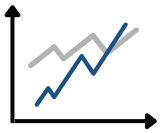
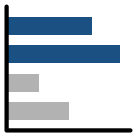
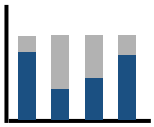
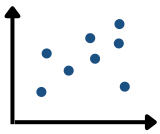
Data Storytelling: Visualization Reference Guide

Which visualization is right for you? Although there are many ways to visualize data, certain options are a better match than others, depending on your goals. The table below lists five of the most common types of data visualization along with tips on when they are most helpful.

Visualization	Description	When to Use	When Not to Use
 **LINE GRAPH**	Used to show values of one or more variables over time	To show change, trends, and/or comparisons across variables over time (e.g., daily costs over the last 30 days)	Avoid using to show data for discrete categories
 **BAR GRAPH**	Used to show values of one or more variables across several discrete categories	To show comparisons or rank order of standing on a given variable (e.g., average headcount by department)	Avoid using with a large number of categories
 **STACKED COLUMN CHART**	Used to show data over time and relative to one or more comparison groups	To show both change over time and illustrate relative comparisons (e.g., annual revenue in each firm office)	Avoid using when individual variable trends are important
 **SCATTERPLOT**	Used to show the relationship between two continuous variables	To understand association, correlation, or relationship between two variables (e.g., employee engagement and performance)	Avoid using when one or more variables is categorical
PIE CHART	Used to show part-whole relationships	To understand which categories or groups contributes most/least to a total (e.g., project budget allocation)	Avoid using when parts do not sum to a whole; avoid using with a large number of categories or groups (5+)

You can create most of these data visualizations in Excel (to learn more, visit the IT Training infoNet page). The goal is to find a way to communicate the key patterns and insights that you identify. Avoid creating visualizations for their own sake, and limit the number that you create to a small set that is most impactful to helping you tell a story about your data.

Content adapted from eCornell