

Rulebook: combinations that are prone to error - watch out for these combinations in Phase II

- (make comparisons, 100 percent bar)
 - Direct comparisons between two segments of different bars on a 100% bar chart can be problematic depending on the wording of the question stem.
- choropleth map
 - make comparisons: if comparing two places with the same color, it could be problematic.
 - Aggregation may be an issue for all choropleth map “value” tasks.
- histogram
 - Aggregation may be an issue for all histogram “value” tasks.
- (retrieve value, scatterplot)
 - Sometimes the description is not specific enough to retrieve one value.
- bubble chart
 - Hard to make comparisons, estimate ratio, estimate average, estimate difference, retrieve value, locate value, identify range if value is encoded by bubble size.
- stacked area chart
 - The visualization itself may contain Inappropriate Visual-Data Correspondence error (i.e. stacking temperature, precipitation, and wind speed).
- tree map
 - The visualization itself may contain Inappropriate Visual-Data Correspondence error (wrong hierarchy).
- describe trend or correlation
 - Certain chart types are usually not suitable to display data with trend or correlation unless carefully designed: bar, stacked bar, 100 percent bar, pie, tree map.
- judge which design is more appropriate for a task
 - Sometimes it does not have a clear single best answer.
- describe the characteristics of an alternative chart type
 - Sometimes it does not have a clear single best answer.
 - Some chart types are hard to have an alternative chart type (e.g., bubble chart).
- judge which task this visualization design best supports
 - Sometimes it does not have a clear single best answer.
- estimating average can be very difficult in chart types like stacked area or stacked bar. It can also be difficult or even impossible when the options are too close.