# Data Tables, Charts, Graphs, and Writing a Conclusion

# 1. Collecting data in your experiment? Organize it with a data table.

▸ Phones out? I hope not!  Let's run an experiment.

Will the distance away from the teacher affect how much she catches students on their phone?
IV and DV?

IV- Distance from teacher
DV- # of times caught on phone

▸ Hypothesis:
  ◦ If you sit closer to the teacher, then you are more likely to get caught.

# Making the Data Table!

1. Put the IV on the left and the DV will be on the right.

2. Make the lines straight if you can. ☺

DV: Times caught on phone

| IV: Distance from teacher | T 1 | T 2 | T 3 | Average |
|---|---|---|---|---|
| Front of room | | | | |
| Middle of room | | | | |
| Back of room | | | | |

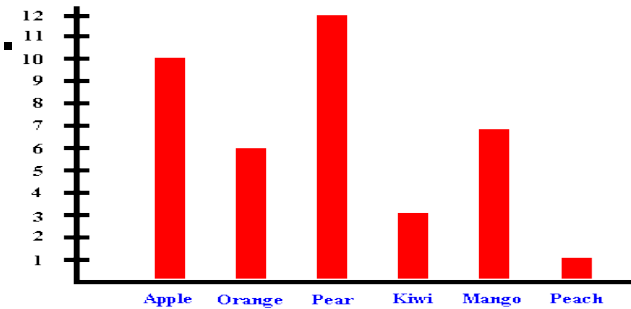# Graph the data!

- 1. The IV goes on the x-axis
- 2. The DV goes on the y-axis
- 3. Be sure to make your scales on the x and y evenly numbered and evenly spaced
- 4. Put a title on your graph!!!!!!!!! (Include IV and DV)
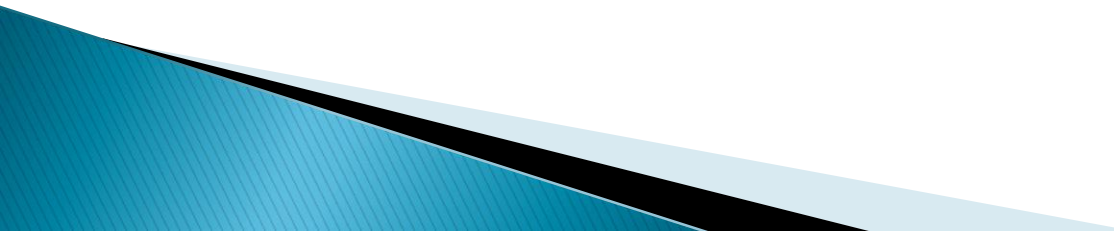
Title:_____

Y- axis

X- axis

# Line or Bar graph?!?!?!

▸ If your data has categories compared to a numerical value; use a bar graph.

◦ Ex. If I count the number of skittles per color in a bag. 4 red, 8 purple, 9 green, 5 orange….

▸ If your data has you comparing numbers to numbers or if you comparing the rate of change over time; use a line graph.

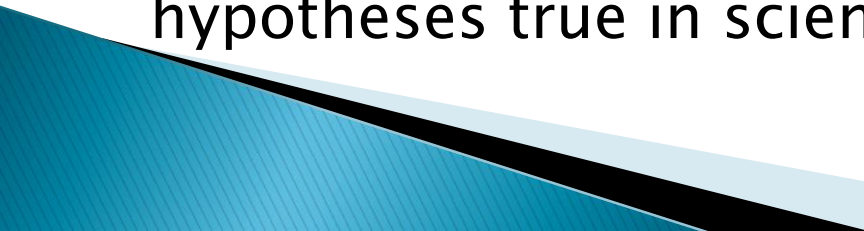◦ Ex. If I count the number of steps I can walk in 30 seconds.

# 5 components of a conclusion

▸ Restate the purpose
▸ Summarize your major findings
▸ Was your hypothesis supported or not?
▸ How could your experiment be improved?
▸ Recommendations for future study

# How to write a conclusion:

▸ 1. Restate the purpose (include your IV and DV)

- ◦ Ex. The purpose of the experiment was to investigate the effect of the _____(IV)_____ on the _____(DV)_____

▸ 2. Summarize your major findings

- ◦ Discuss what you saw in the data tables and graph you made.
- ◦ Ex. "As the graph shows…"

▸ 3. Was your hypothesis supported?  If not, how?

- ◦ Ex. The hypothesis that (insert your hypothesis) was (supported, partially supported, or not supported.)
- ◦ Do not use the word "prove" – we do NOT prove hypotheses true in science.

# How to write a conclusion (cont.)

- ## 4. How could the experiment be improved?
(Be specific!)
  - Ex. **NOT acceptable:** This experiment would have been better if we had done it correctly – we did sloppy work and made careless measurements.
  - **NOT acceptable:** This experiment would have been better if we had more time to do more trials.

- ## 5. Recommendations for future study?
  - Ex. What is something that you could add or experiment with that's similar to this experiment? What new experiment could continue study of this topic?