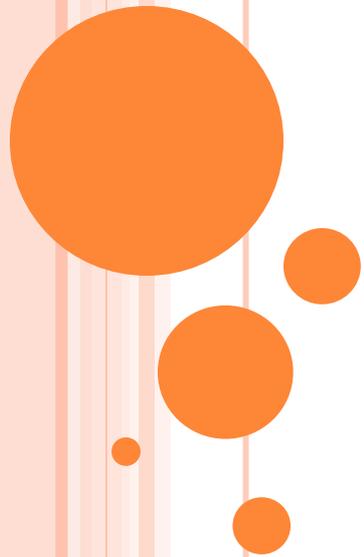


# CREATING EFFECTIVE CHARTS AND GRAPHS



# AGENDA

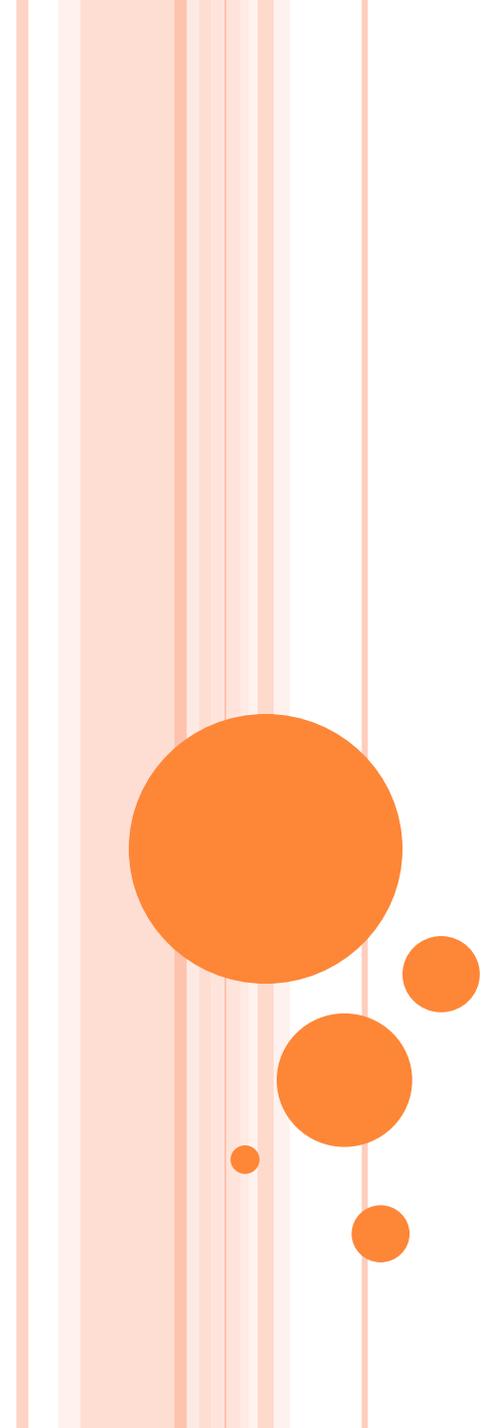
- Basic Overview of Charts
- Some Don'ts
- Editing a Charts – How & Why



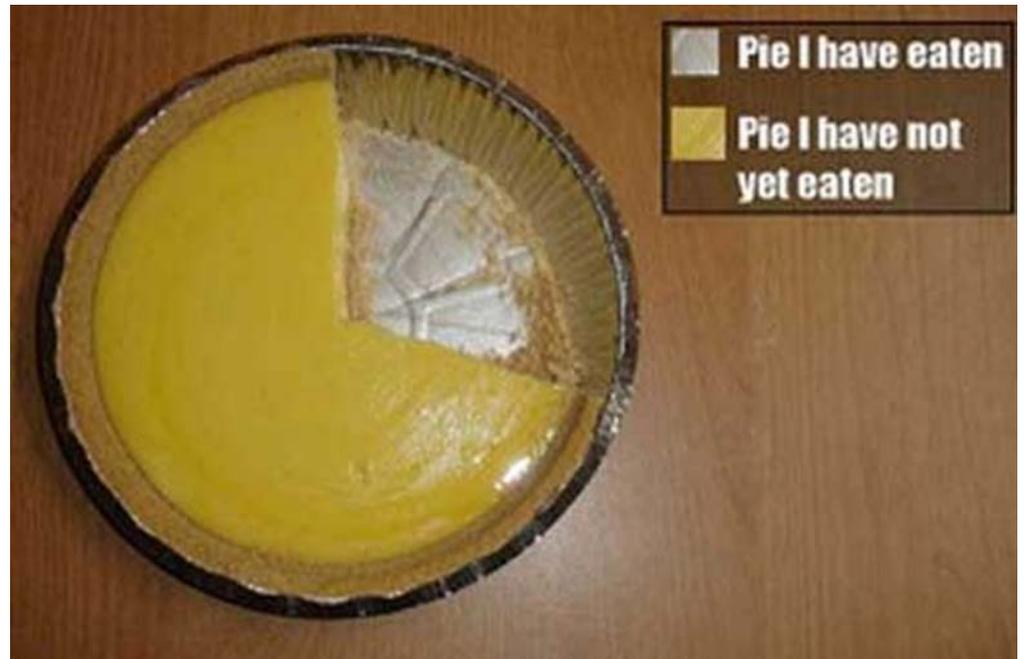
# A NOTE ABOUT MICROSOFT OFFICE

- The directions given are for Excel
- All Microsoft products (Word, PowerPoint, etc) use Excel to do their charts
- Basically – FYI, this will work in any Microsoft product that has the “Insert Chart” feature





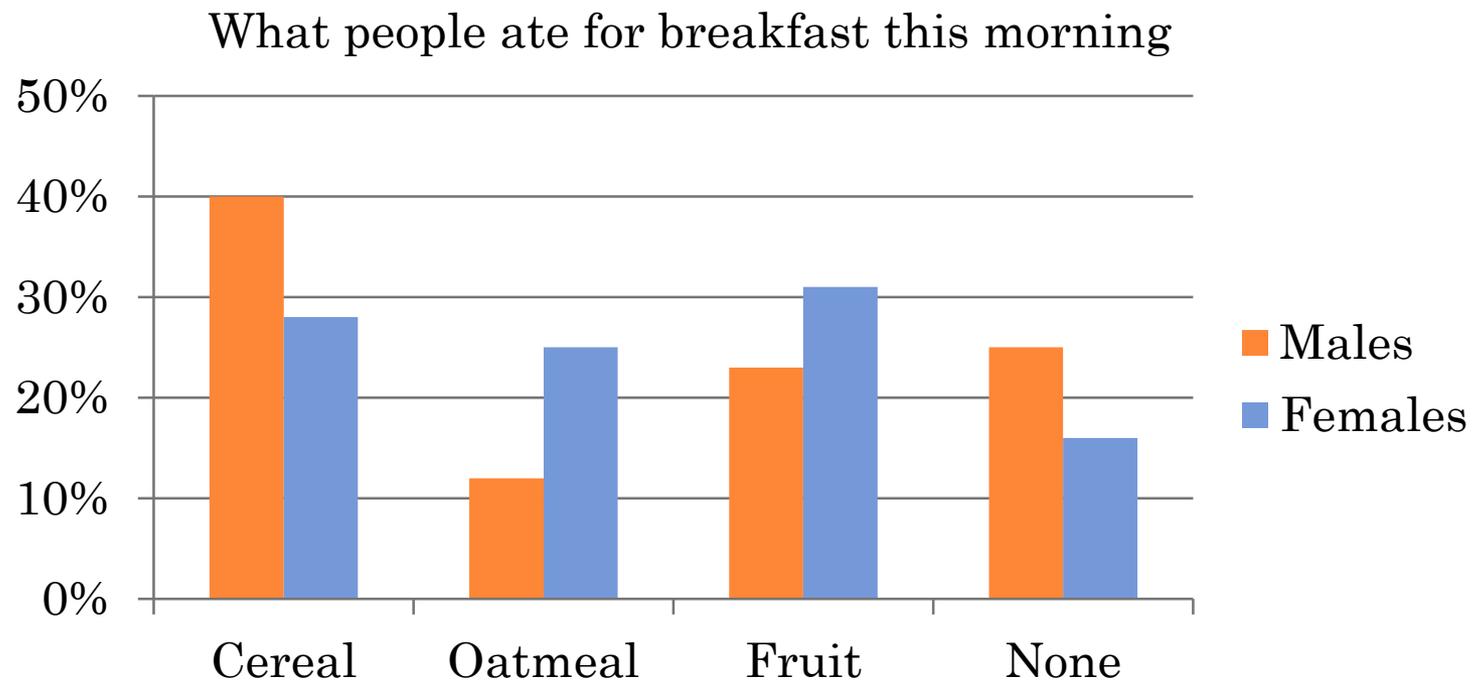
**NOTE: PRETTY MUCH  
ALL THE NUMBERS  
ARE MADE UP!**



## TYPES OF CHARTS

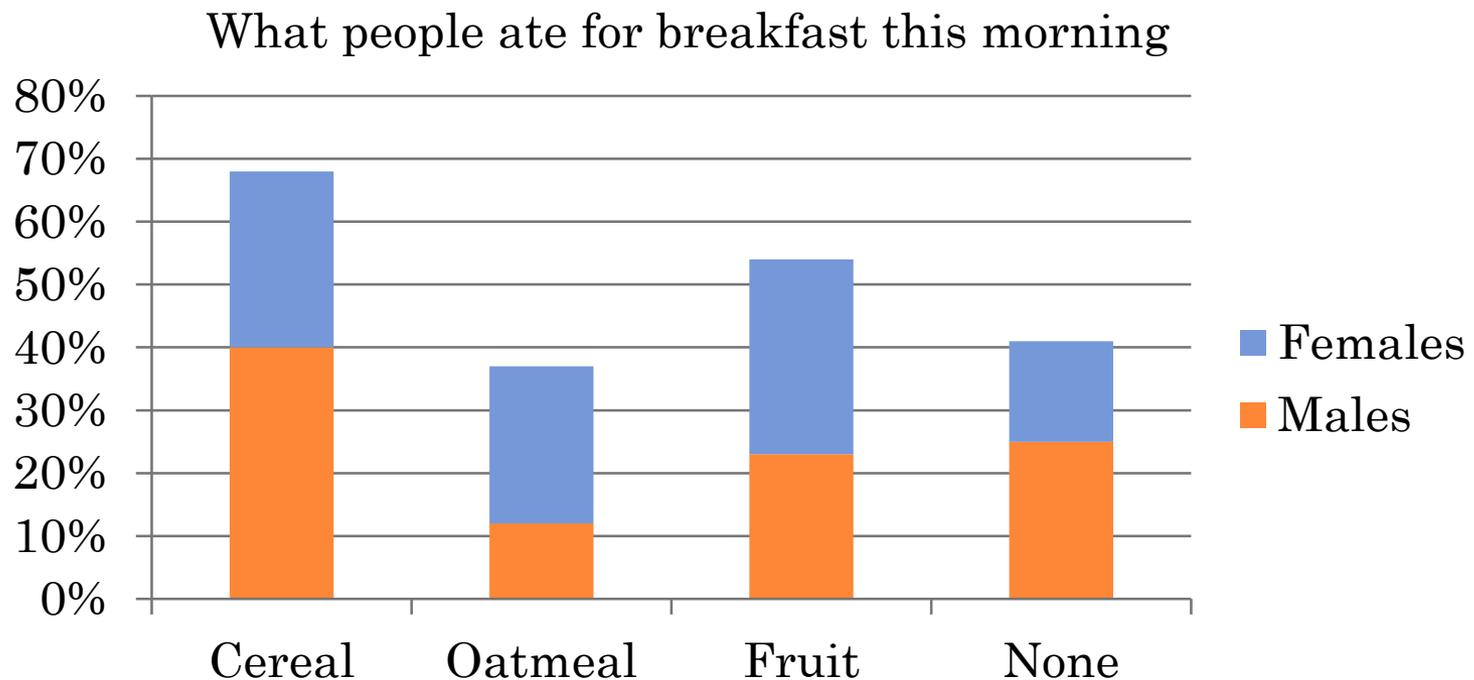
# COLUMN & BAR CHARTS

- Used primarily to compare discrete groups across common variables



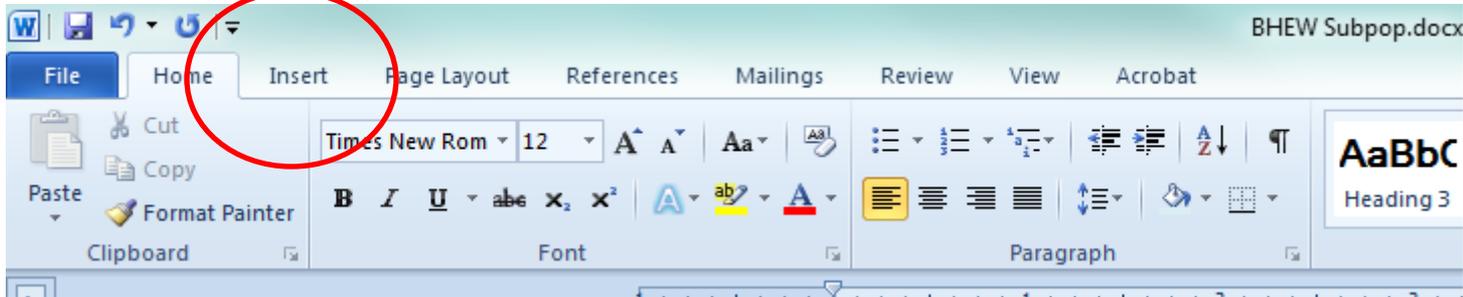
# COLUMN & BAR CHARTS

- Can also do a “Stacked” design to highlight differences between axis categories

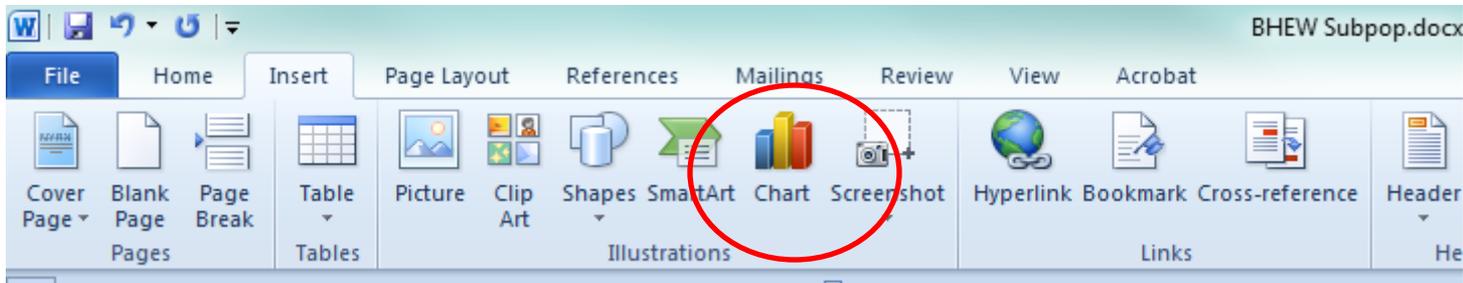


# GETTING STARTED

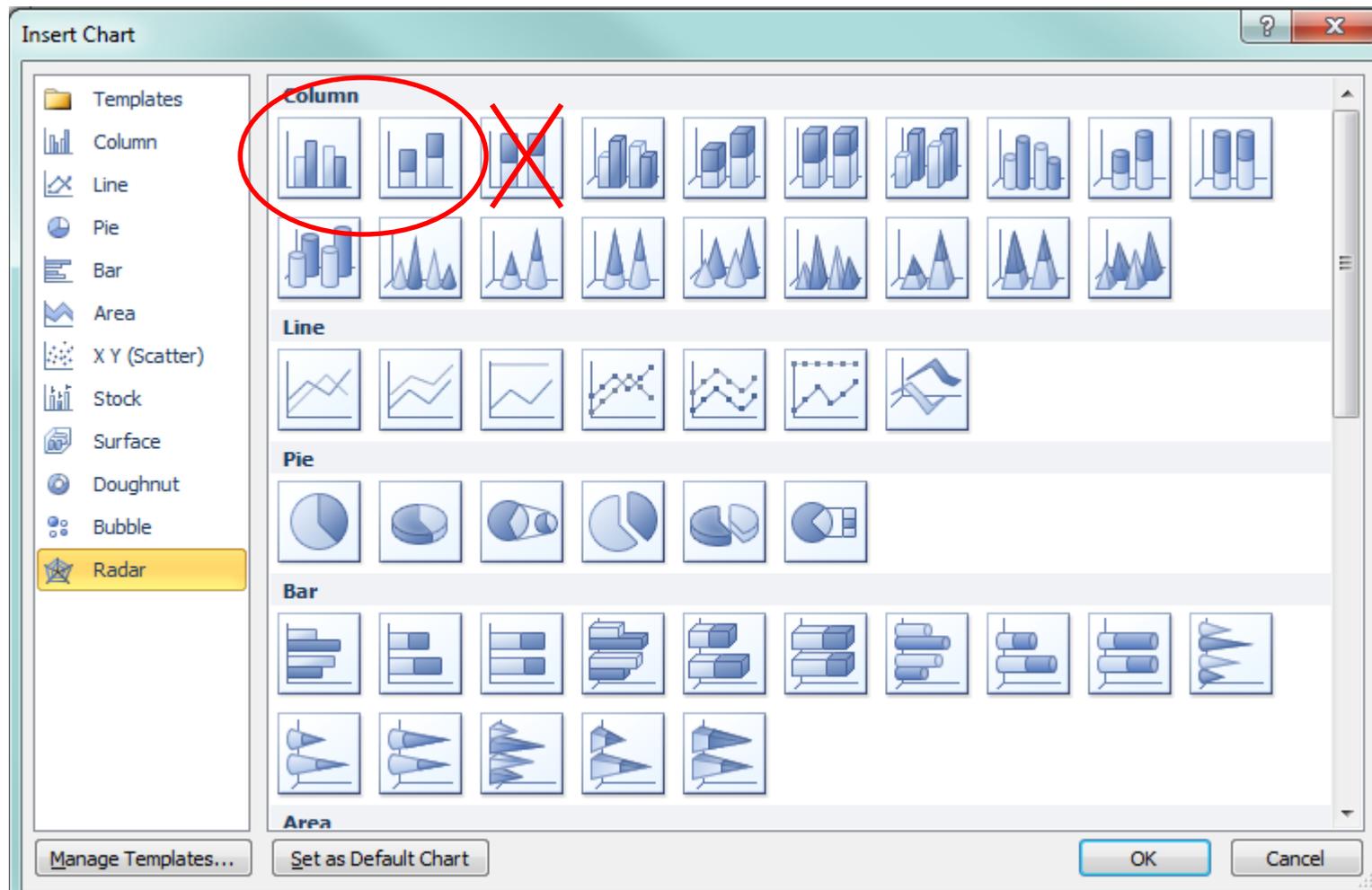
- Click your mouse where you want the chart
- Click Insert



- Click Chart

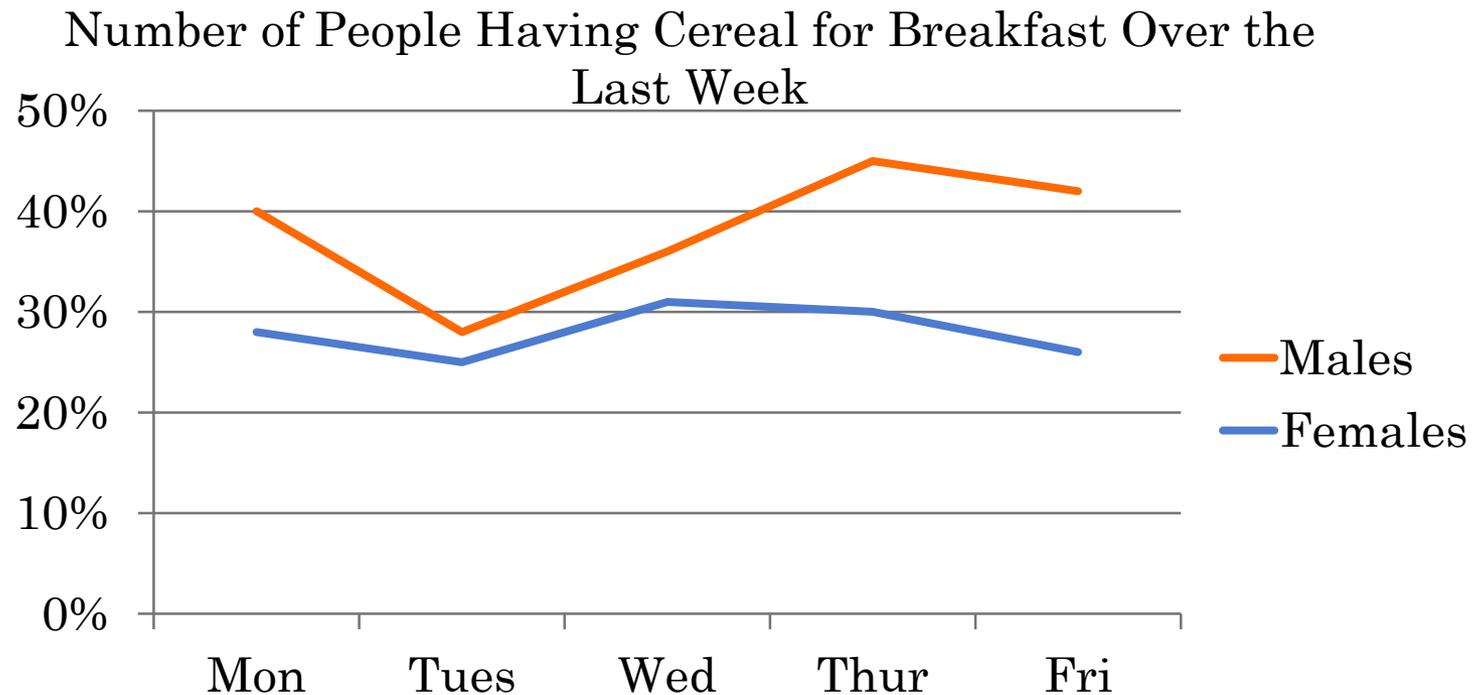


# YOUR OPTIONS

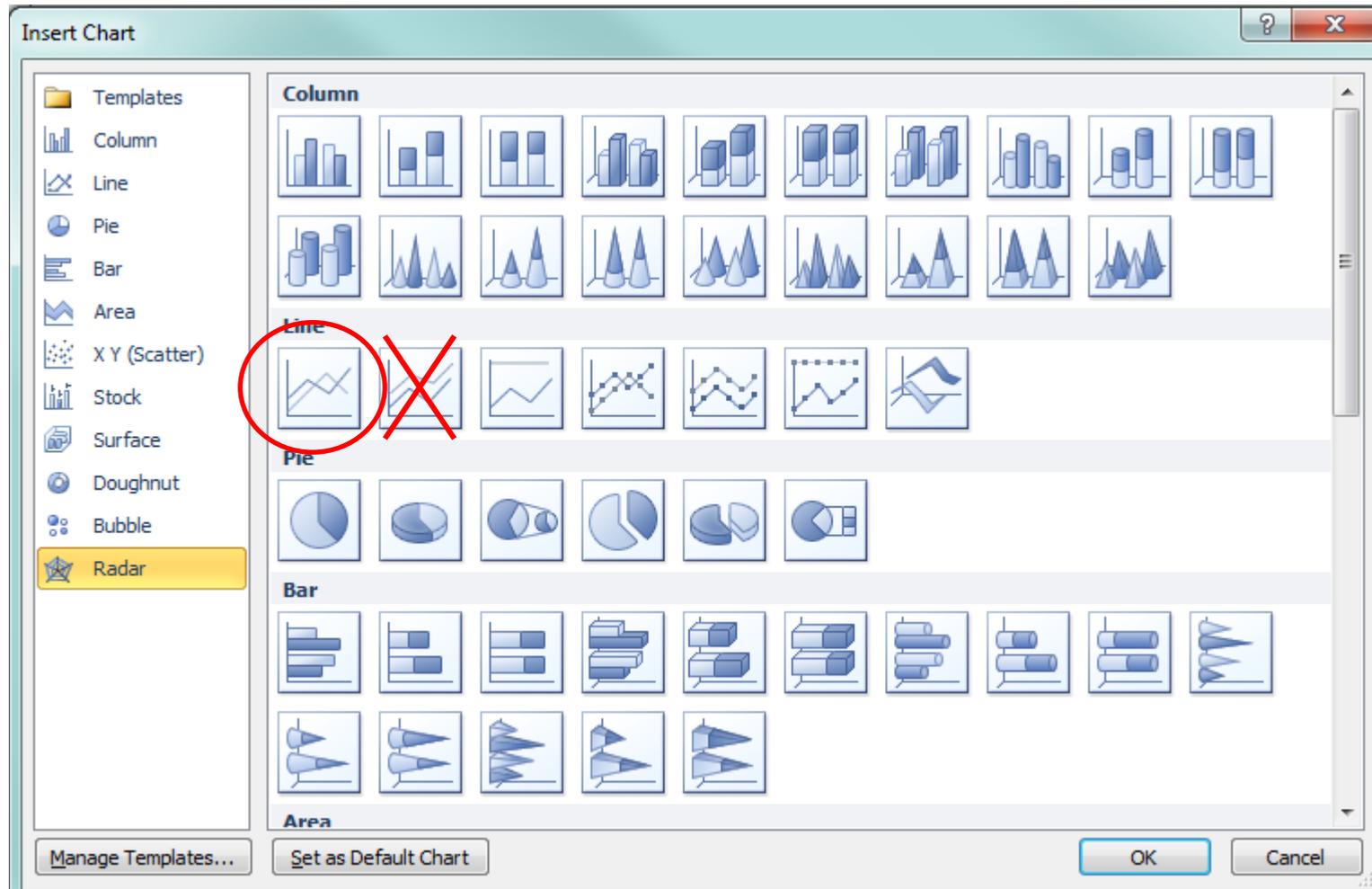


# LINE GRAPH

- Used primarily to compare discrete groups across time
  - Categories across the bottom MUST be related



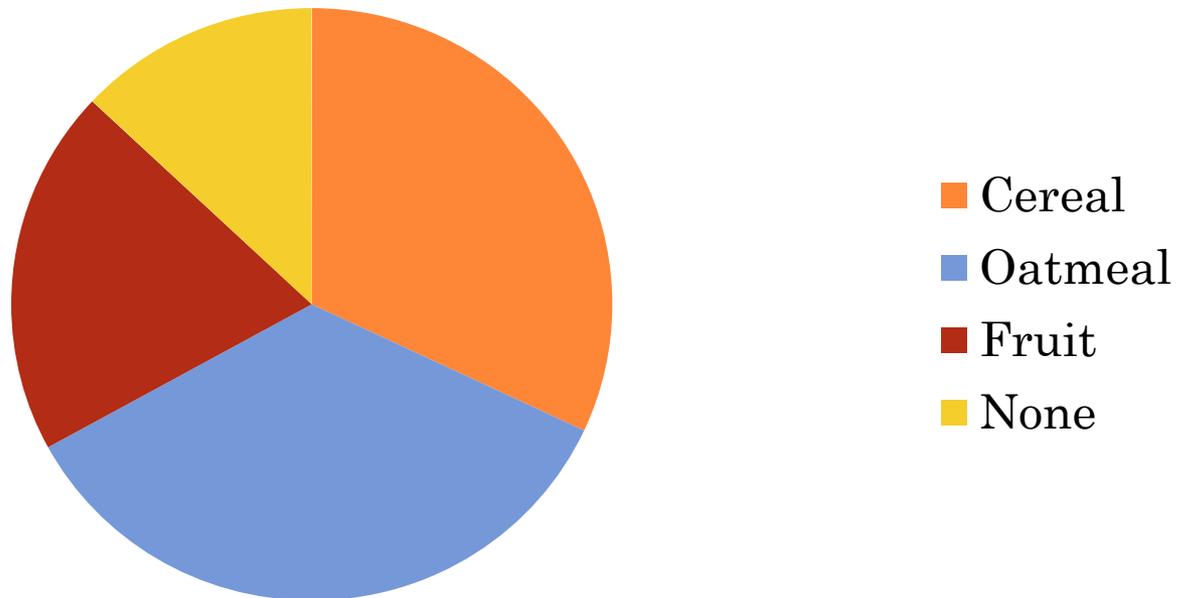
# YOUR OPTIONS



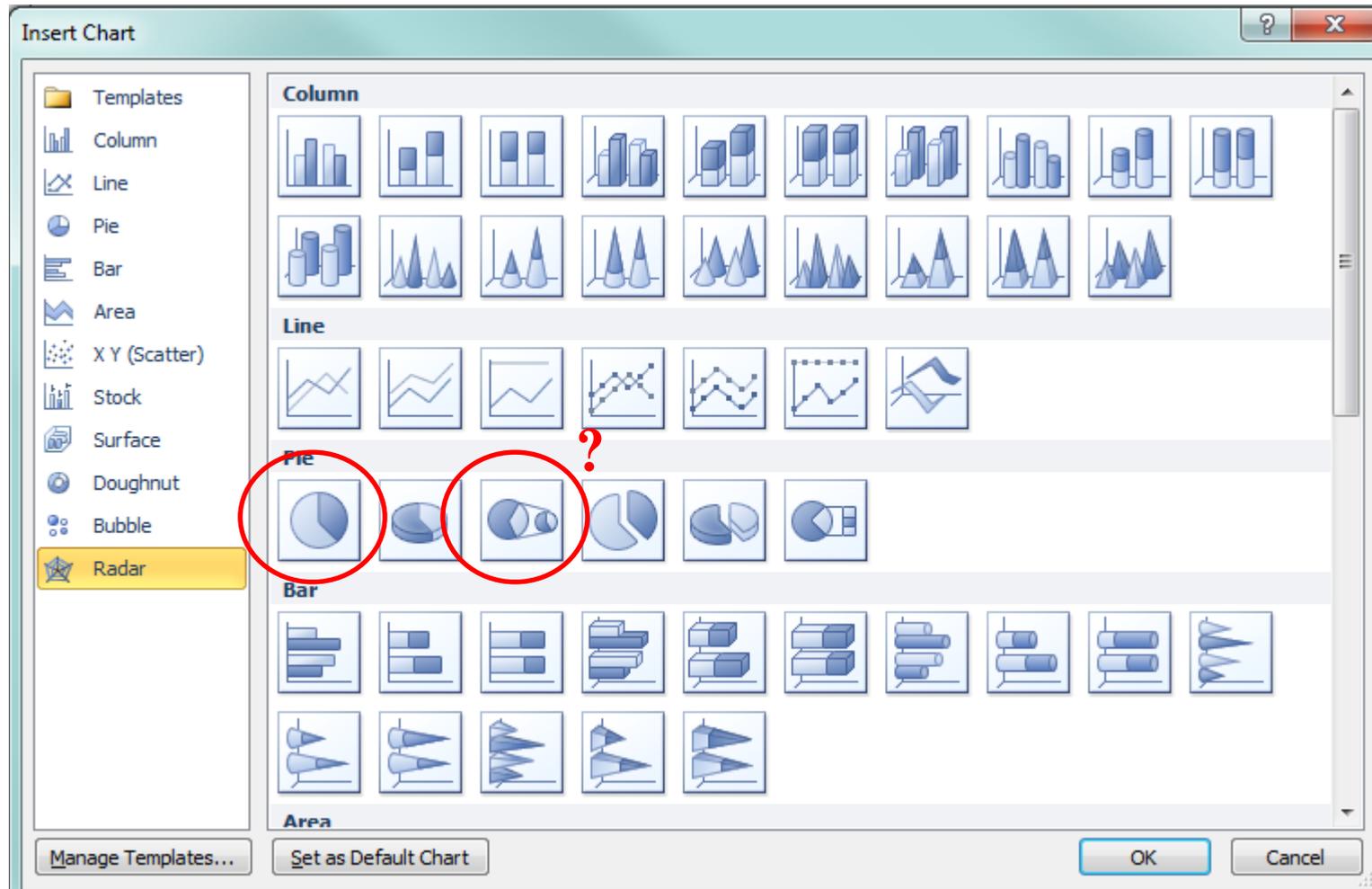
# PIE CHART

- Indicates proportion of parts to a whole
  - MUST add up to whole (typically 100%)

What people ate for breakfast this morning

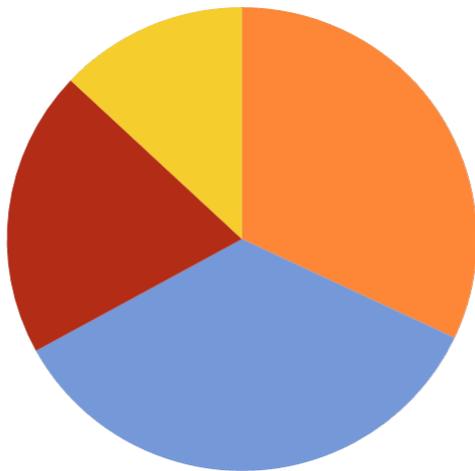


# YOUR OPTIONS

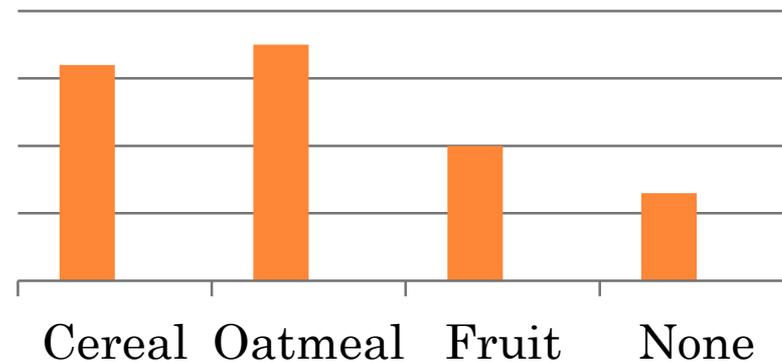


# NEW THINKING ON THE PIE CHART

- People do not do a great job of analyzing volume
  - Cereal vs Oatmeal



■ Cereal  
■ Oatmeal  
■ Fruit  
■ None



# NEW THINKING ON THE PIE CHART

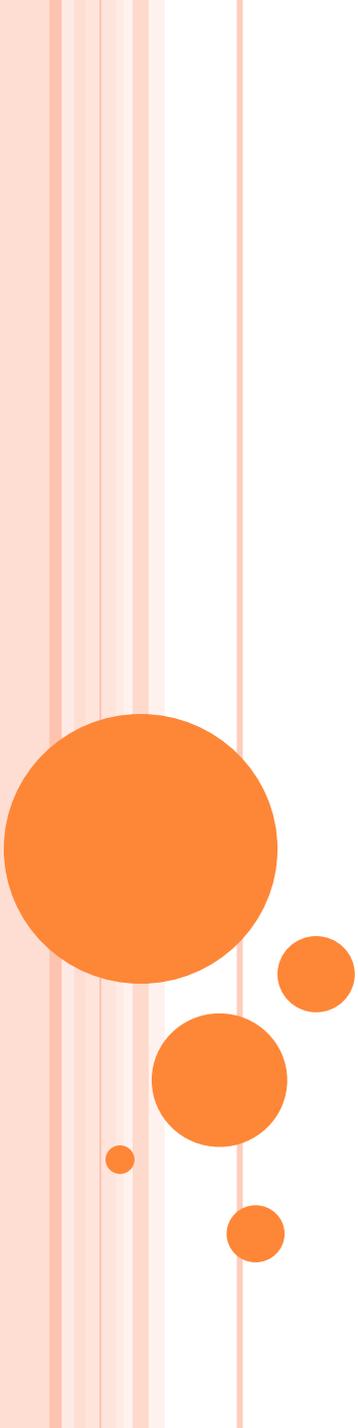
- No more than 4 “slices”
  - Yes, you can label them all but then why not use a table?
- Start with the largest slice at noon (top row) and then work clockwise
- Best for those with very different percentages



# STATING THE (HOPEFULLY?) OBVIOUS

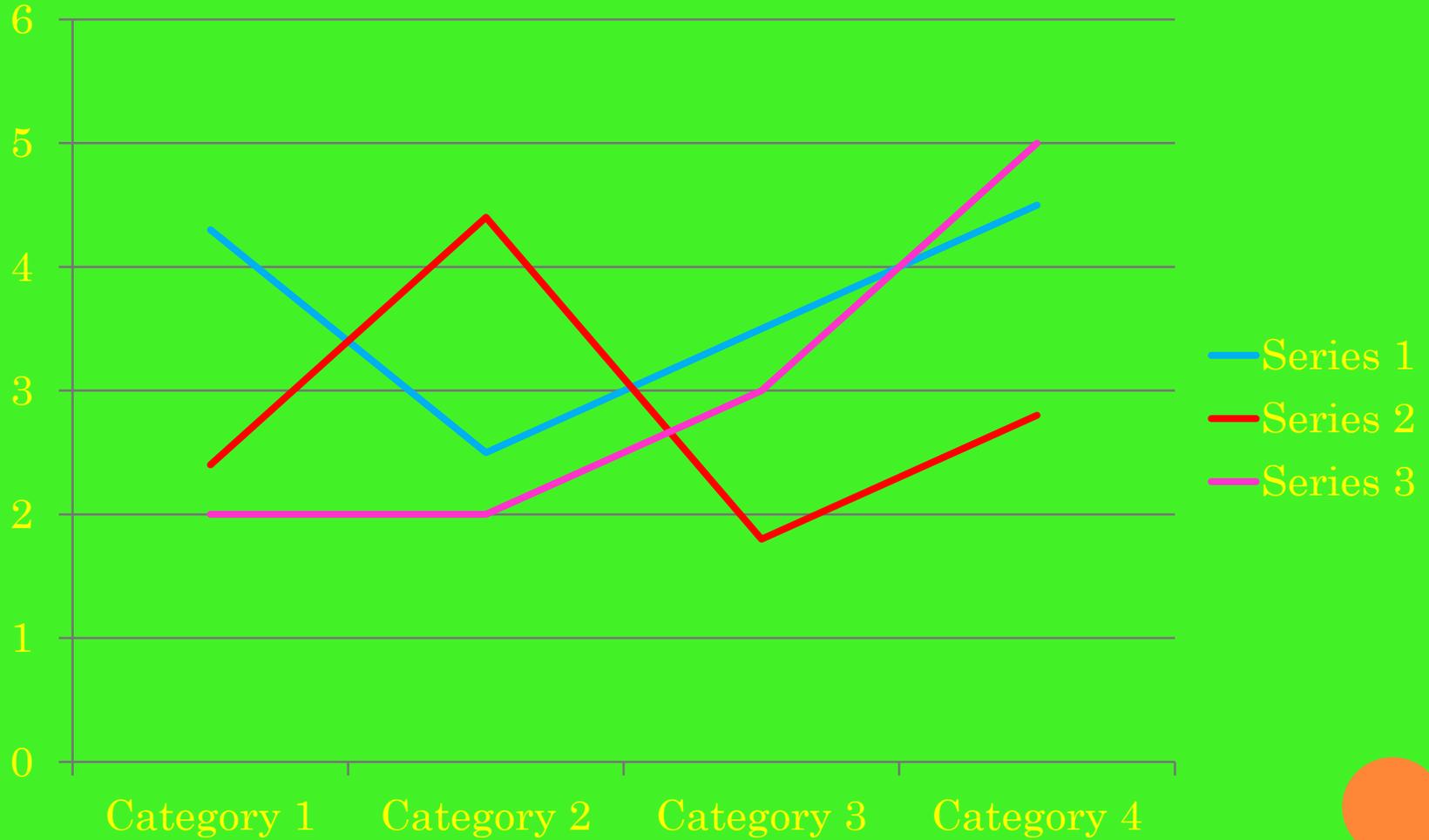
- A chart must be readable
  - In a quick glance
  - With 100% accuracy
- A chart should be engaging
- Everything else is a bonus



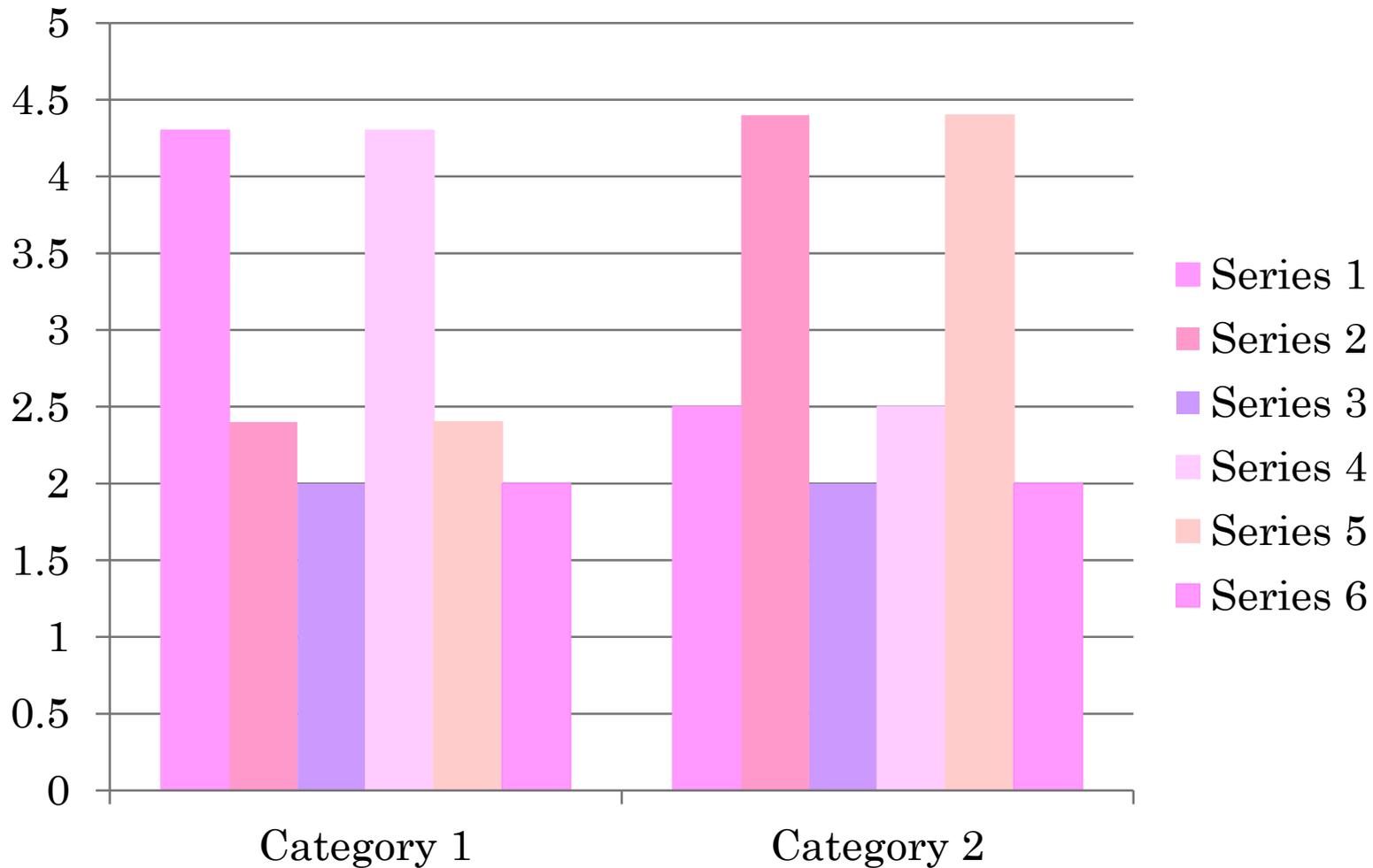


**FORMATTING CHOICES SHOULD  
ENHANCE UNDERSTANDING**

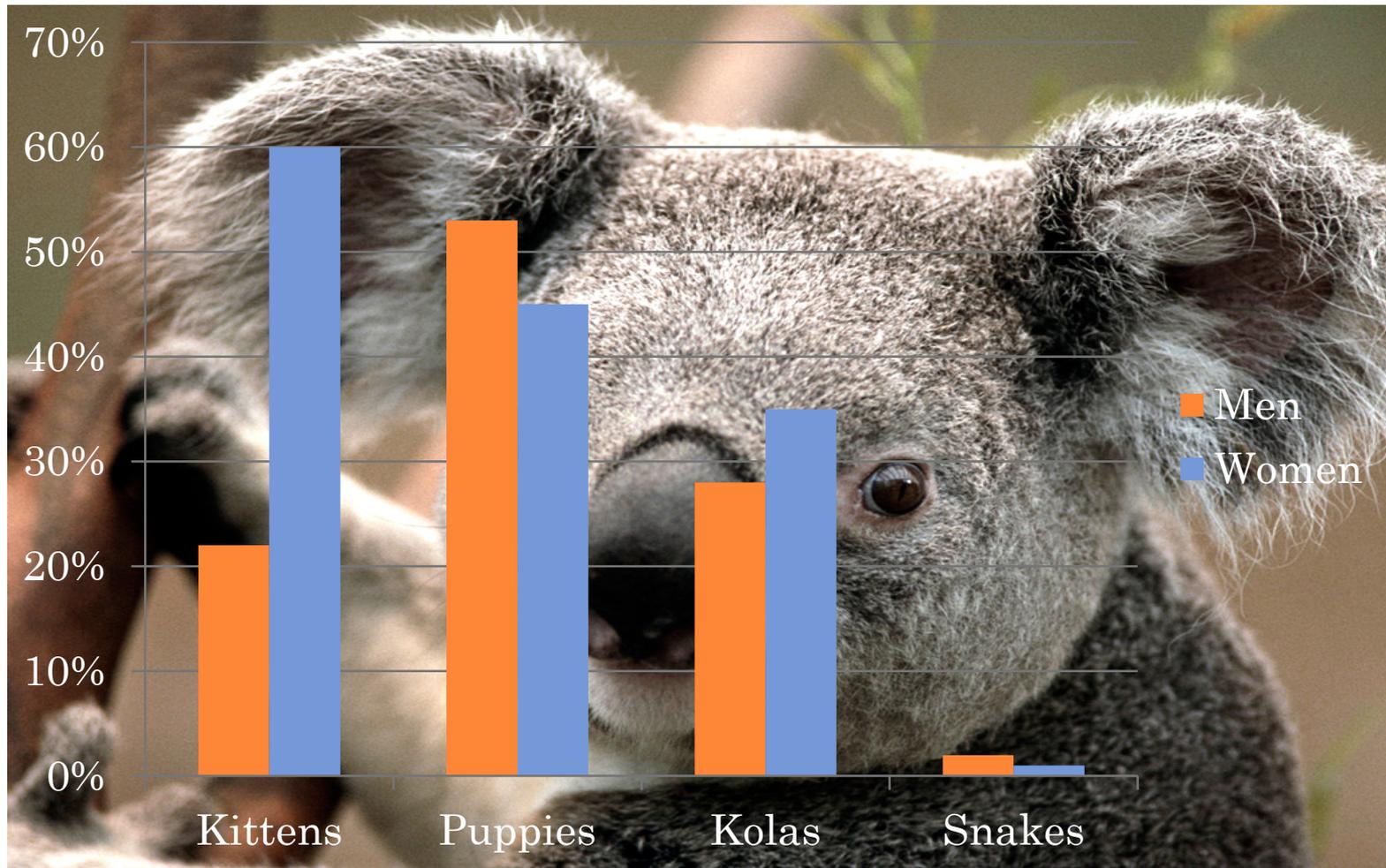
# DOES THIS MAKE YOUR EYES HURT?



# 50 SHADES OF MAUVE

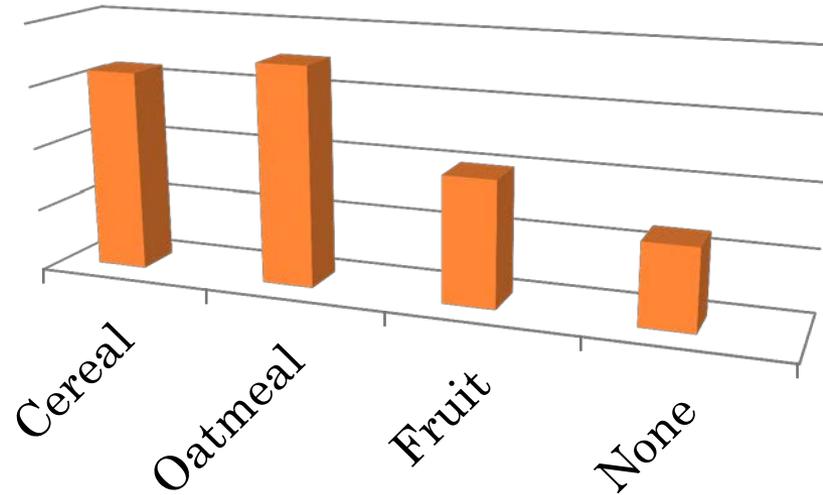


# WHERE DOES YOUR EYE GO FIRST?



## 3 – D

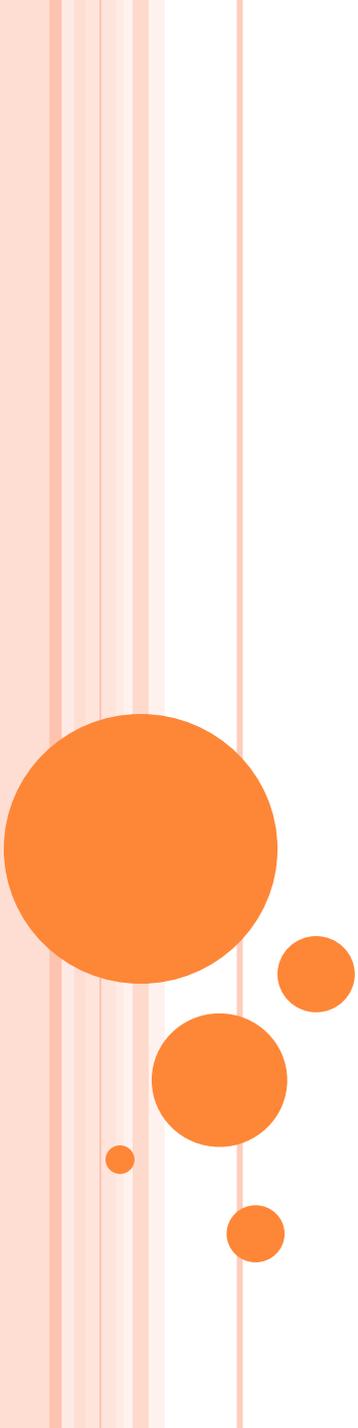
- Just don't



# DESIGN YOUR GRAPHICS TO BE SEEN

- Contrasting colors
  - White / black best but can also get away with very light / very dark
  - When using color to separate items on a graph – think about those with black and white printers
- Background pictures can add interest, but also distract – be subtle!
- Be consistent with color choice
  - If “Men” are green in Graph 1, they should be green throughout
  - If possible, don’t use green to mean something else in same report

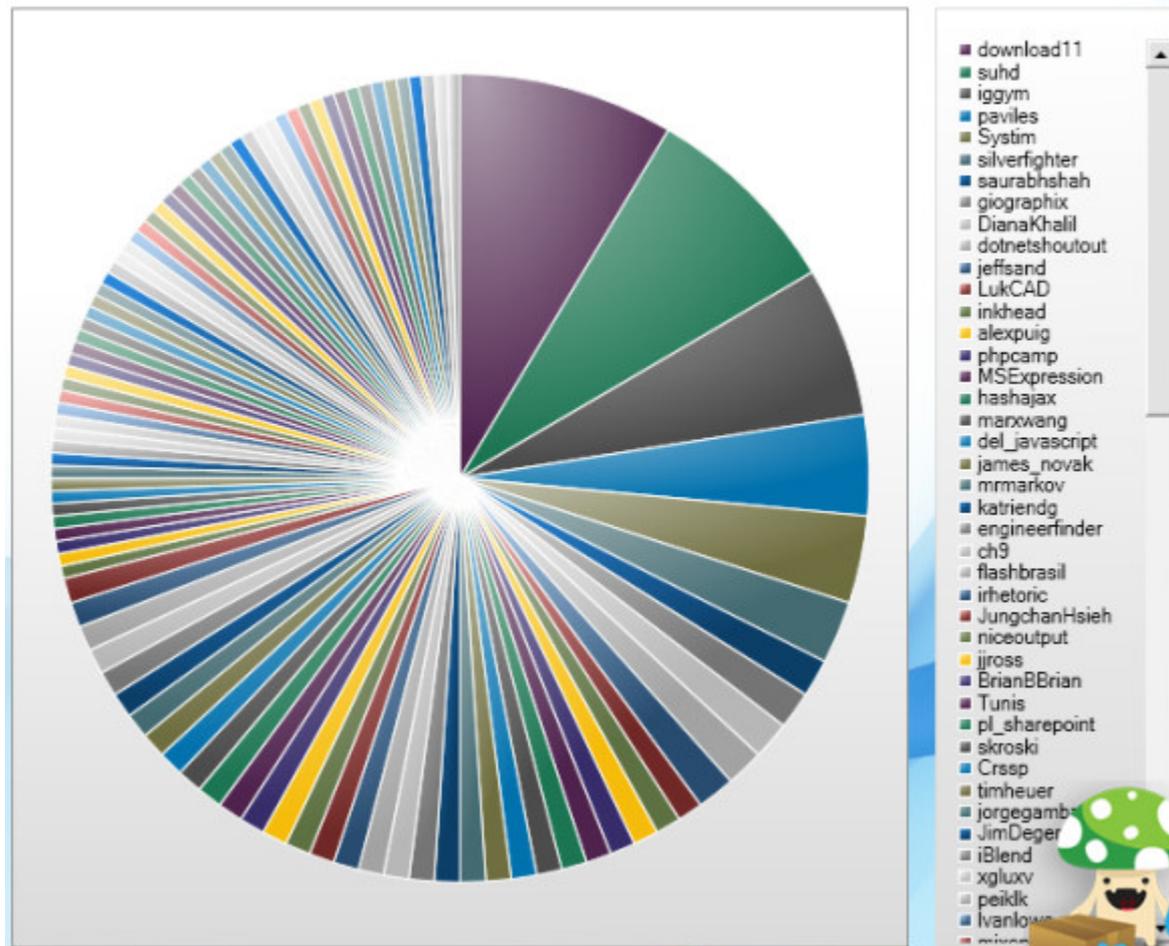




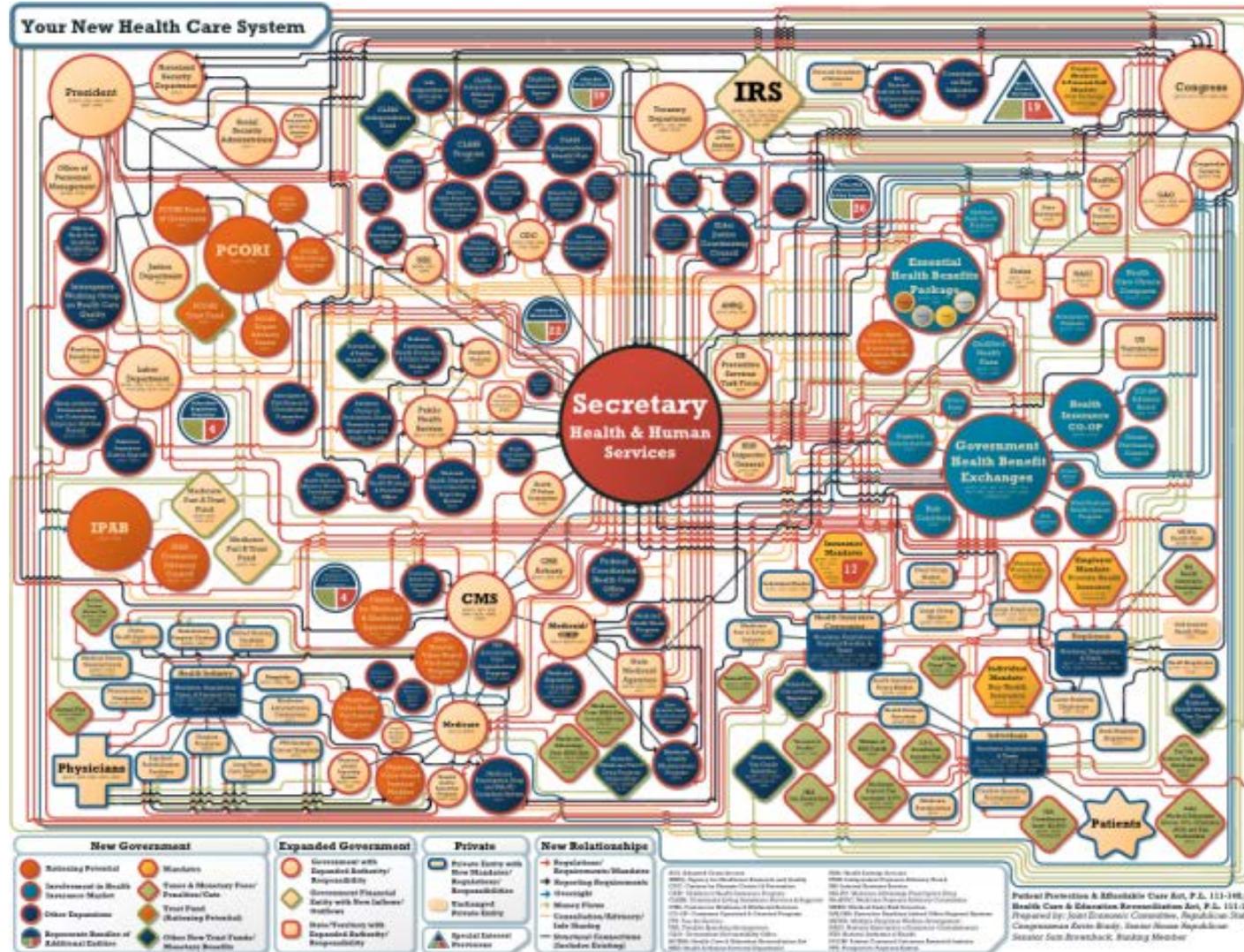
**GRAPHICS SHOULD HIGHLIGHT  
KEY POINTS – NOT TRY AND TELL  
THE ENTIRE STORY**

# WHO WANTS TO SUM UP THIS CHART?

100 Most Active Tweeters



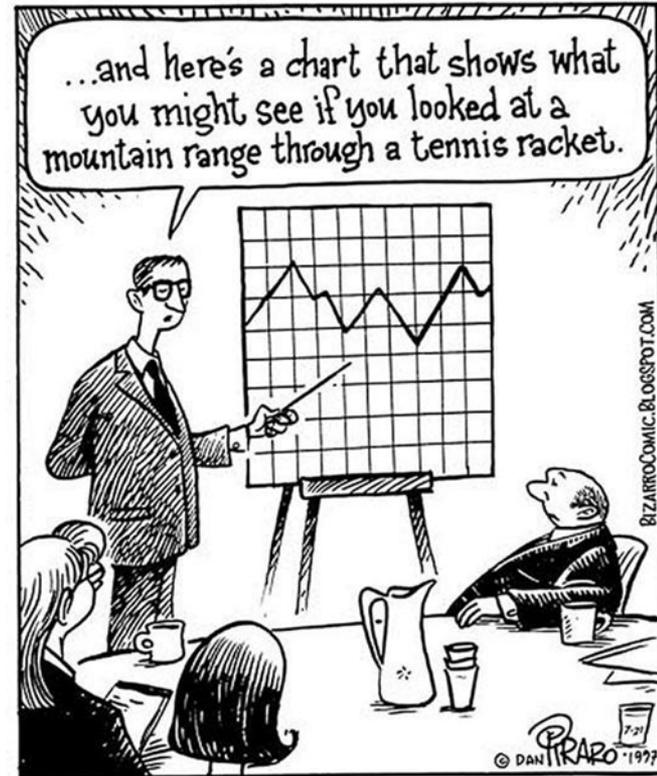
# HOW ABOUT THIS ONE?



# GRAPHICS SHOULD SIMPLIFY

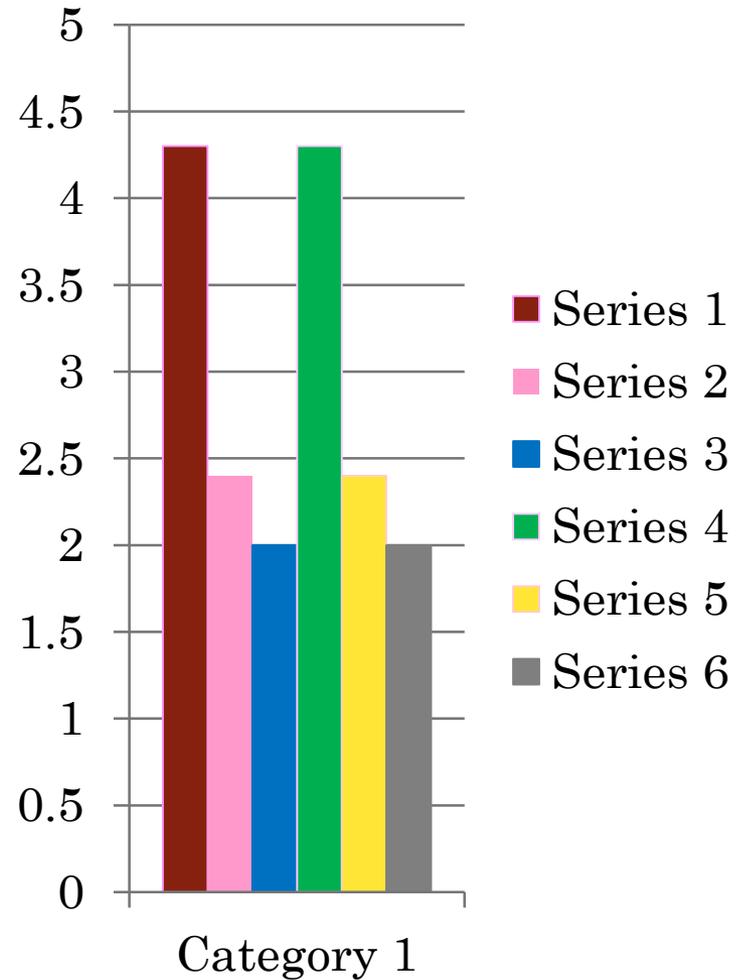
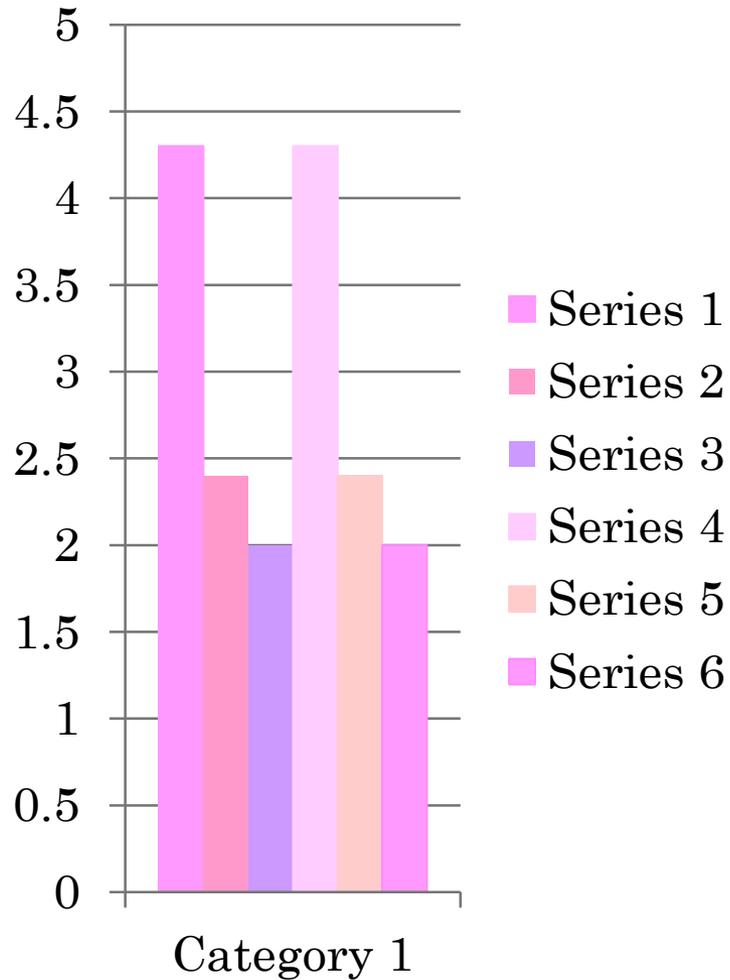
- Too many bars / pie slices / etc makes it unreadable
- Solution 1: Pick a couple key factors that you want to illustrate and put the rest in text or another chart
- Solution 2: Make a table – still overwhelming but easier to wade through





# EDITING CHARTS AND GRAPHS TO MAKE THEM MORE READABLE

# CHANGING COLORS

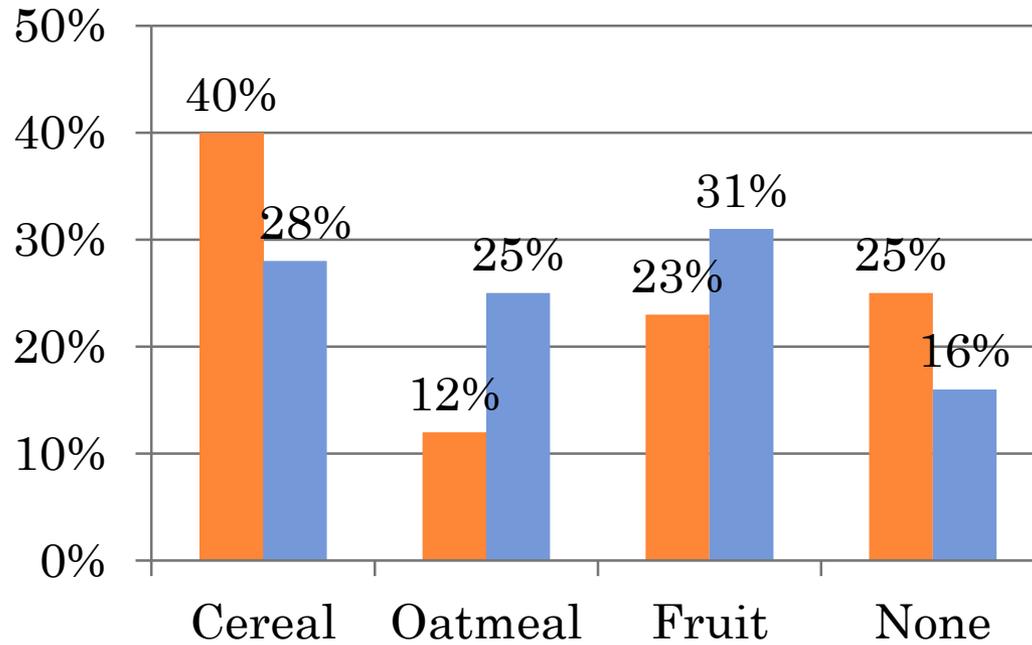


# CHANGING COLORS

- Select the desired line / bar / slice
  - You may have to click once on the chart to activate it
  - Once activated – click on the desired line / bar / slice
  - You may need to click one more time to get only that item
- Right click, select “Format Data Series”
  - Click “Fill” on left and then “Solid Fill” on right
  - Color dropdown will appear on bottom right
  - Click dropdown to change



# ADDING LABELS

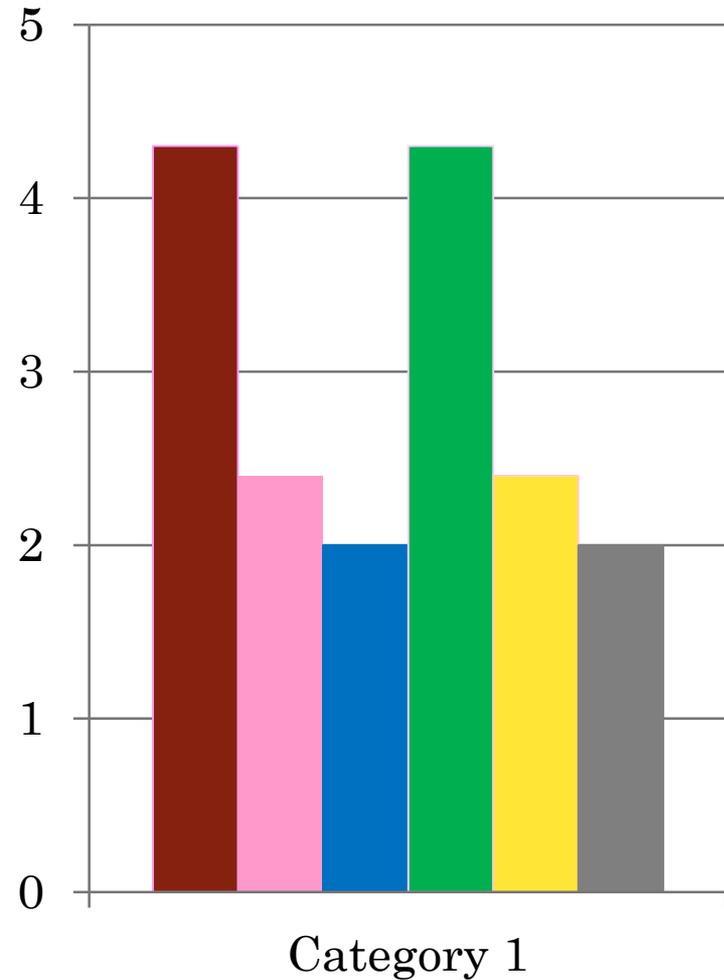
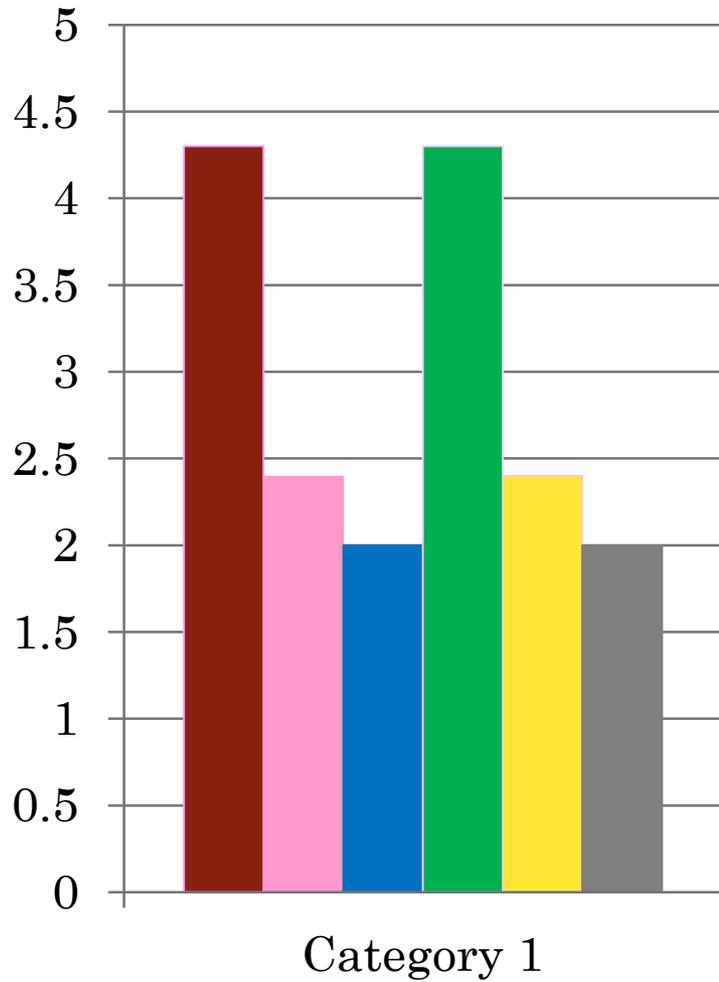


# ADDING LABELS

- Click on the chart to activate it
- A new set of tools will pop up towards the right of the ribbon
- Select “Layout”, “Data Labels” and then whatever option works best
  - Sometimes, automatic placement is bad for one or more labels. Either change the placement or left click on the problem labels, hold the button down and drag with your mouse.
  - Can also select labels and change font size, etc



# CHANGING THE AXIS

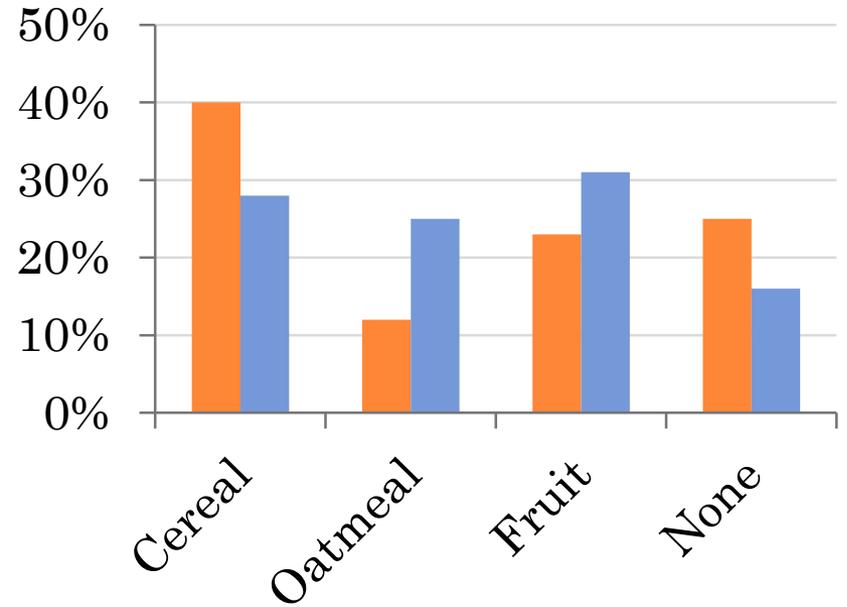
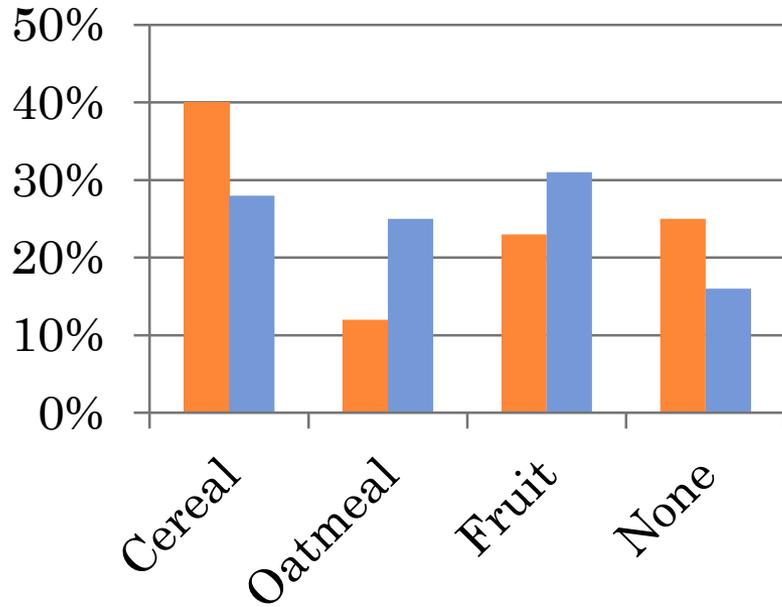


## CHANGING THE AXIS

- Click to select the table – click again on the numbers to select the axis
- Right click on the axis, select “Format Axis”
- Click on “Major Unit”, “Fixed”, change number (remember – use decimals for percents  $10\%=.1$  )



# EDITING THE GRIDLINES



## EDITING THE GRIDLINES

- Right click on one of the lines (you may have to first click to select the chart)
- Select “Format Gridlines”
- Make sure “Line Color” is selected on left
  - Choose “Solid Line”
  - Click on the “Color” box and choose a soft gray

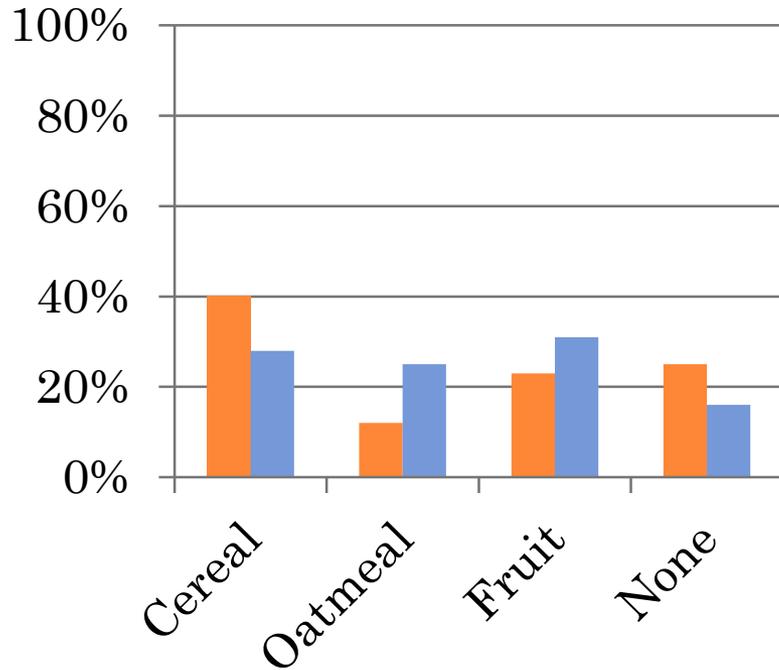


Time for another poll

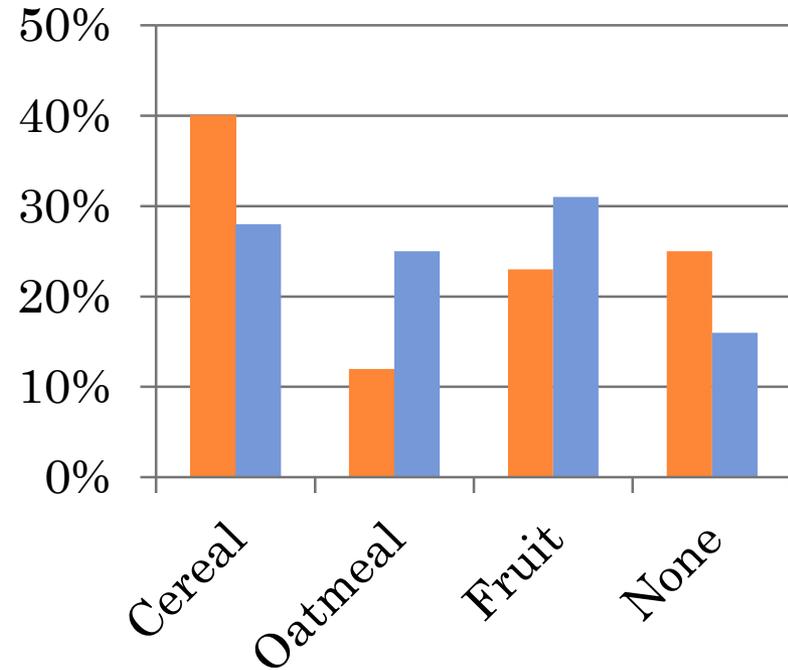


# WATCH THE SCALE

## Time 1



## Time 2

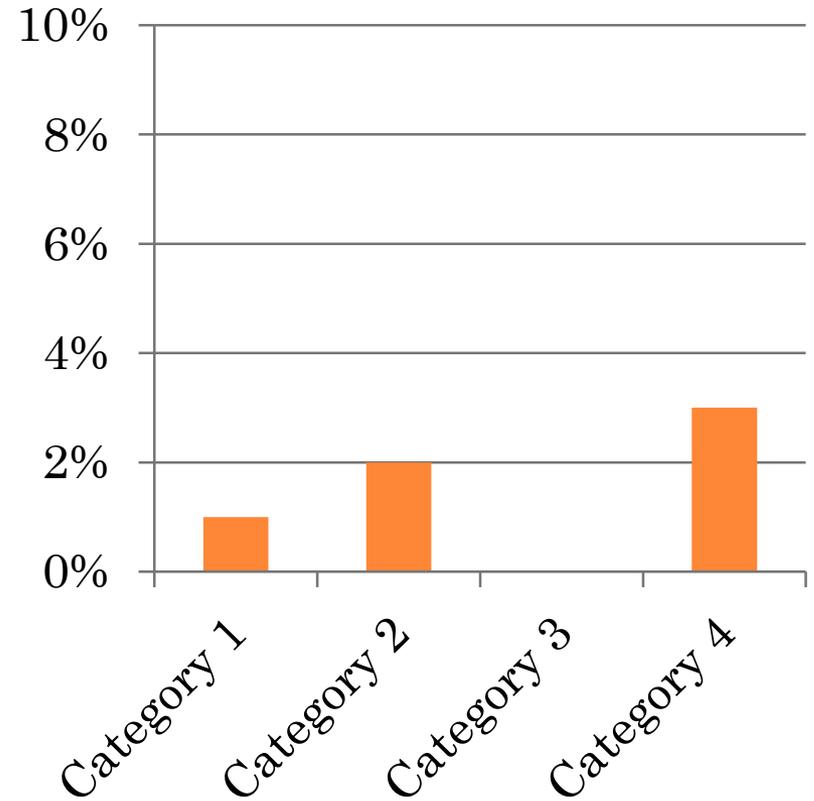
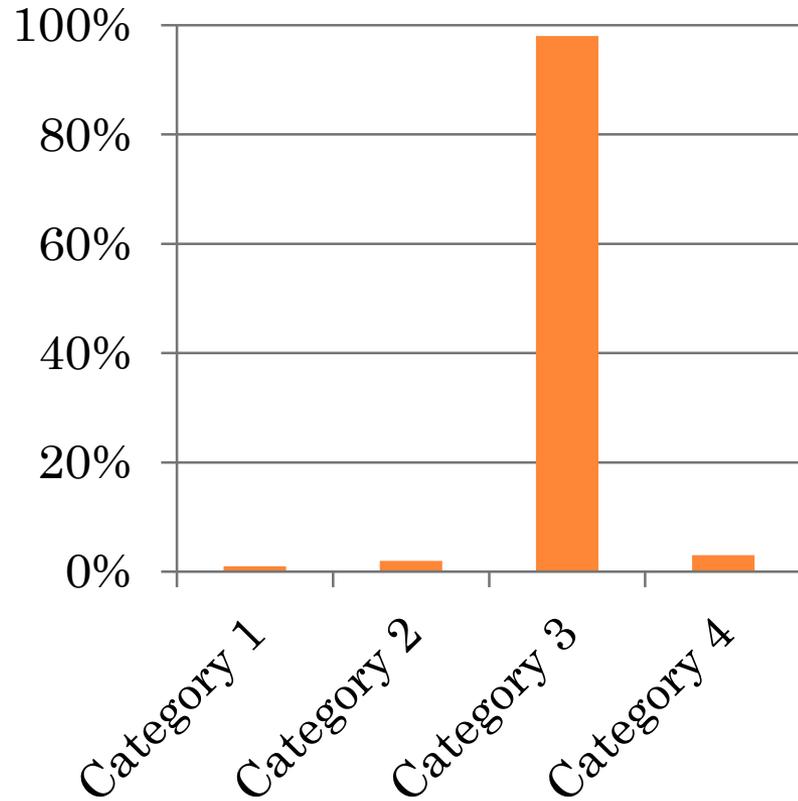


## WATCH THE SCALE

- Click to select the table – click again on the numbers to select the axis
- Right click on the axis, select “Format Axis”
- Click on “Maximum”, “Fixed”, change number (remember – use decimals for percents  $10\%=.1$  )
  - Works the same with “Minimum”
- If you HAVE to change the scale, be sure to mention it



# WATCH THE SCALE, PART 2

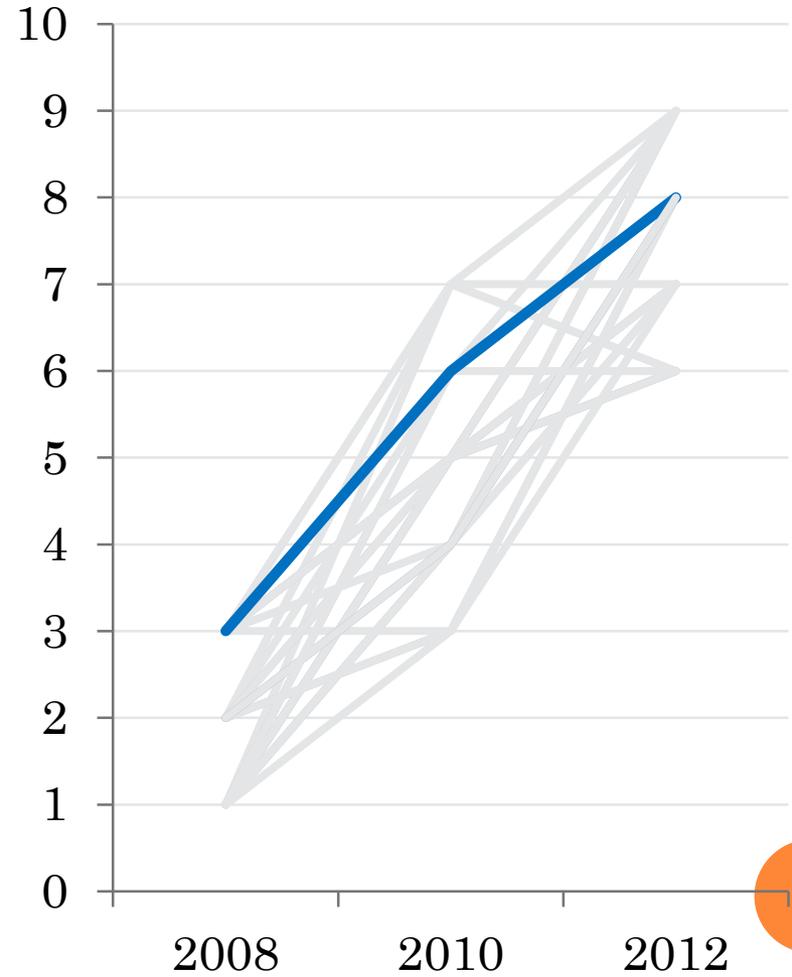
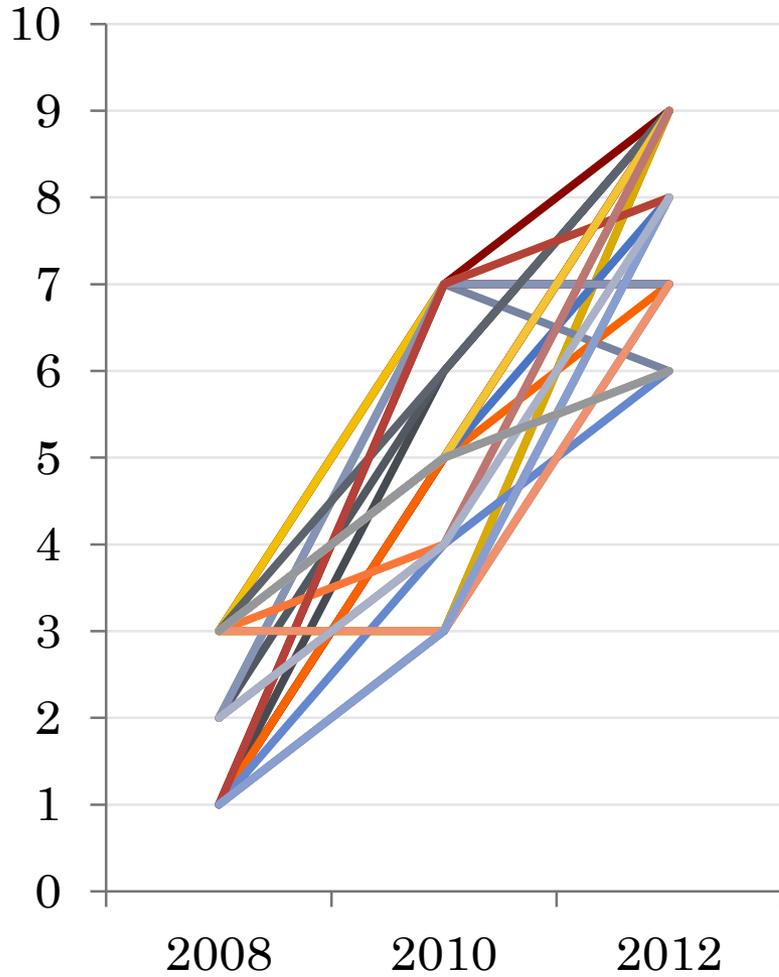


## WATCH THE SCALE, PART 2

- If you have one number that is so different from the rest – a chart may not be the best way to look at it
- Consider either putting all numbers in narrative or pulling out the outlier and graphing the rest



# USING COLOR TO HIGHLIGHT KEY POINTS

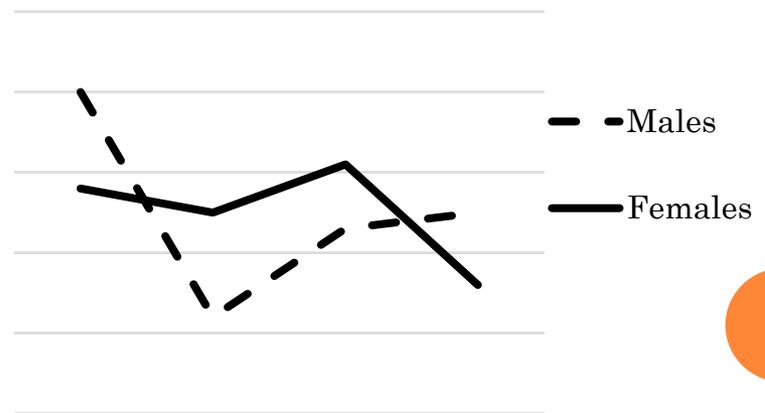
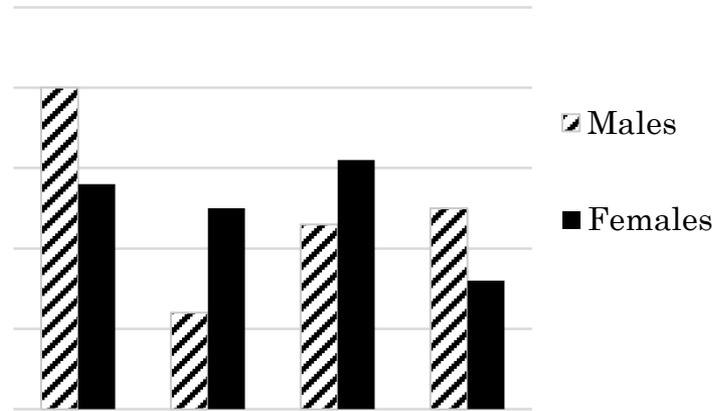
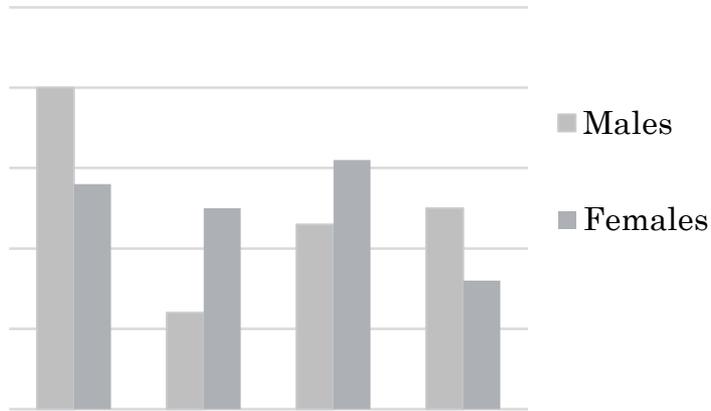


# USING COLOR TO HIGHLIGHT KEY POINTS

- Right click on the line, select “Format Data Series”
  - Multiple options
- Zoom and Control + Y (ie, repeat) are your friends
- Can widen the line some as well



# SUBSTITUTING TEXTURE FOR COLOR



# SUBSTITUTING TEXTURE FOR COLOR

- Select the desired line / bar / slice
- Bars - Right click, select “Format Data Series”
  - Click “Fill” on left and then “Pattern Fill” on right
  - Options will appear on bottom right
  - Click desired option to change (note: color is an option)
- Lines – Right click, select “Format Data Series”
  - Click either “Marker” or “Line Style”
  - “Marker” then “Built-In” (play with options)
  - “Line Style” then “Dash Type” (click on dropdown)



# FINAL NOTES

- Once you have a chart exactly as you want it – can copy and paste so you don't need to tweak again, then just “Edit Data”
- Check out Stephanie Evergreen at <http://stephanieevergreen.com/> - much, much more!

