Smart

# Data

Visualization

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Use this sheet to make notes about the takeaway lessons from this talk. What do you want to remember from this presentation? Write it here. If a visual pops into your mind, sketch it here. When a question springs to mind, write it down before you forget it.

This is your opportunity to create your own handout with the key takeaway points that are most relevant for you and your work.
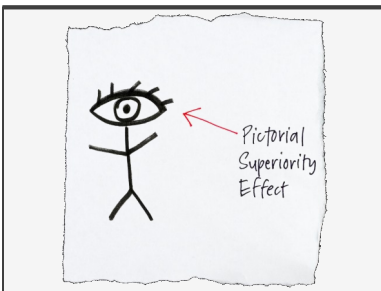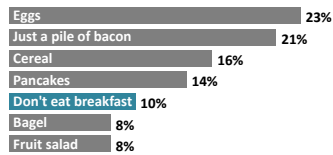

Science of Communication

Graphic elements are good at grabbing attention.

Graphic design helps readers digest our information.

The more they digest, the more they will retain in their long-term memory.

Evaluator Breakfast Preferences
One in ten fellow evaluators do not consume
adequate energy for their first meal of the day.

|	
Eggs	23%
Just a pile of bacon	21%
Cereal	16%
Pancakes	14%
Don't eat breakfast	10%
Bagel	8%
Fruit salad	8%

Order

Data should always be presented with some type of logical order., something that is meaningful to the viewer. This is rarely the order of your survey questions.

Greatest to least is most common. Sort the data in your spreadsheet first.

Alphabetic order or some other logical sequence may be more appropriate.

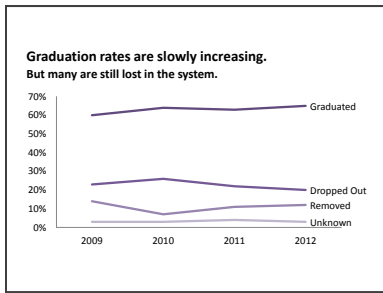deli
meat

packaged

cheese
produce
frozen
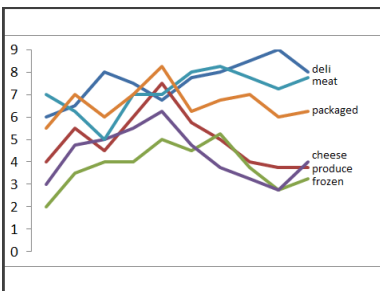
Legend & Label

Add data labels to the outside of your data points (line graphs) or inside base (bar and column graphs) to reduce hunting and matching.

Align and spread other legends so that they appear in the order of the data points in something like a stacked bar graph.

Liberally use textboxes to achieve proper labeling.

Graduation rates are slowly increasing.
But many are still lost in the system.

70%
60%
50%
40%
30%
20%
10%
0%

Graduated

Dropped Out
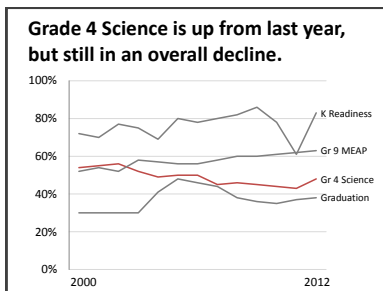Removed
Unknown

2009   2010   2011   2012

Text

Rather than a generic title, use the opportunity to state a finding from your study.

Use a supplementary subtitle to further explain a caveat or key point.

Left justify the title and move it to the upper left corner where it can be easily read.

Add annotations to point out key data.

Grade 4 Science is up from last year,
but still in an overall decline.

100%
80%
60%
40%
20%
0%

K Readiness
Gr 9 MEAP
Gr 4 Science
Graduation

2000   2012

Color

The default color scheme in Excel (and other programs) can slow interpretation and cause confusion.

Choose an action color and apply it to the parts of the visualization that need the most attention. Put other data points in a neutral color.

Check out ColorBrewer2.0 for great, colorblind-friendly, color schemes.

Over 1/3 of our students do not make it to graduation

iconarray.com
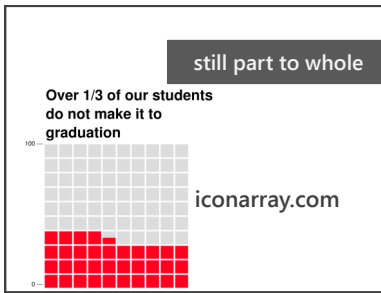
Relationships

Area is hard to interpret accurately. Humans are better at judging length.

Histograms are used for graphing bins of continuous numbers. Column charts are for discrete categories.

Geographic dispersion can be graphed with a program like Stat Planet

For a nice chart chooser, see http://labs.juiceanalytics.com/chartchooser/index.html
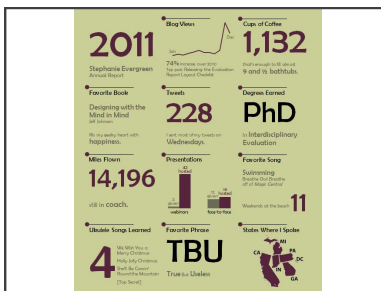
Pulling it all Together

Data dashboards and infographics are popular methods for combining individual data visualizations. The same principles of simplify and emphasize apply.

Infographics can be cheaply generated through visual.ly, piktochart, and infogr.am but be careful. Ease of interpretation should rule over flashy design.