Graph Choice Chart

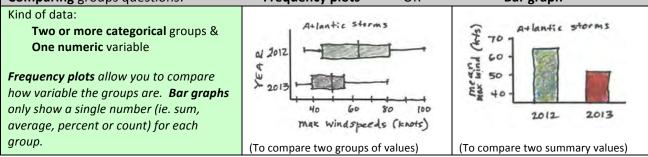
What question would you like to explore?

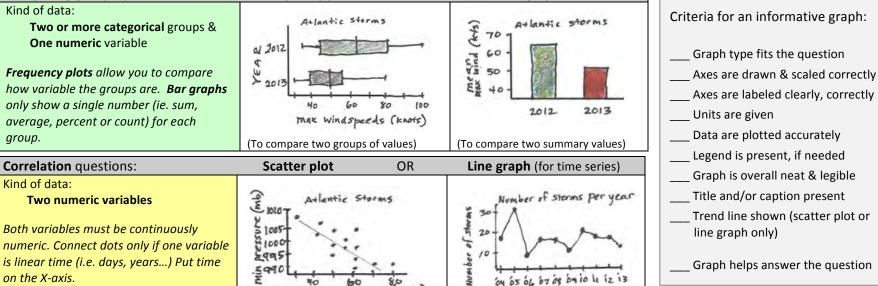
DOT PLOT Does your question **FREQUENCY** ask about the variability of Examples: either DOT PLOT PLOT make a 1. Do all high tides rise to the same height? a group of data points? YES 2. How variable are windspeeds here? measurement values 3. What is the range and distribution of incomes (i.e. the range of the data, in the United States? For each group HISTOGRAM the shape of the distribution, **HISTOGRAM** make a or what the center of the data is) Do you want to compare the variability Examples: 1. Which of the two car designs is most of all data points in each group to **BOX PLOT** Measurement values consistently the fastest? decide if any difference between the 2. Is there a meaningful difference in the heights groups is meaningful? of fertilized and unfertilized bean plants? Does your question compare two or more groups to -YES Examples: Are you comparing decide if the groups are 1. Was the total snowfall greater this single numbers that the same or different? winter than last winter? BAR GRAPH summarize a group? make a 2. Do cats and dogs have the same (such as mean, median, average body temperature ? or total...) 3. How do the median incomes for the U.S. and Sweden compare? Does it ask if 1. Is the fuel efficiency of a car related to its weight? two numeric factors are 2. Are smoking rates correlated with median income? SCATTER PLOT make a NO. correlated? 3. Given a fixed volume, how are temperature and SCATTER PLOT pressure related? Does it ask about Examples: Is the temperature inside the how something changes YES . house correlated with the through linear TIME? temperature outside? Examples: How did electricity used by the 1. Have summer lake water temperatures warmed kitchen circuit fluctuate during YES LINE GRAPH make a over the last ten years? the past week? 2. How did my weight change over the last 3 months? LINE GRAPH PIE CHART Examples: PIE CHART Does your question ask how 1. Which circuit accounts for the largest proportion Linear time of the electricity use by our household? a total is proportioned 2. What proportion of U.S. energy comes into sub-groups? YES make either from wind? (Or what proportion STACKED 3. What proportion of U.S. residents take public STACKED BAR CHART a sub-group is of a total?) transportation to work?

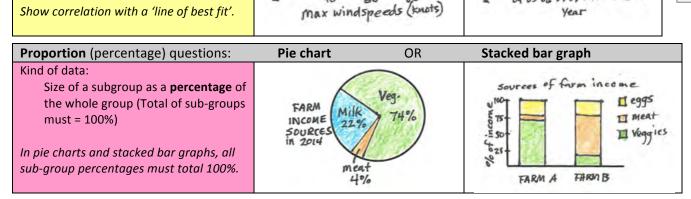
Write your question as a complete sentence.

Graphing tips

Variability questions: Frequency plot (3 kinds) Dot plot Box & whisker plot Histogram Kind of data: Atlantic Storms Atlantic storms-2013 One categorical group and Atlantic Storms One numeric variable (one axis) 2013 Frequency plots show how variable the group is. Describe variability by range, 50 60 70 30-45 46-60 61-75 76 max storm windspeeds storm windspeeds Max Storm Windspeeds (Knots) (2013) measure of center (mean, median, or (Knots) 2013 (knots) mode), and the shape of the distribution. **Comparing** groups questions: Frequency plots OR Bar graph







(There are other kinds of questions and other kinds of graphs, and often more than one graph type is useful for a given question. Learn to graph data for these basic kinds of questions first.)