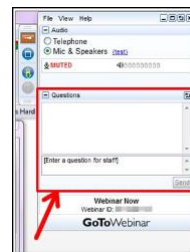
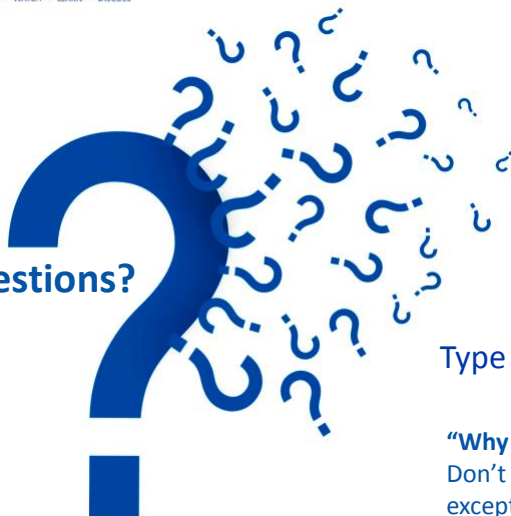




Have Questions?



Type them into questions box!

**“Why am I muted?”**

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Missouri State University,  
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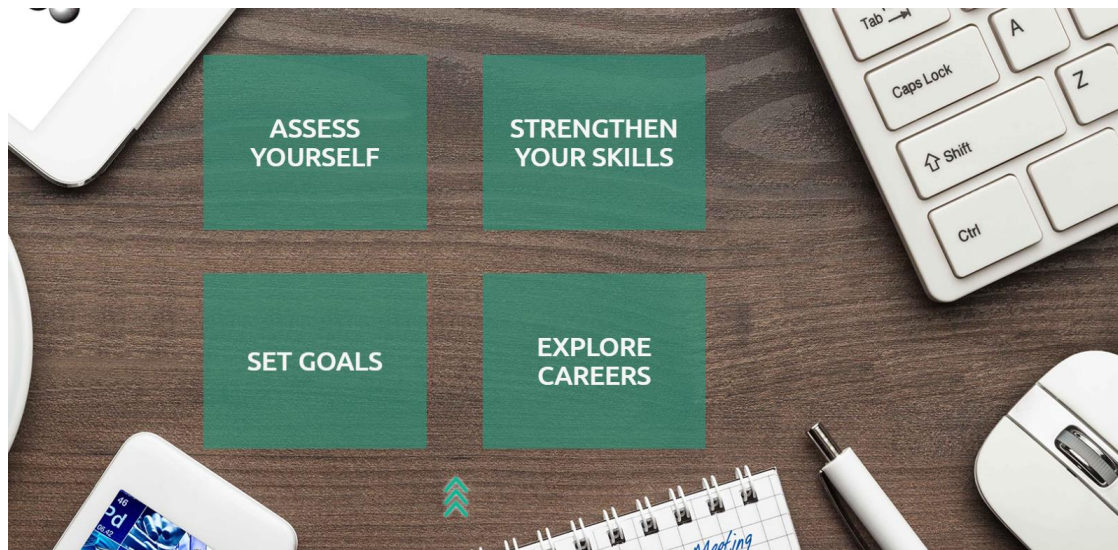
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[Organic Synthesis: Methods and Strategies for the 21st Century Chemist](#)

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## Upcoming ACS Webinars

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Experts



Gavin Sacks  
Cornell University



Beth Burzynski  
Cornell University

**Thursday, May 31, 2018**

***Advanced Nano-Delivery Systems: Facilitating Tumor Delivery and Mitigating Resistance***

*Co-produced with the ACS Division of Medicinal Chemistry and the American Association of Pharmaceutical Scientists*

Experts



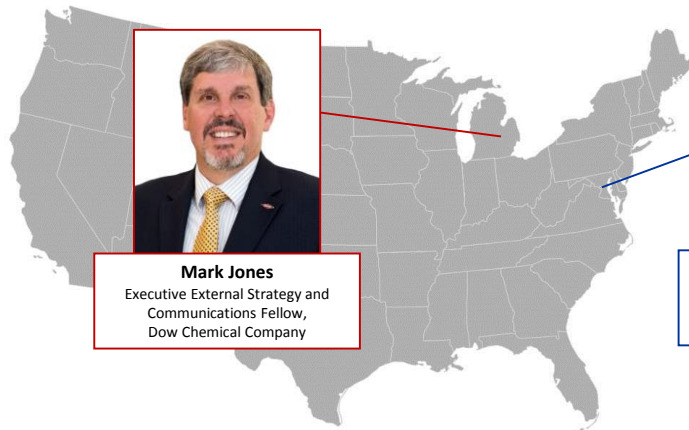
Mansoor Amiji  
Northeastern  
University

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10



*“Exceptional Presentations In Spite of PowerPoint: The Sequel”*



**Mark Jones**  
Executive External Strategy and  
Communications Fellow,  
Dow Chemical Company

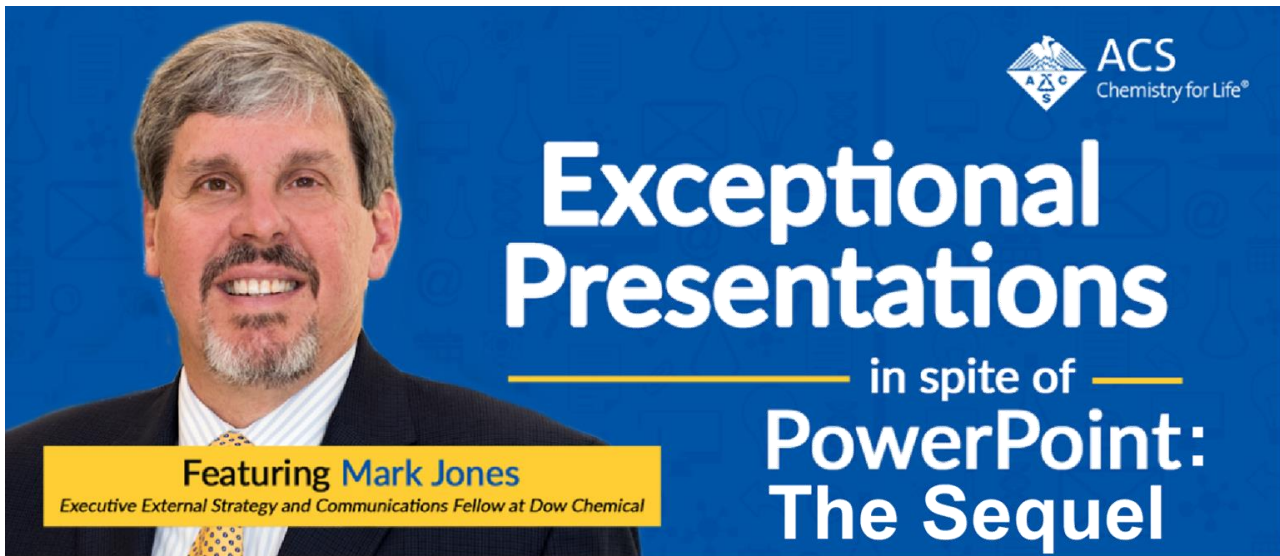


**Bryan Tweedy**  
Senior Manager,  
ACS Learning and Career Development  
and Professional Resources

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in spite of  
**PowerPoint:  
The Sequel**

**Featuring Mark Jones**  
*Executive External Strategy and Communications Fellow at Dow Chemical*




**Watch Live | Thursday, May 17 at 2pm ET**





13

A composite image representing a presentation. On the left, a slide titled "Lorem Ipsum" is visible, with several paragraphs of placeholder text. On the right, a magnifying glass is positioned over a silhouette of a person standing at a podium, gesturing. In the foreground, the silhouettes of an audience are visible, looking towards the presentation.

• Make yourself the focus when giving a presentation

- when you have a live audience in front of you, act like it
- slides as chorus



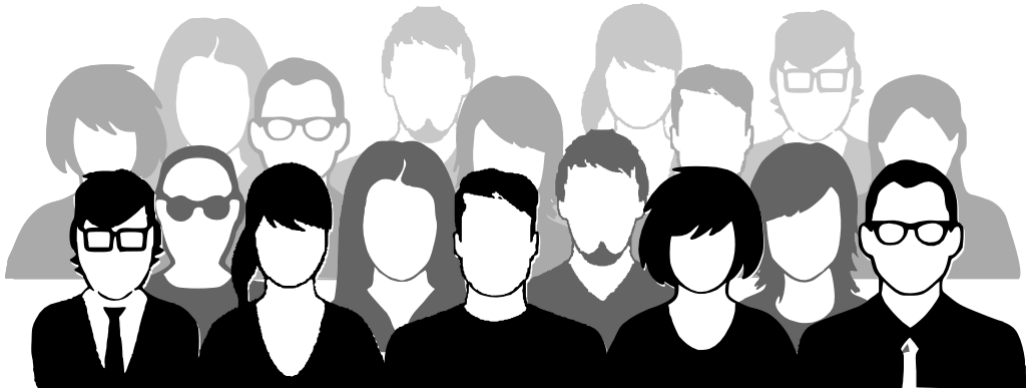
- Be prepared
- practice



15



- Know your audience and craft the presentation for them
- focus on your key message(s)



16





# ready

- memorable is better than forgettable
- make graphics *mind ready*



17



The top 10 Payment Card Processors account for 57% of the total number of Merchant Outlets in 2010.



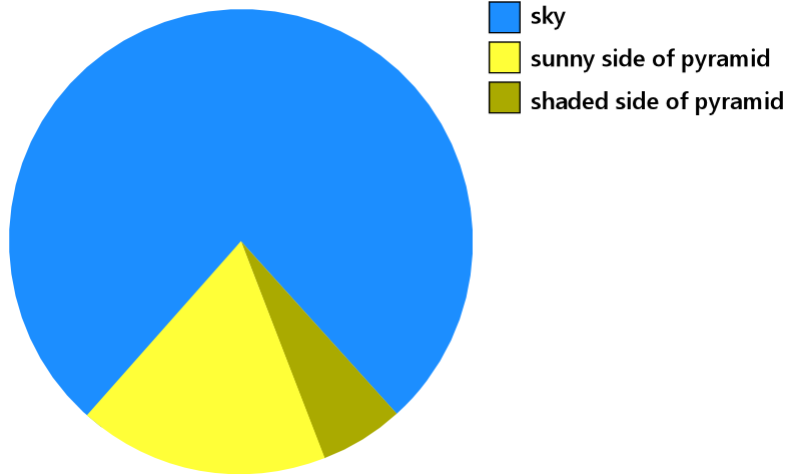
curated bad graphics



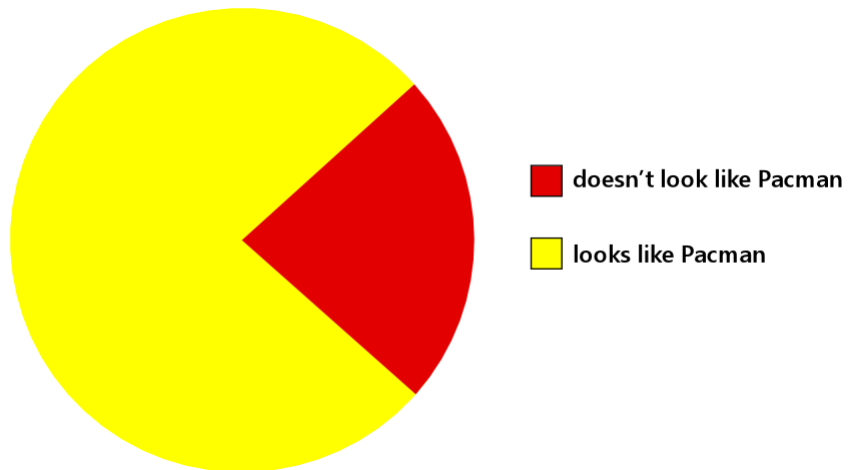
Distribution of the top 100 Payment Card Processors

@CBinsights 28 Jun 2017

18



19



20



## Five Principles of Data Presentation



- Tell the truth
- Get to the point
- Pick the right tool
- Highlight what is important
- Keep it ~~simple~~

**appropriate**

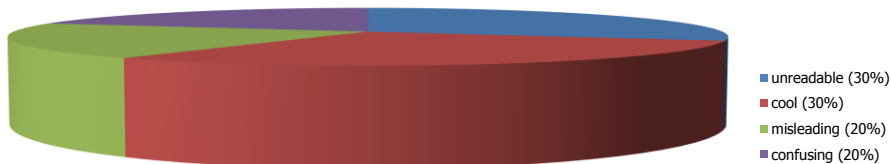
Nancy Duarte in Slideology



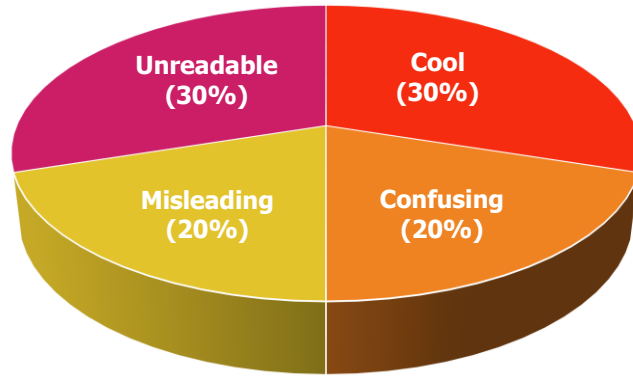
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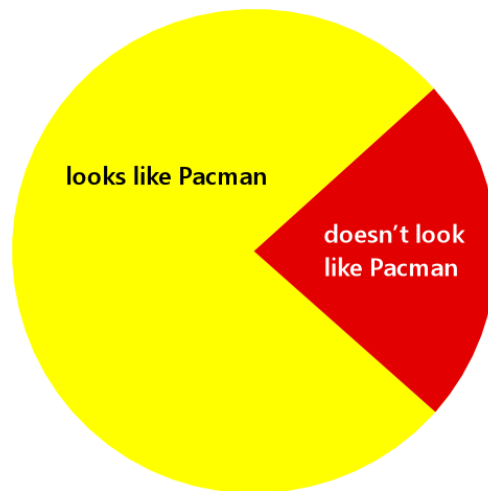
## Perception of 3D Pie Charts



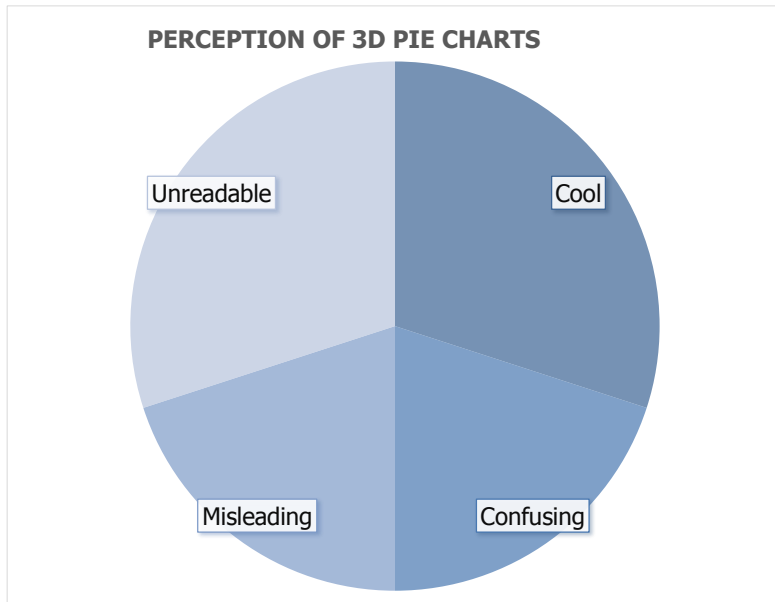
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23



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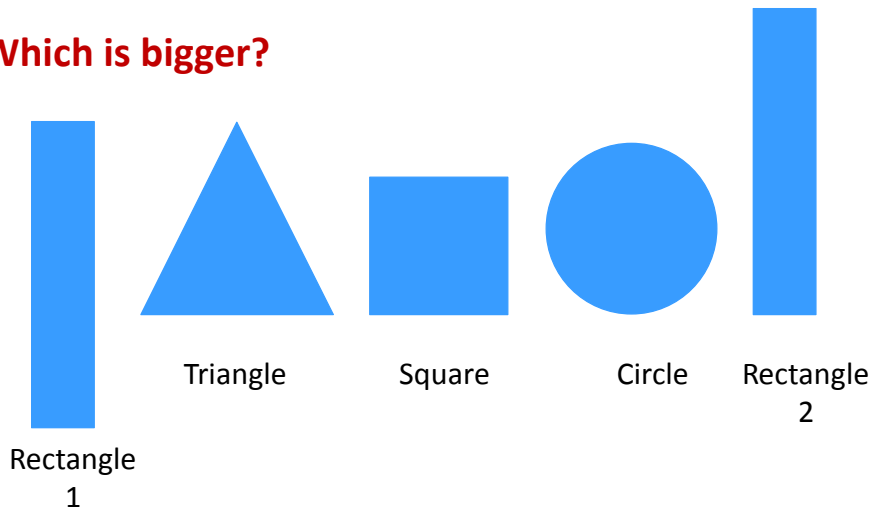
25

## Audience Challenge Question

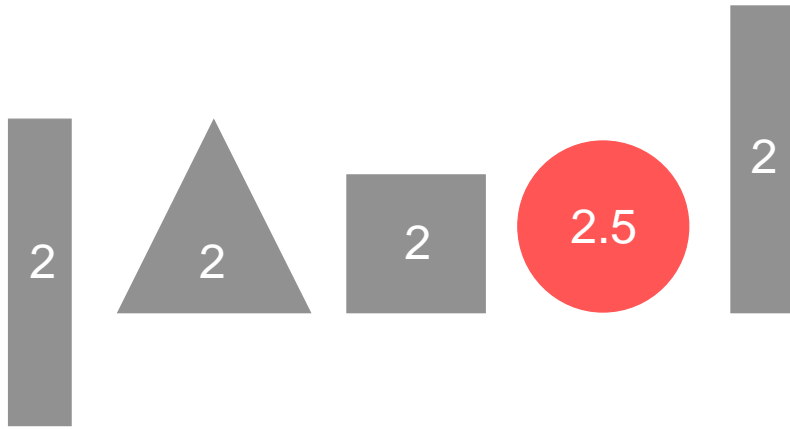
ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT



Which is bigger?



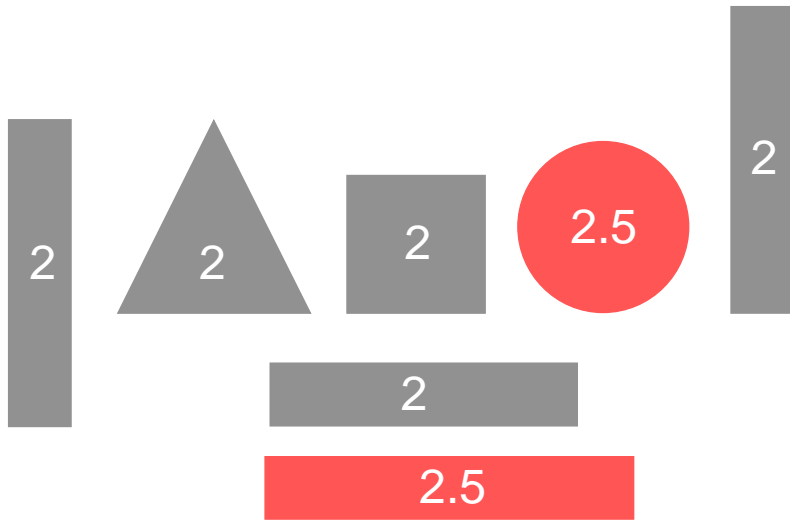
26



27



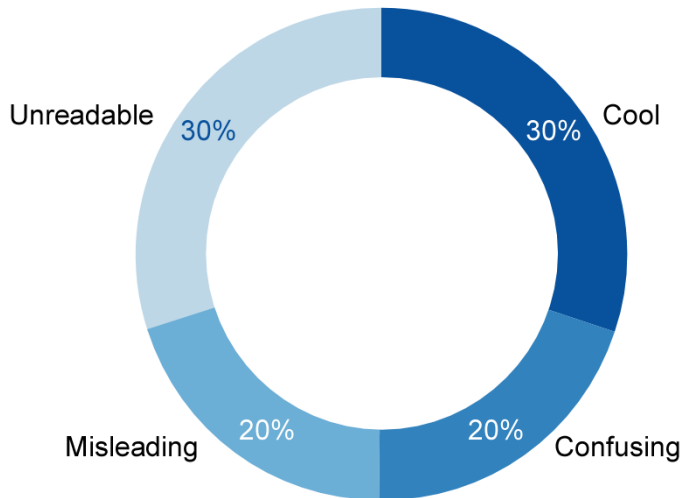
28



29



Perception of 3D Pie Charts



30



Number of data classes: 4 | how to use | updates | downloads | credits

### COLORBREWER 2.0

color advice for cartography

Nature of your data:  
 sequential  diverging  qualitative

Pick a color scheme:  
 Multi-hue: [Color swatches] | Single hue: [Color swatches]

Only show:  
 colorblind safe  
 print friendly  
 photocopy safe

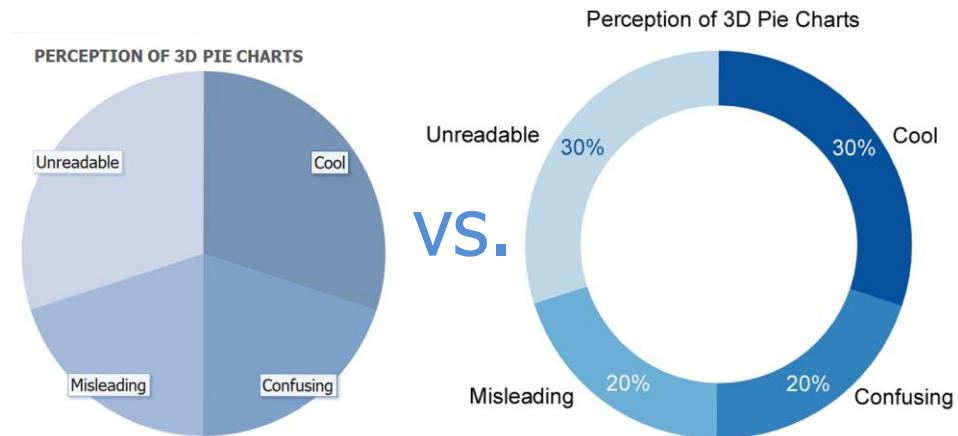
Context:  
 roads  
 cities  
 borders

Background:  
 solid color  terrain  
 color transparency [Slider]

4-class BuGn  
 HEX: #edf8fb, #b2e2e2, #66c2a4, #238b45

© Cynthia Brewer, Mark Harrower and The Pennsylvania State University  
 Source code and feedback  
 Back to Flash version  
 Back to ColorBrewer 1.0

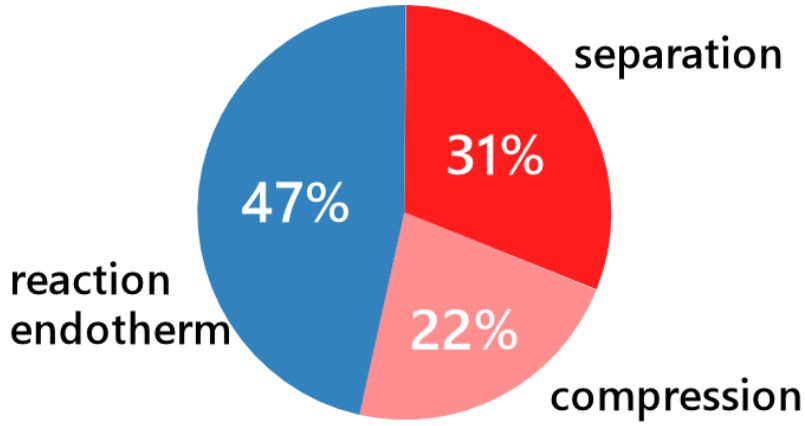
axismaps







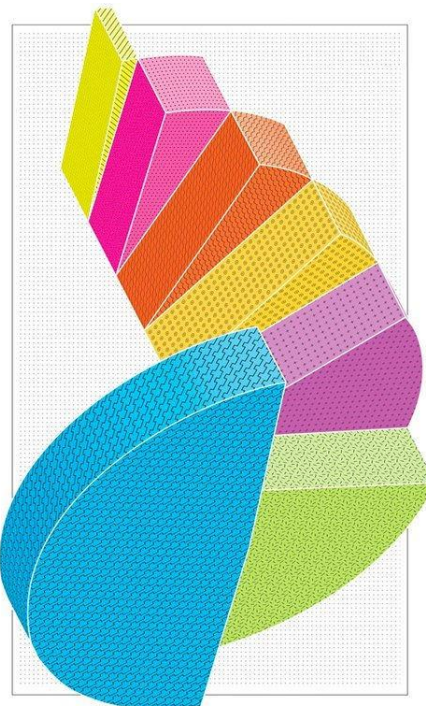
**When Is A Pie Chart The Right Choice?**



33

**Anatomy of a Winning TED Talk**

- 1%**  
**Sophisticated Visual Aids**  
 We're not sure who puts the D in TED—most of the best presentations favor tepid PowerPoint slide shows (sorry, Brent Brown). Pictorial-quality drawings (really, Simon Sinek?), or no props at all.
- 5%**  
**Opening Joke**  
 Remember the one about the shoe salesman who went to Africa in the 1900s? That's how Benjamin Zander opened his talk—which turned out to be about classical music.
- 5%**  
**Spontaneous Moment**  
 Don't overprepare. Tease the guy in the front row ("You could light up a village with this guy's eyes"). Comment the stagehand who handles the human brain you brought.
- 5%**  
**Statement of Utter Certainty**  
 People come for answers—give 'em what they want, as Shweta Achor did: "By training your brain ... we can reverse the formula for happiness and success."
- 12%**  
**Snappy Refrain**  
 The TED equivalent of "I have a dream." Example: "People don't buy what you do, they buy why you do it." Repeat 7x.
- 23%**  
**Personal Failure**  
 Be relatable. We want to know about that nervous breakdown. Or at least the time you didn't fit in at summer camp.
- 49%**  
**Contrarian Thesis**  
 Well a sic—we should be playing more videogames? The more choices we have, the worse off we are? TED is where conventional wisdom goes to die.



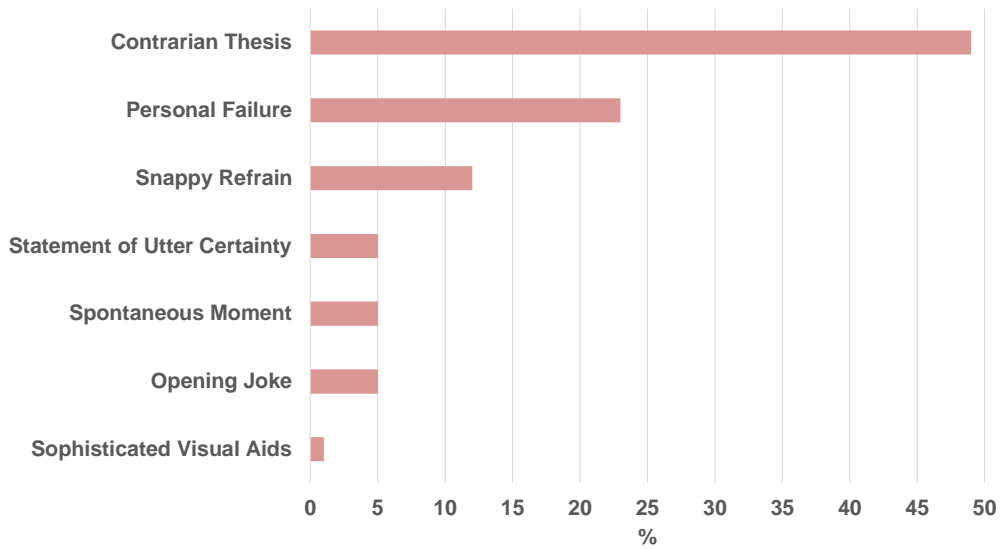
<https://www.wired.com/2013/04/tedtalk/>

34

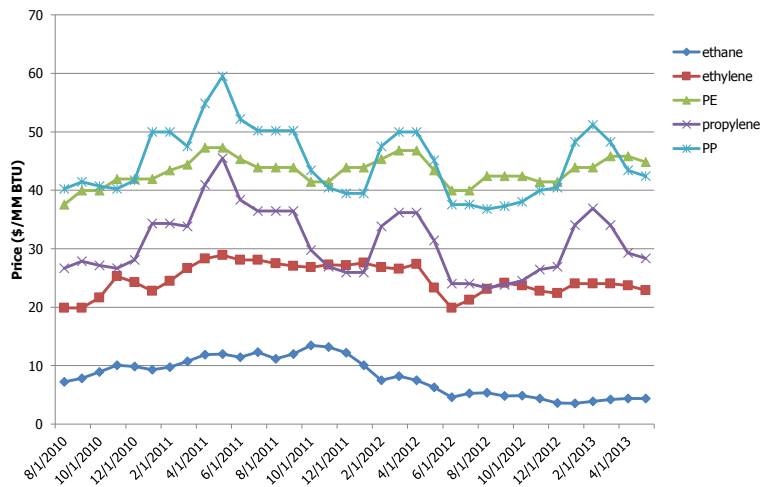




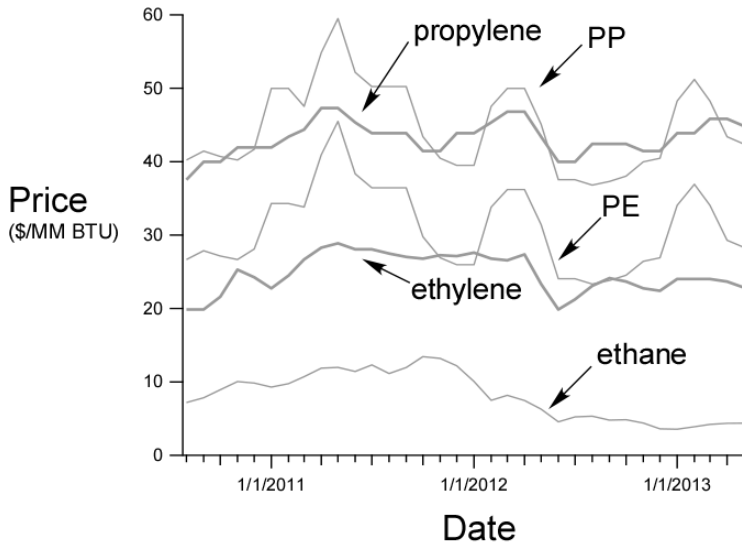
## ■ Anatomy of a Winning TED Talk



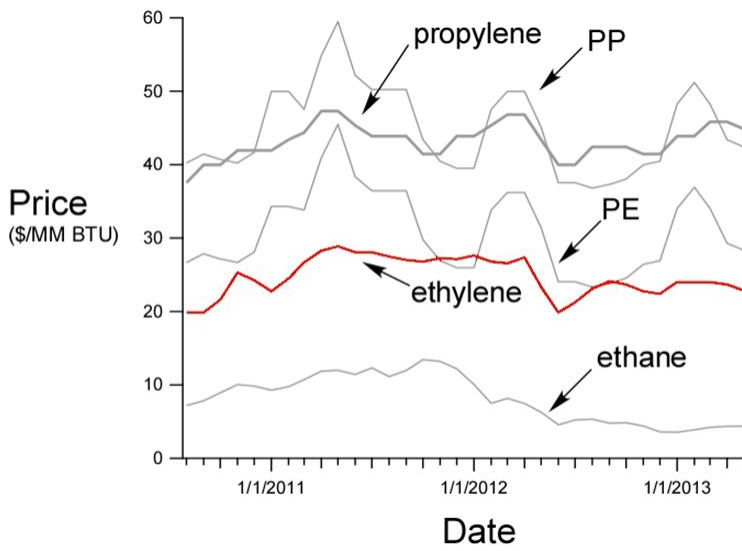
35



36



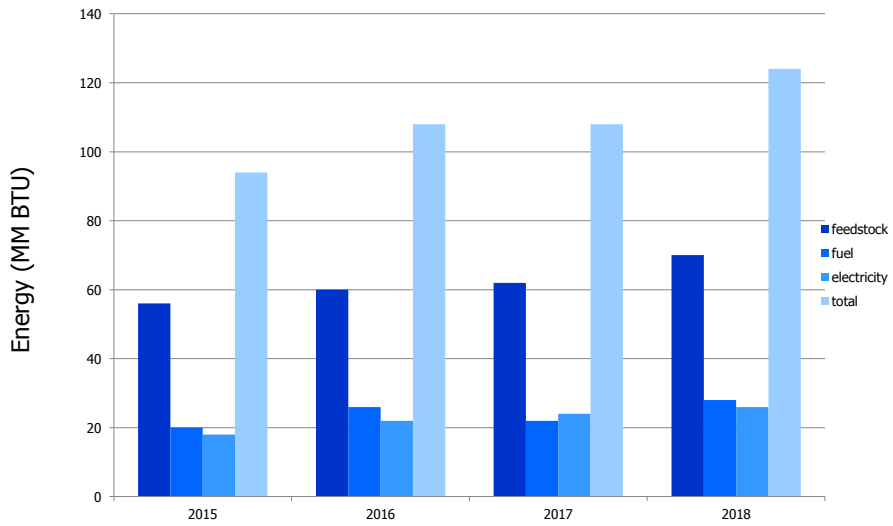
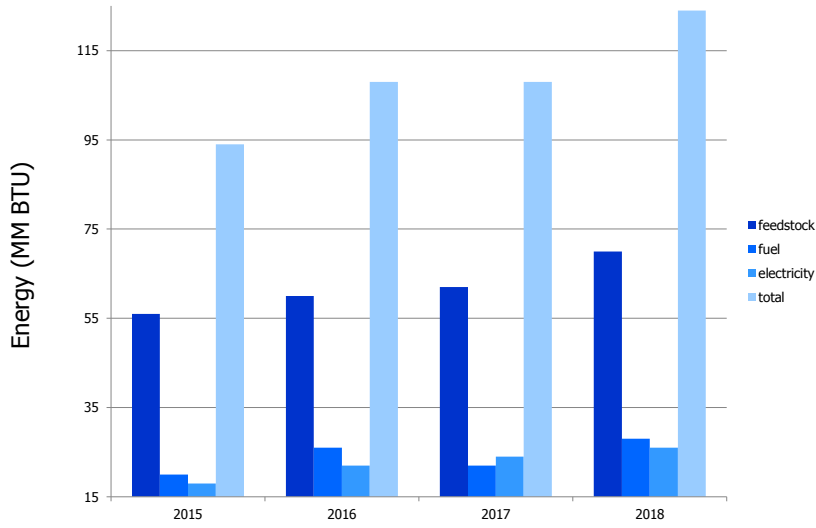
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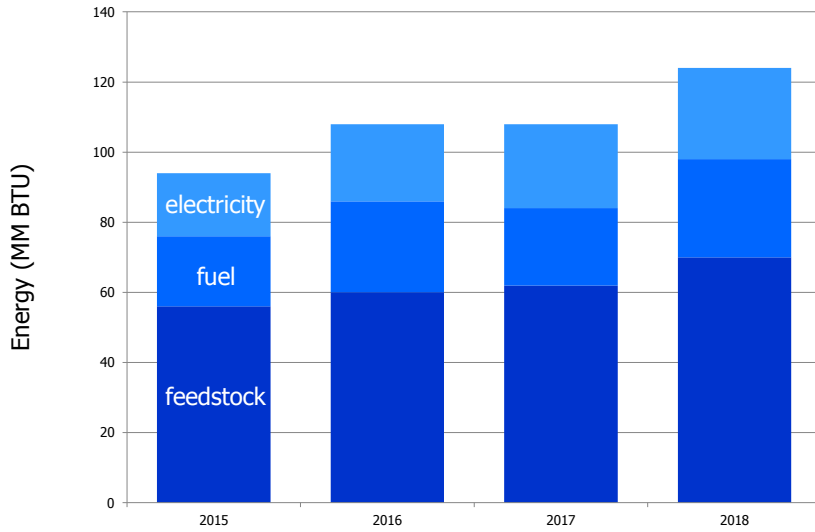


38

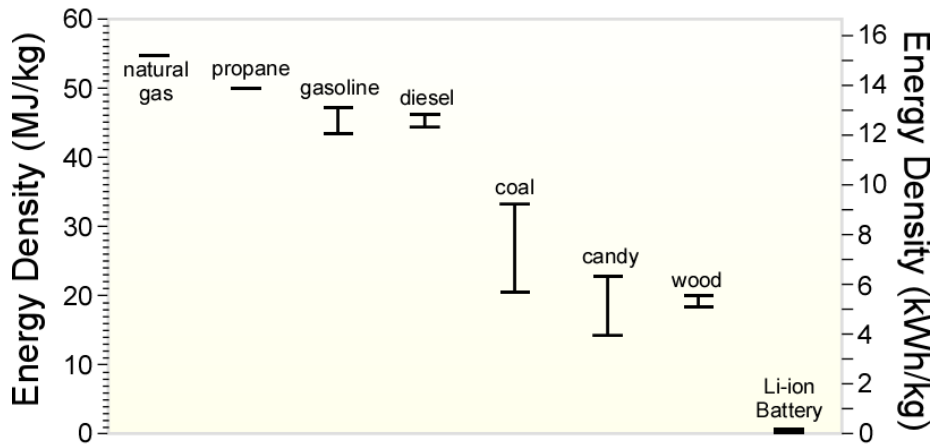


**Redundant Data; Non-zero Baseline**





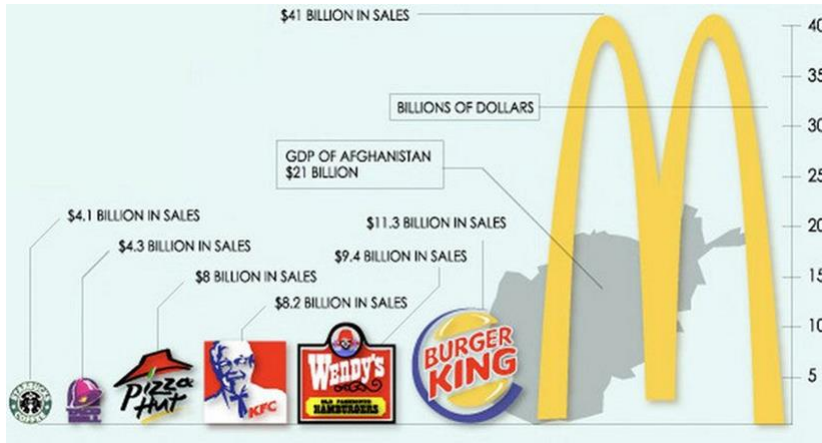
41



42



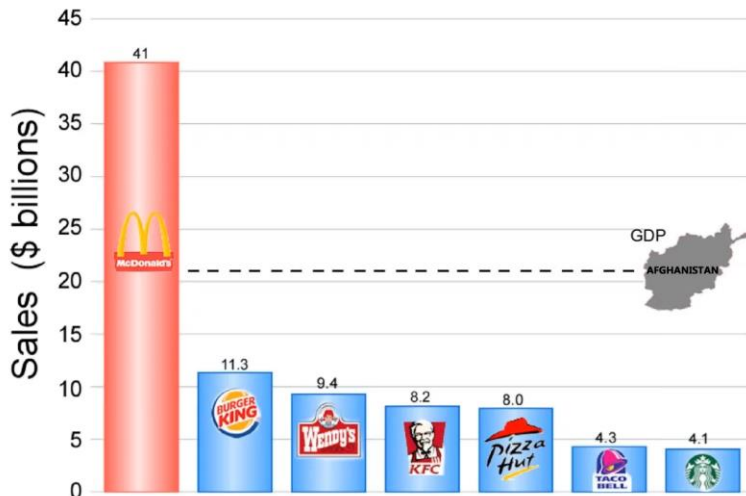
# Chart Junk



<http://www.businessinsider.com/the-27-worst-charts-of-all-time-2013-6>



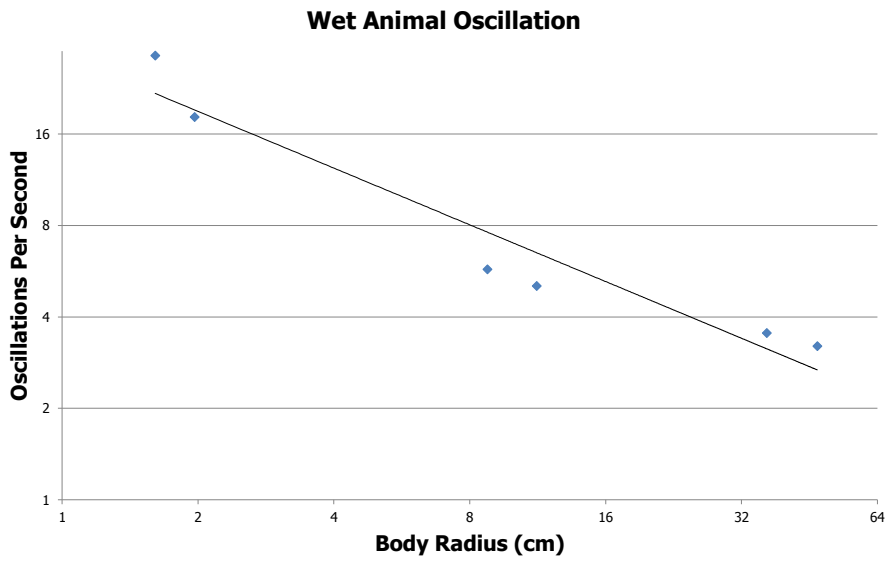
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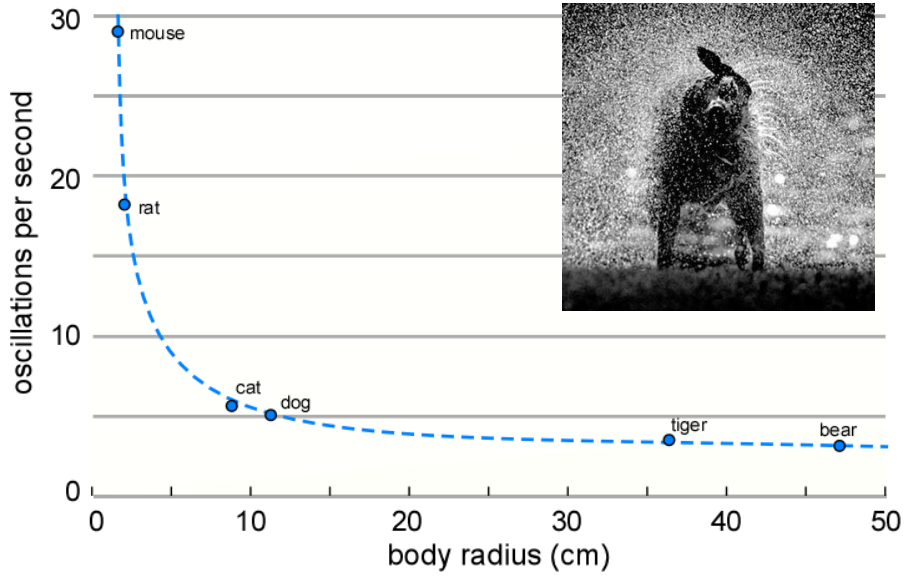
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45

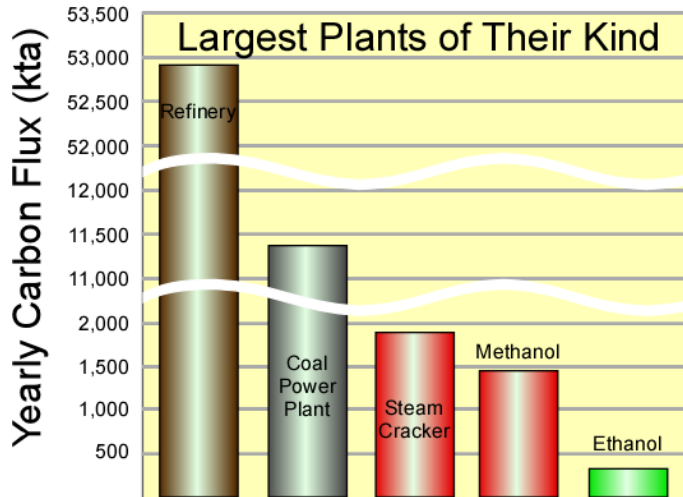


46



Andrew Dickerson, Grant Mills, Jay Bauman, Young-Hui Chang, David Hu, The Wet-Dog Shake, Fluid Dynamics, 15 October 2010.

47



c.2011

48





## Audience Challenge Question

ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT



### Which one of these is NOT one of the Five Principles of Graphical Design:

- Above all else show the data
- Maximize the data-ink ratio
- Erase non-data ink
- Consider how the graph will look printed only in black and white
- Erase redundant data

49

### Edward Tufte's Five Principles



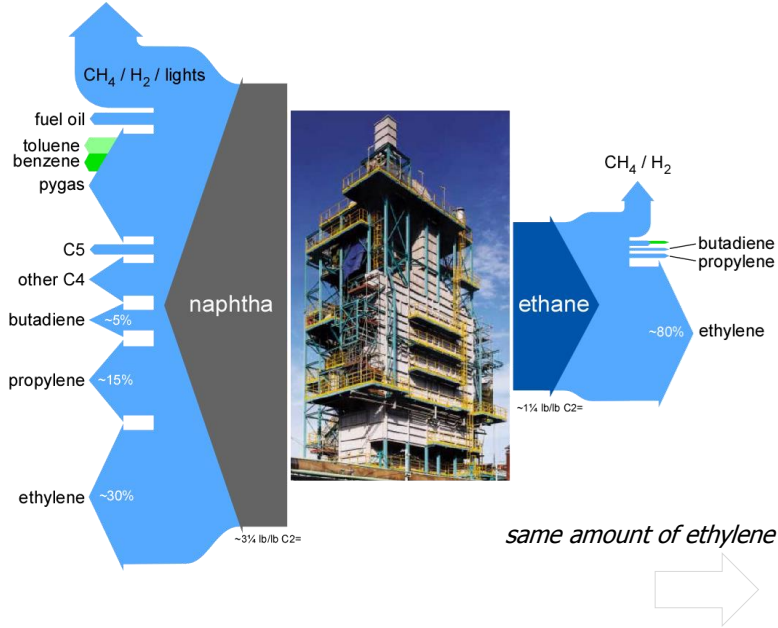
1. Above all else show the data
2. Maximize the data-ink ratio
3. Erase non-data ink
4. Erase redundant data
5. Revise and Edit



50



## Naphtha / Ethane Cracking Comparison



51

## Real Example



Figure 5. Total MSW Generation (by material), 2014  
258 Million Tons

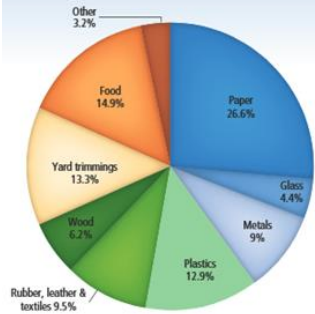


Figure 6. Total MSW Recycling and Composting (by material), 2014  
89 Million Tons

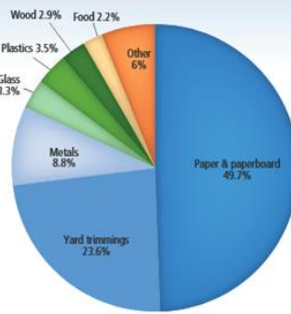


Figure 7. Total MSW Combusted with Energy Recovery (by material), 2014  
33 Million Tons

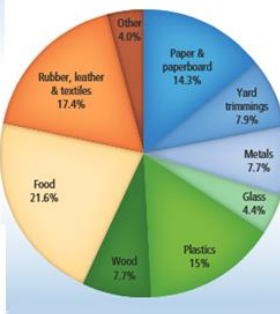
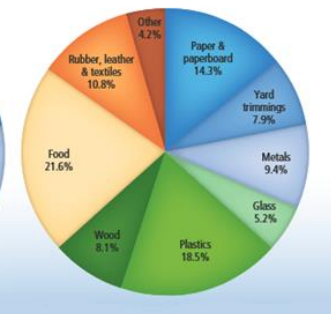


Figure 8. Total MSW Landfilled (by material), 2014  
136 Million Tons



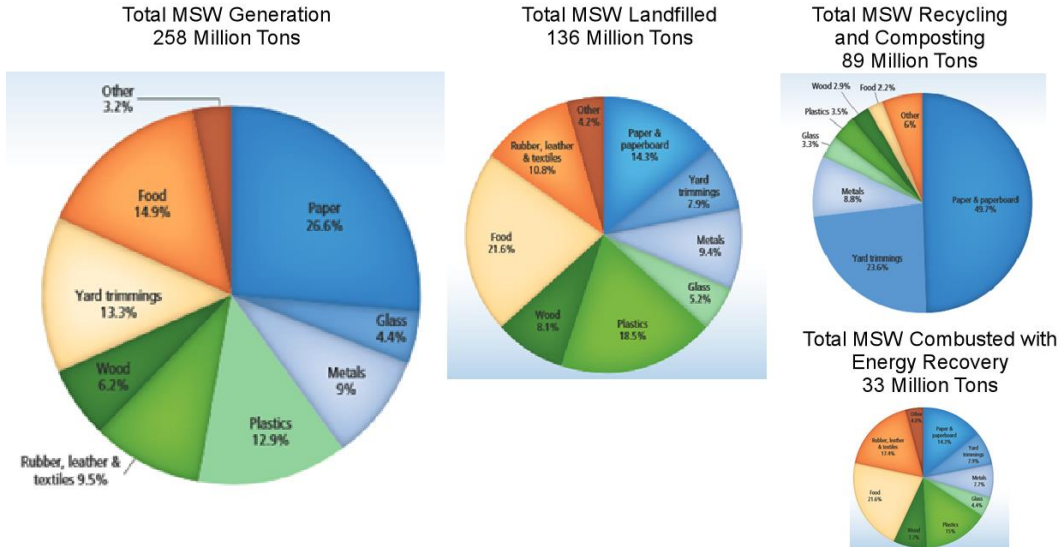
[https://www.epa.gov/sites/production/files/2016-11/documents/2014\\_smmfactsheet\\_508.pdf](https://www.epa.gov/sites/production/files/2016-11/documents/2014_smmfactsheet_508.pdf)



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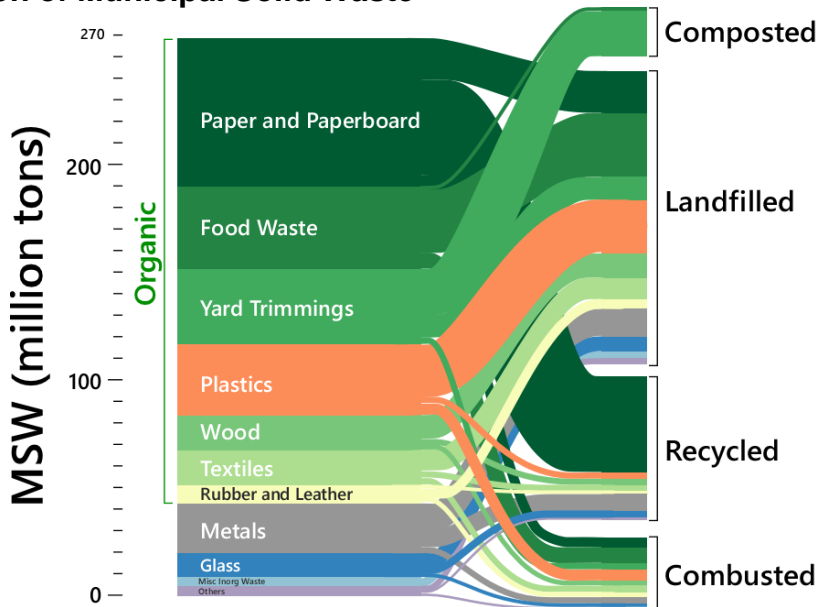
**Real Example**



[https://www.epa.gov/sites/production/files/2016-11/documents/2014\\_smmfactsheet\\_508.pdf](https://www.epa.gov/sites/production/files/2016-11/documents/2014_smmfactsheet_508.pdf)

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**Composition of Municipal Solid Waste**

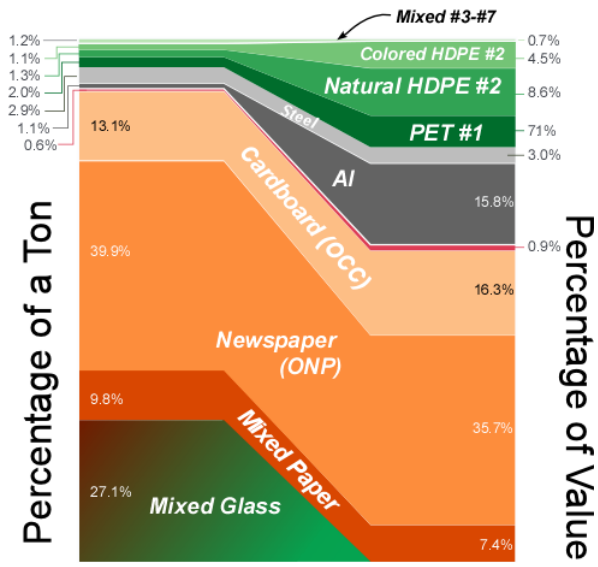


[https://www.epa.gov/sites/production/files/2016-11/documents/2014\\_smmfactsheet\\_508.pdf](https://www.epa.gov/sites/production/files/2016-11/documents/2014_smmfactsheet_508.pdf)

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**Value of Recycled Materials**

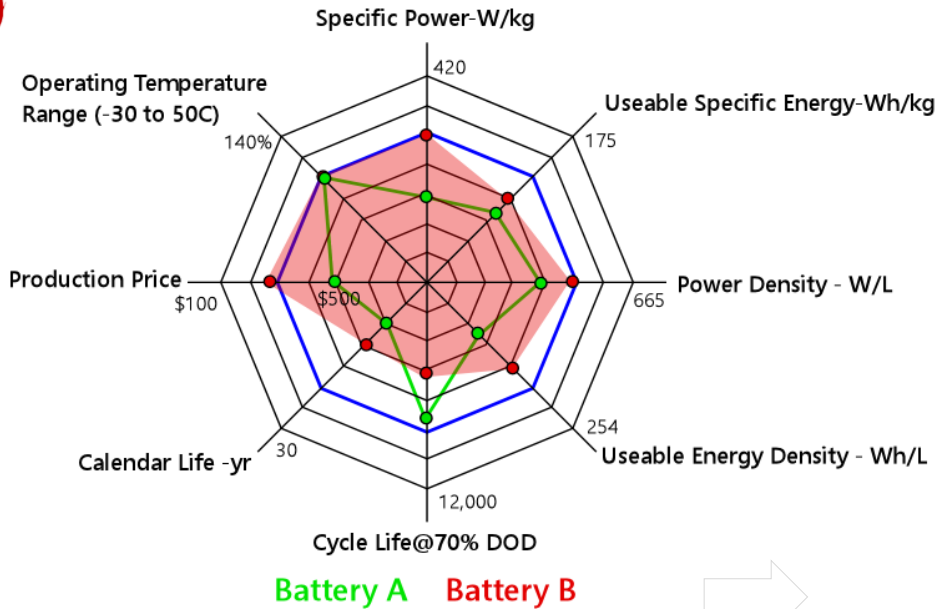


source: RRS from recycling.com and published in November 2015 Resource Recycling

55



56



57

Showing Additional Dimensions



# Which is better for the environment?

*A MEAT-EATER IN A PRIUS*



*A VEGAN IN A HUMMER*



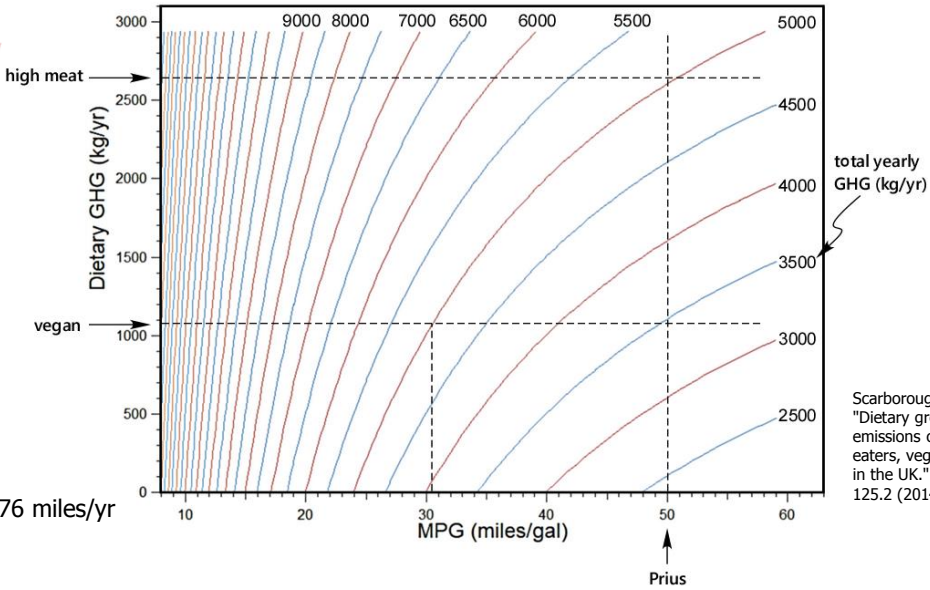
58



### Vegan/Meat-eater Driving Comparison



assumes 13,476 miles/yr



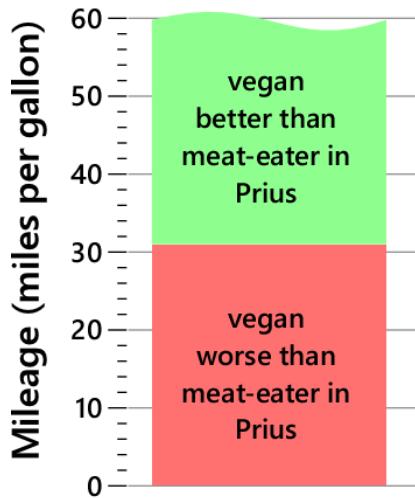
Scarborough, Peter, et al. "Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK." Climatic Change 125.2 (2014): 179-192.

59

### Vegan/Meat-eater Driving Comparison



assumes 13,476 miles/yr



Scarborough, Peter, et al. "Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK." Climatic Change 125.2 (2014): 179-192.

60



SANFORD AND SELNICK

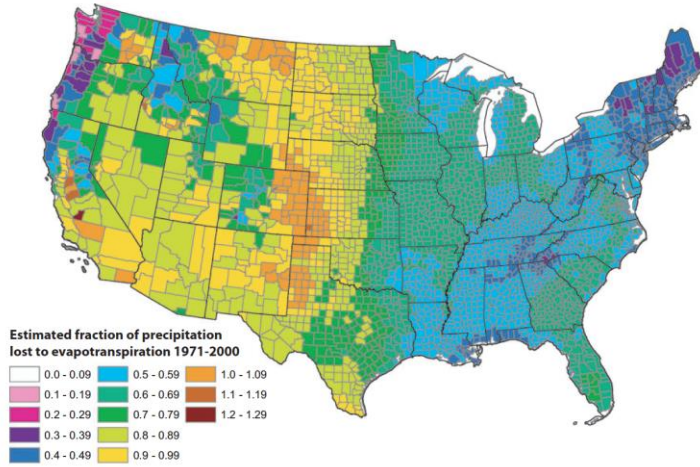


FIGURE 13. Estimated Mean Annual Ratio of Actual Evapotranspiration (ET) to Precipitation (P) for the Conterminous U.S. for the Period 1971-2000. Estimates are based on the regression equation in Table 1 that includes land cover. Calculations of ET/P were made first at the 800-m resolution of the PRISM climate data. The mean values for the counties (shown) were then calculated by averaging the 800-m values within each county. Areas with fractions >1 are agricultural counties that either import surface water or mine deep groundwater.

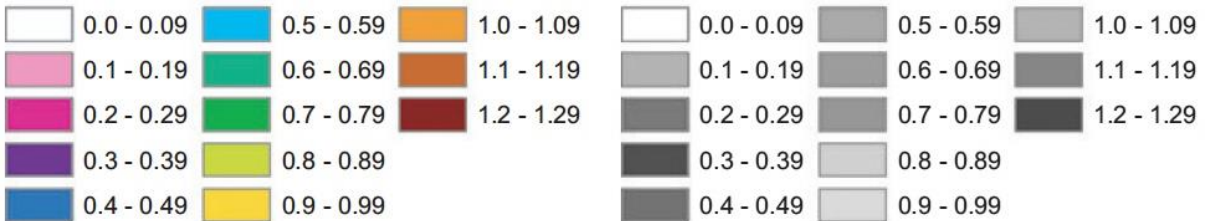
Sanford, W.E. and Selnick, D.L., 2013. Estimation of Evapotranspiration Across the Conterminous United States Using a Regression With Climate and Land-Cover Data. *JAWRA Journal of the American Water Resources Association*, 49(1), pp.217-230.



<https://eagereyes.org/basics/rainbow-color-map>

61

**■ Abrupt Change In Luminance**



62

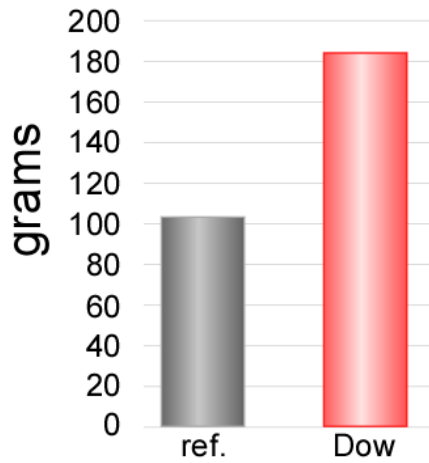


**Live Demo**



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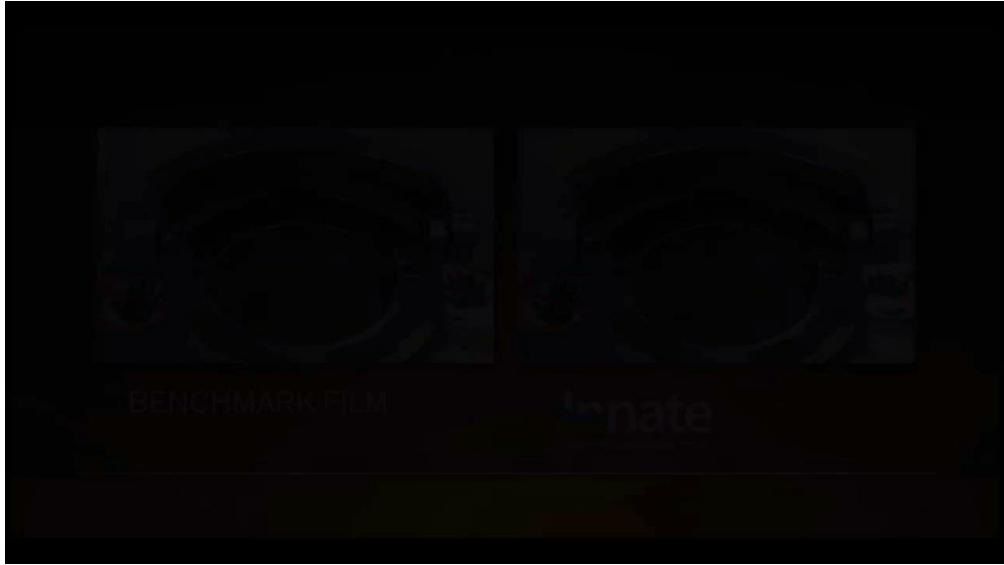
**Dart Impact Data**



64



**Dart Impact Data**



65

**TIPS**



graphs used to gain understanding are unlikely to be good for explaining



66



# TIPS

- make your graphics mind-ready
- make the information density right for your audience
- revise and refine



67



- animation is almost always bad

# TIPS

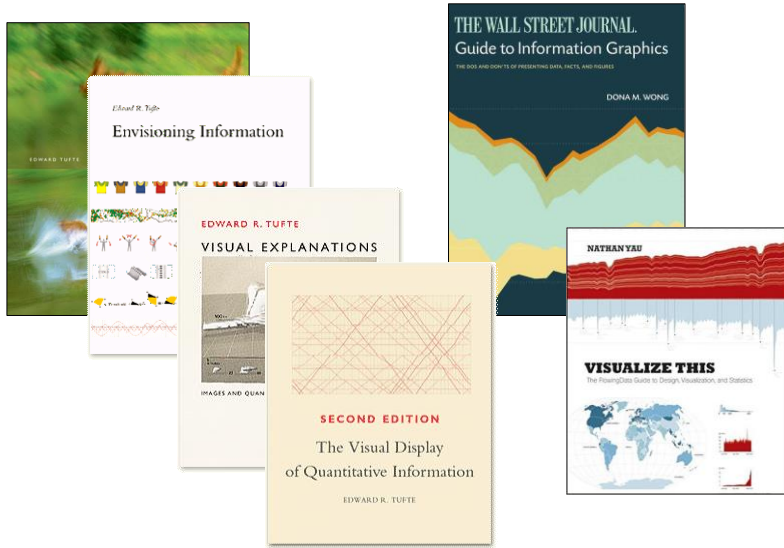
- video  $\neq$  animation
- video = best way to show data



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# Favorite References – Display of Information



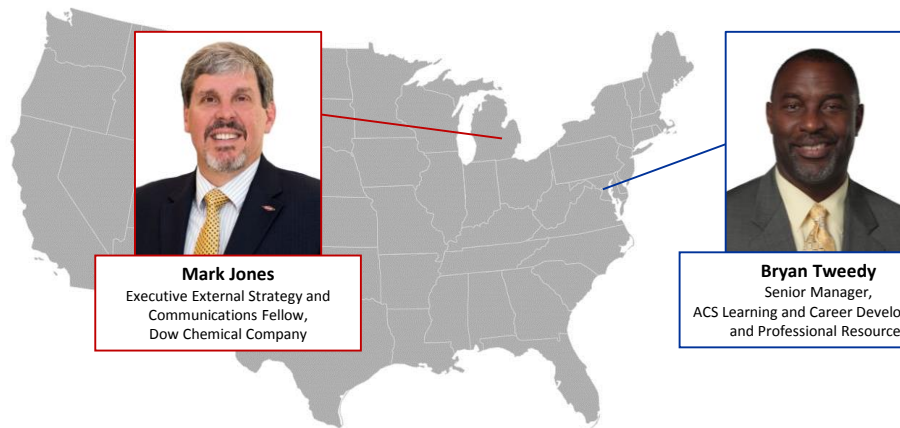
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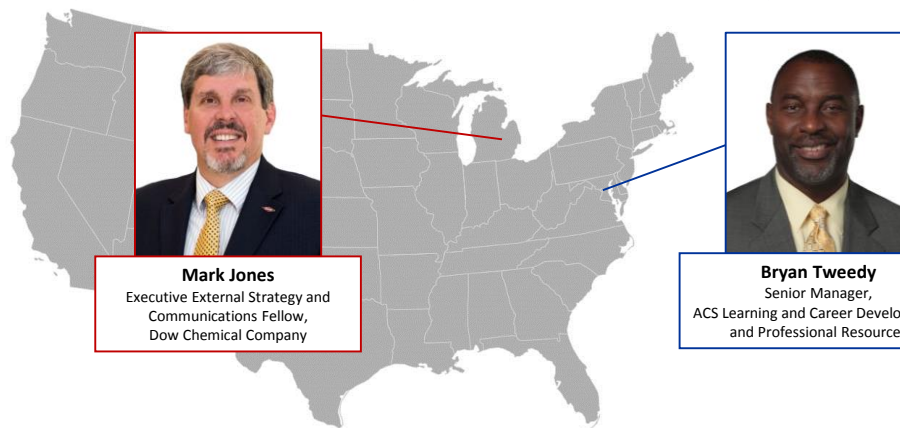
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Executive External Strategy and  
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**Bryan Tweedy**

Senior Manager,  
ACS Learning and Career Development  
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