

Note 1.7: Graphing and Data

- Making detailed, specific observations that paint a clear picture of what has gone on in the experiment is KEY. Tell the story, record details in a way that even someone who was not there would be able to understand what went on.
- Organize observations in charts or tables to help you study the *data* (a collection of facts, statistics, or items of information).
- Turning this data into a **graph** often helps identify patterns or possible relationships between items.
- Using the correct form of a graph is CRITICAL!

Bar Graphs: Good for studying items in **categories**. Examples: Number of pets in students homes, favorite flavor of ice cream, etc.

Line Graphs: show a relationship between 2 (or more) things. Examples: Plant growth over time, grade in class by week, effect of not doing homework on grades.

**Any type of graph should:**

-label the each axis (x,y) --> what does each mean? What are the UNITS OF MEASURE? '

- Title of graph (Favorite Ice Cream at Cross Middle School, Venus Fly Trap Growth over Time)

-scale must be EVENLY spaced (don't count by 1's, then 10's, then 2's. It DISTORTS the data and may mislead either you or your audience\*\*\*

-Some graphs are misleading **on purpose!** Authors may want to persuade readers to believe a certain opinion. Scales may not be labeled, graph may have items that distract the reader, colors may be used to make strong statements. Consider the following graphs of Global Warming. Looking at the colors can mislead the reader. Just looking at the patterns also may at first glance alarm the reader. Look at the SCALE to figure out how much is actually changing to decide for **yourself** if these numbers are significant and cause for alarm.

