**Making Graphs**

Have you ever heard that a picture is worth a thousand words? This concept can also apply to the data collected during a scientific investigation. A graph is a picture that represents the data collected during an experiment. A data chart is simply a place to record information. Graphs communicate patterns that help scientists analyze their results more easily.

There are three basic types of graphs; pie graphs, bar graphs, and line graphs.

Read the following criteria and select a data set from within this packet that fits the criteria.

***Pie Graph***- A circular presentation that displays data as a percent of the whole. Pie graphs should only be used when data is collected as a PERCENT.

***Bar Graphs***- Use when one variable is quantitative and the other is qualitative. A bar graph visually displays information using a series of bars, rectangles, or objects. This type of graph is used to compare things rather than looking at trends

***Line Graph***- Use when both variables are quantitative Measured data is plotted as points which can then be connected. This type of graph is used to look at data over time – to see any trends. Line graphs deal with time instead of objects.

Making a graph:

Don’t forget about the **D-TAILS**!

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1. Choose the type of graph that best suits your information

2. **D**ata covers over 75% of the graph area

3. **T**itle includes what the graph is about and both the independent and dependent variables

4. **A**xes are labeled correctly:

IV=X-axis, DV=Y-axis

5.  **I**ntervals are marked with consistent spacing

6. **L**abel units on your axes

7. **S**cale should be EVEN!

**Your Turn!**

Create the three graphs that you listed as examples above. Be sure to follow the 6 guidelines listed.