Consider mood created by the color palette (positive or negative, somber or light) and adjust to fit the subject
- Utilize familiar color associations for the subject

■ TEXT

- Choose an appropriate font. San serif, modern, and readable at a small scale are all good rules of thumb.
- Reduce style differences (bold, italics, all caps, different sizes, different colors)
- Left or right justification for 3+ lines of text
- Align similar/related information
- Reposition labels to where a line/arrow between the label and the element it names is no longer needed