

# DESIGNING EFFECTIVE VISUALIZATIONS

## Key Terms

**Chart Title:** A description of the chart as a whole. If you're at a loss, you can use the formula "y-axis by x-axis and legend."

**Y-axis:** The vertical axis of the visualization that contains the values for that variable.

**X-axis:** The horizontal axis of the visualization that contains the values for that variable.

**Axis Title:** The text box that contains the title of the axis (this is a separate item from the actual axis).

**Legend:** The key that displays what the colors in the visualization represent. It's best practice to only include a legend when there are multiple colors in your visualization.

**Gridlines:** Reference lines that help the viewer better grasp the value of data points on the chart.

**Data Series:** All data points of one color on a chart. Note: If you manually change the color of bars or points in a series after creating the chart, they still remain part of that same series.

**Data Point:** A single data point on a chart (a dot on a scatterplot, a bar on a bar chart, a slice of a pie, etc.).

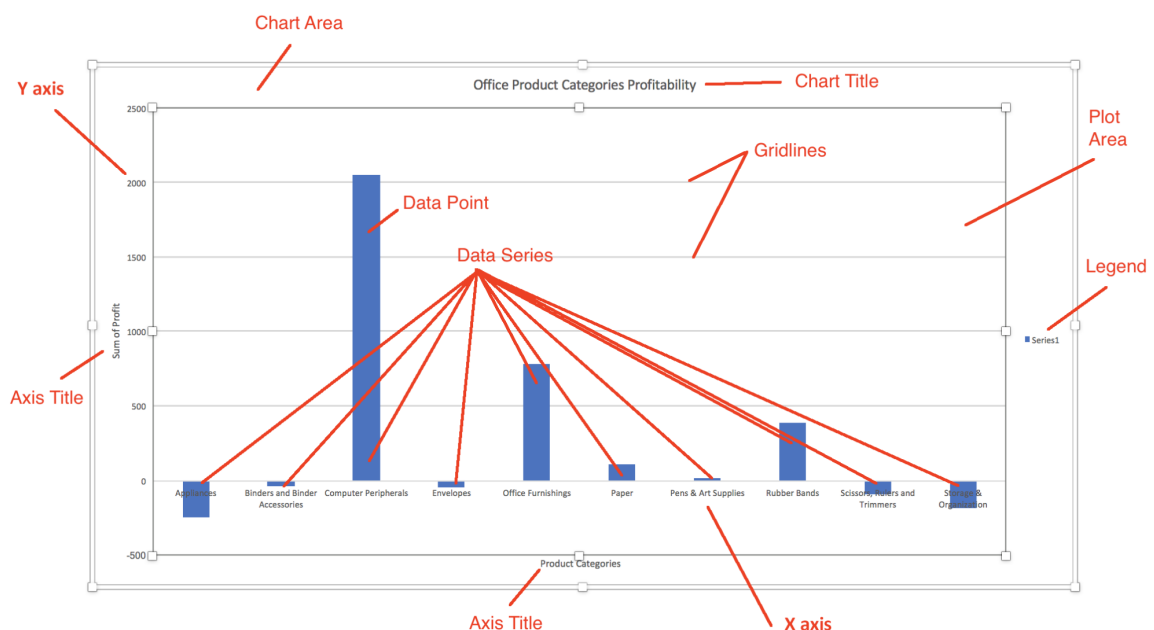
**Plot Area:** The rectangle that contains only the visualization (inside the chart area).

**Chart Area:** The white space around the plot that contains the axis titles and chart title (it also contains the plot area).

## Cheat Sheet

### 1. Modifying Charts

- Here's the terminology for charts:



- Right click on what you want to modify.

- The Format panel that appears when you select an option (such as Format Axis, Format Plot Area, or Format Data Series) is where you'll find most of the settings you need for edits.

2. For review of Tufte's rules, see the study guide for Lesson 1.

### 3. Creating Effective Graphs

- Don't plot two variables that are on different scales on the same chart.
- A secondary axis should generally be avoided.
- Charts that are being compared should have identical x- and y-axes.
- Add data labels only when it will help to distinguish information or interpret the chart.
- Avoid stacked bar charts when possible.
- Avoid more than 3–5 colors in a pie chart.
- Line charts should have even intervals of time on the x-axis, not categories or other non-chronological values.
- When it makes sense, sort bar charts so it is easy to quickly see the largest and smallest categories.