
Do Now

- Why is data collection important? (what is it helping us do in terms of our hypothesis)
 - How do we collect data from our experiment?
-

DATA COLLECTION VS. DATA ANALYSIS

August 21, 2008

What is Data Collection?

□ Pretty straight forward:

□ It is the process and method of collecting information

502-

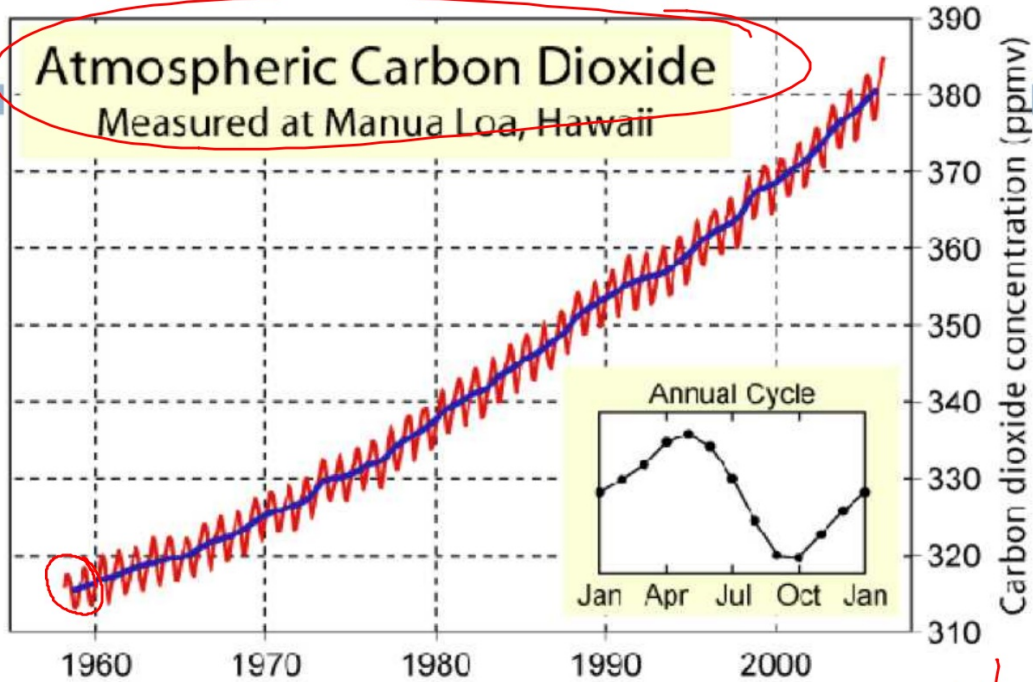
H	T
✓	
	x
	x
x	

Mauna Loa Observatory

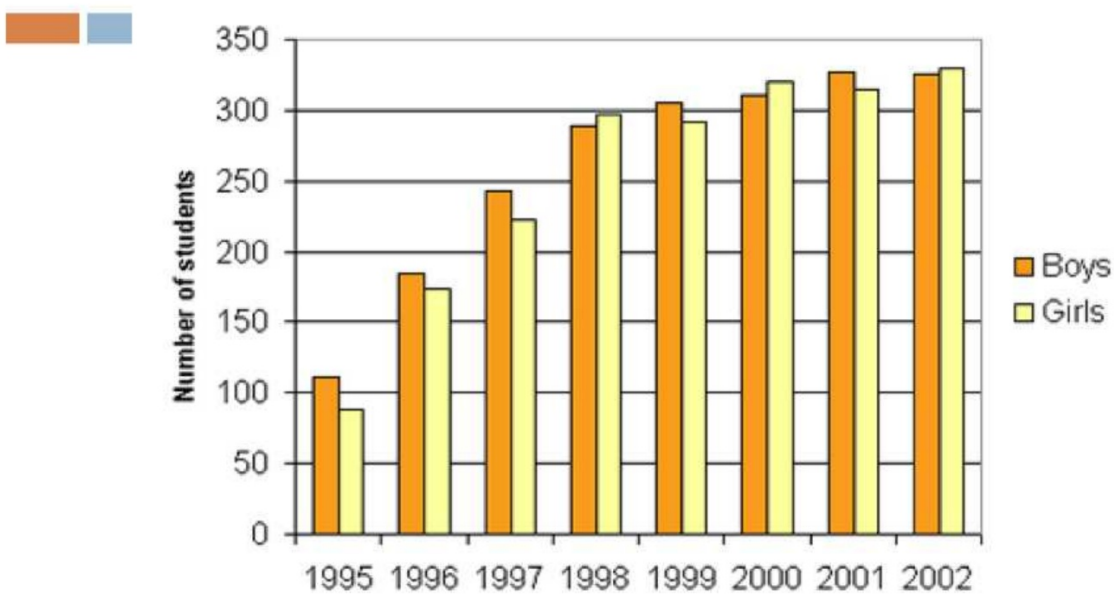
- Located in Hawaii
- Measures Atmospheric Carbon Dioxide Concentrations
- Far from industrial cities/pollutants



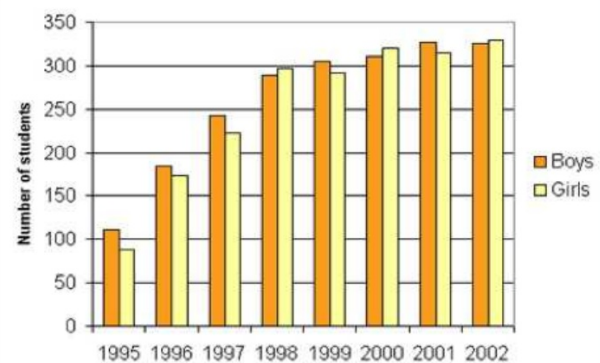
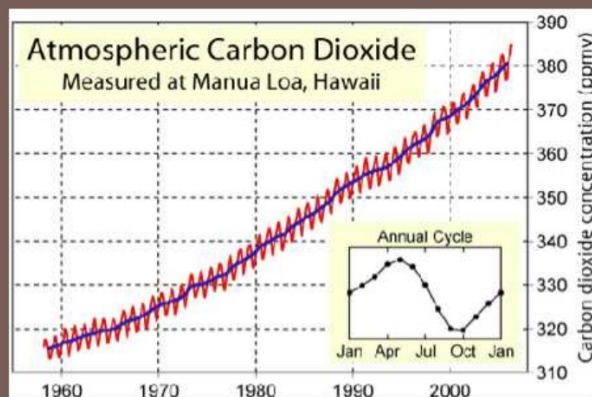
Y-axis (y → sky)



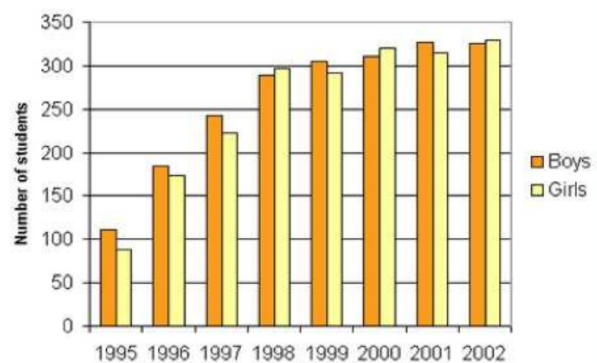
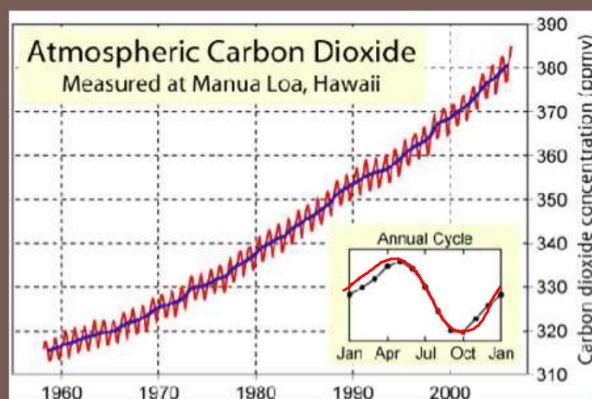
X-axis



WHAT DID YOU NOTICE THE SAME ABOUT THESE GRAPHS?



WHAT DID YOU NOTICE THAT WAS DIFFERENT BETWEEN THESE GRAPHS?

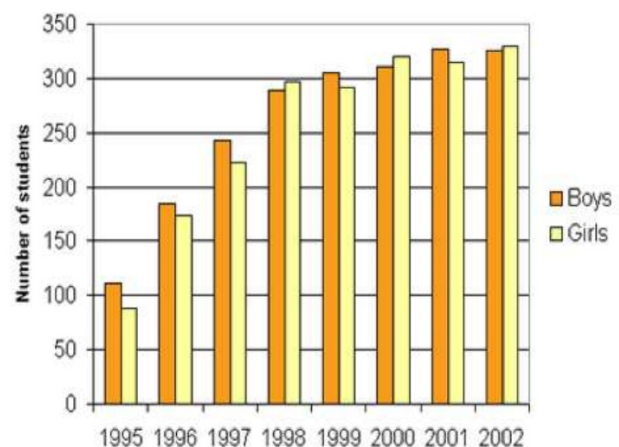


Line Graphs

- Used most often to chart variable over TIME
Time = line
 - Used when data is continuous – can have any value on a scale (i.e., any number you could measure)
 - Time (years, minutes, etc.) is on the x-axis (horizontal)
-

Bar Graphs

- Used when data is set, not dependent on time
- When data is non-continuous (fits into categories – on or off, good or bad)
- Oil profits from different companies



Sleep Experiment

DATA TABLE #1

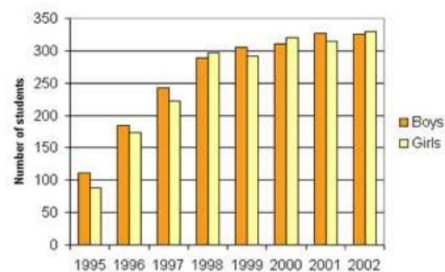
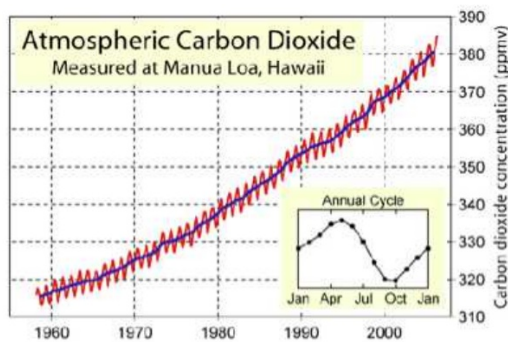
Person #	Hours of Sleep	Feelings (great, good, okay, poor)
1	12	Great
2	11	Great
3	10	Good
4	9	Good
5	8	Okay
6	7	Poor

Bar Graph or Line Graph?

- Write down whether you would use a bar graph or a line graph *and why* for the following situations:
 - ▣ Bacteria Growth Over A Month-Long Period
 - ▣ Number of Students at Different Denver High Schools that Passed their CSAP
 - ▣ Annual Rainfall in Different Cities
 - ▣ Worldwide Human Population Since 1985
-

Constructing Our Own Graphs

- What from these graphs should we make sure to have in our own graphs of the ball experiment?
- What is helpful about these graphs?



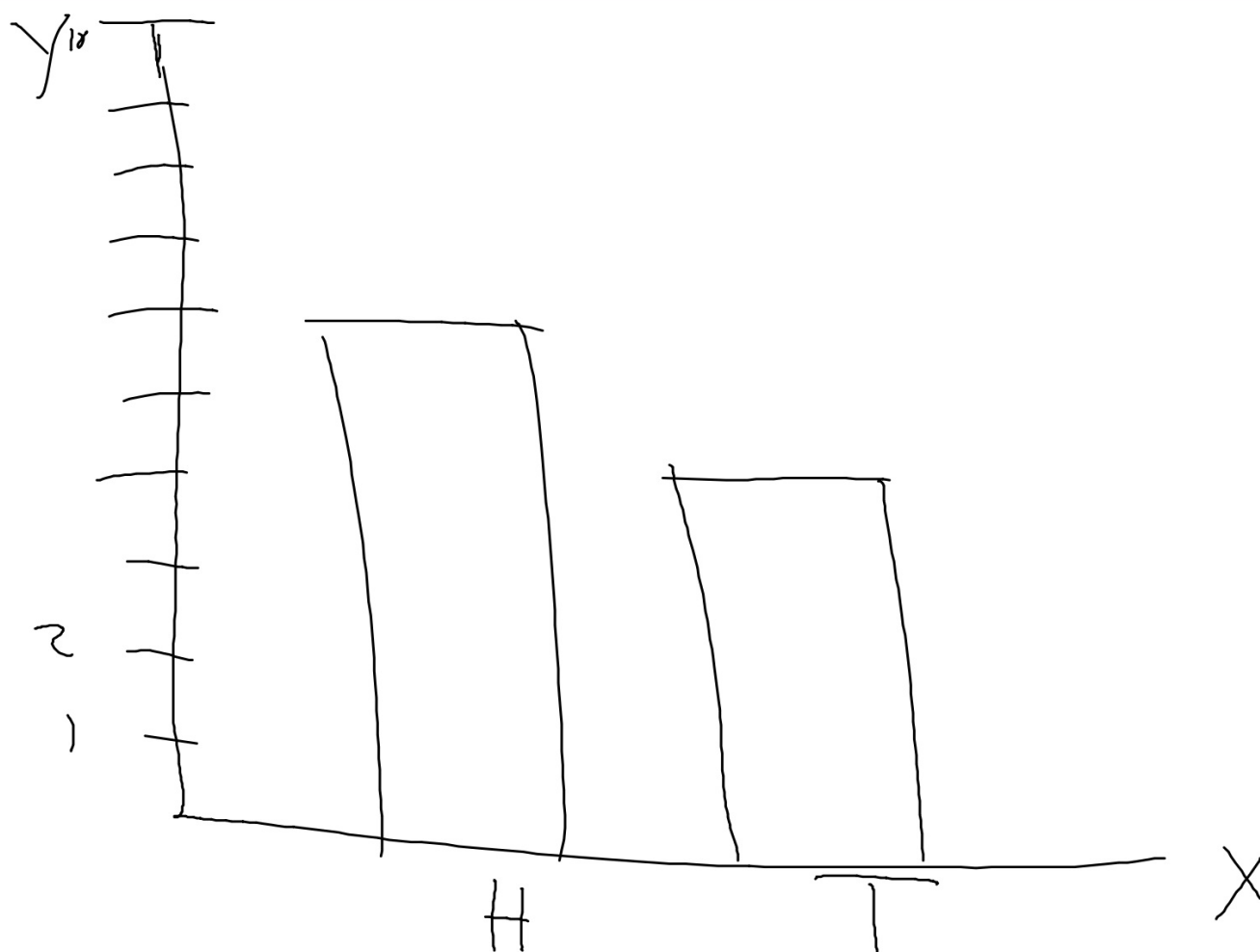
What Every Graph Needs...

- TITLE
- LABEL OF AXES
- EVEN INTERVALS
- KEY

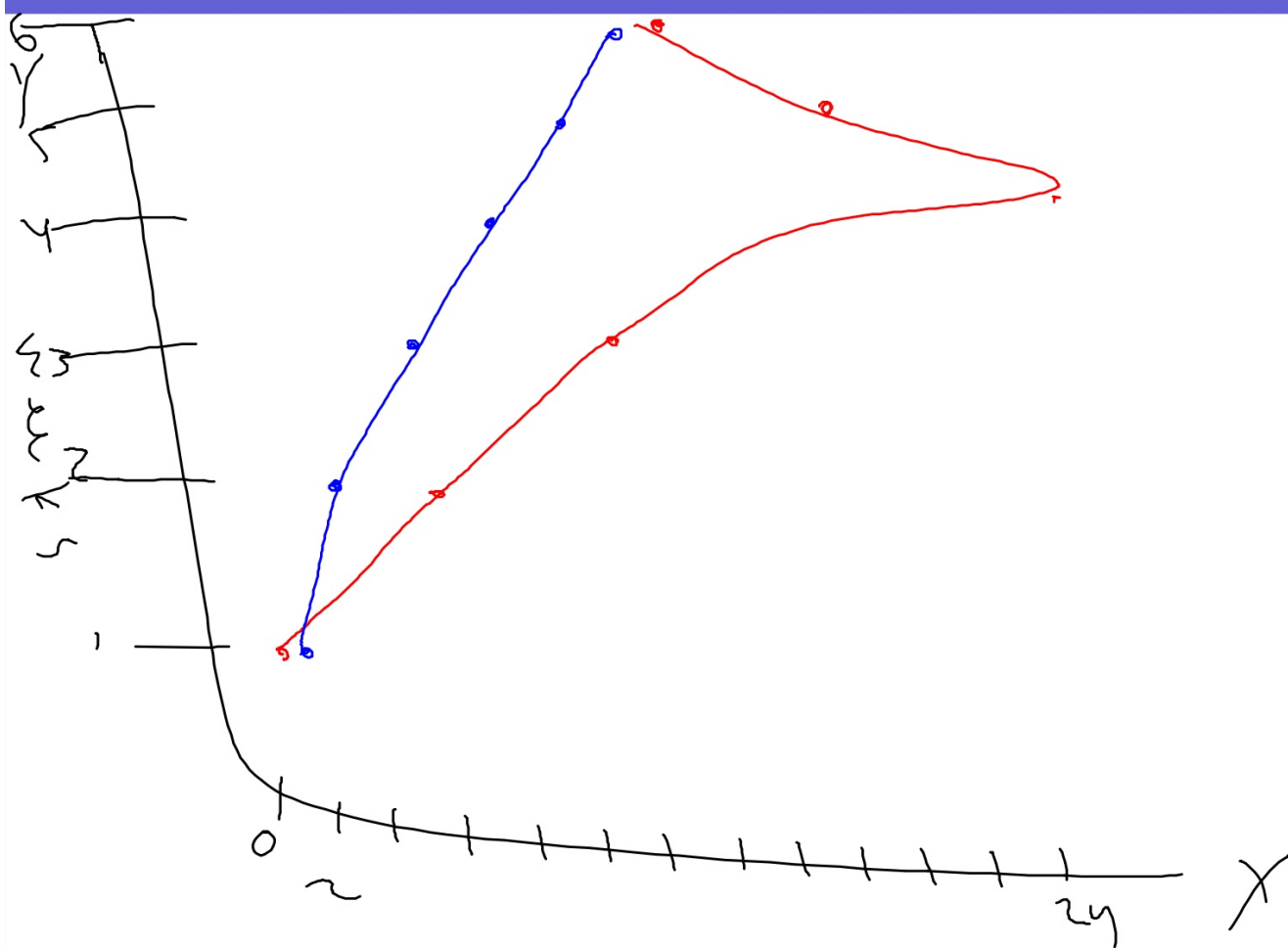
Your Turn...

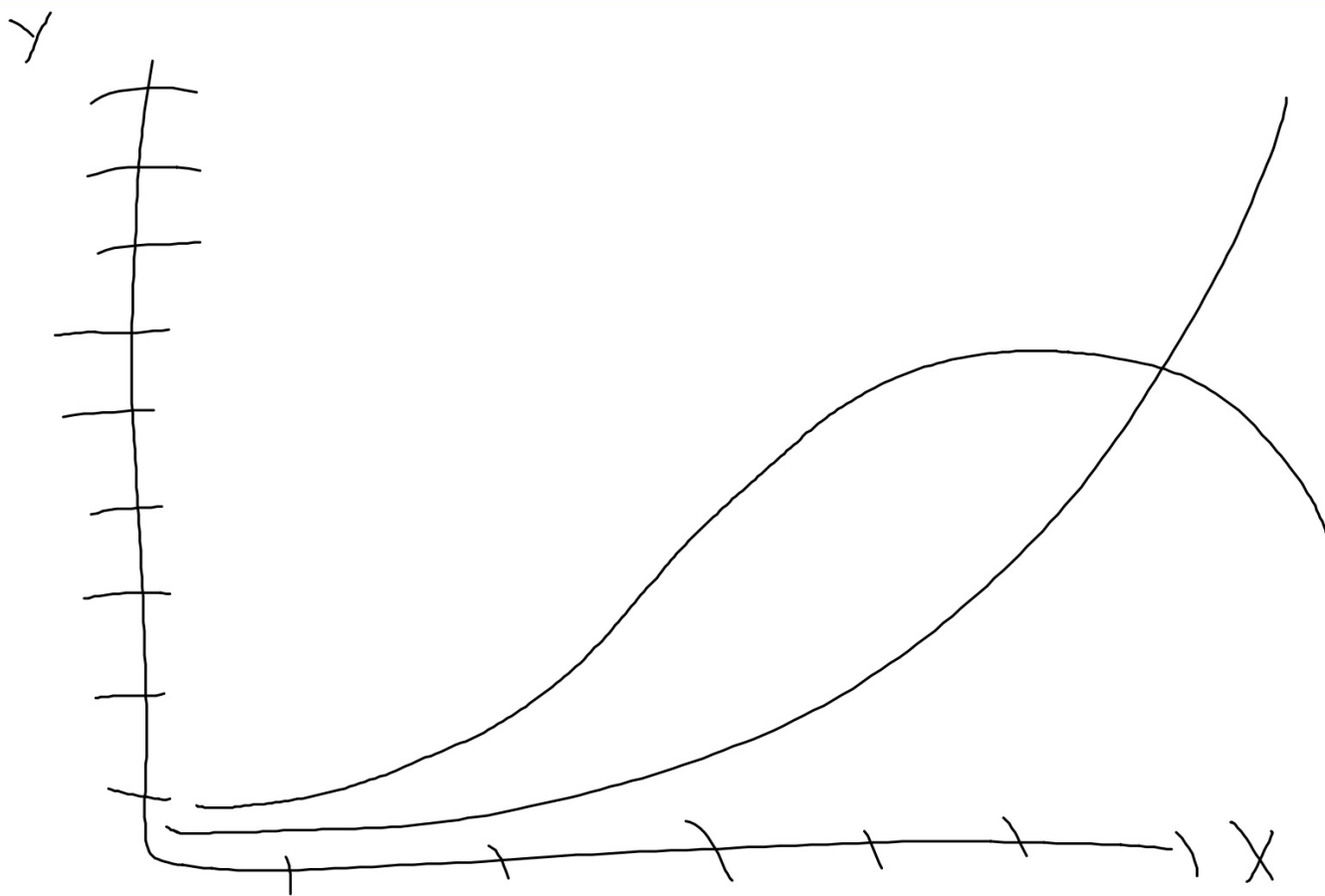
- In your notebook, make a graph from the hour of sleep chart
 - If you are unsure whether to use a line or bar graph...ask me to help!
 - Make sure you include the three things every graph must have
-

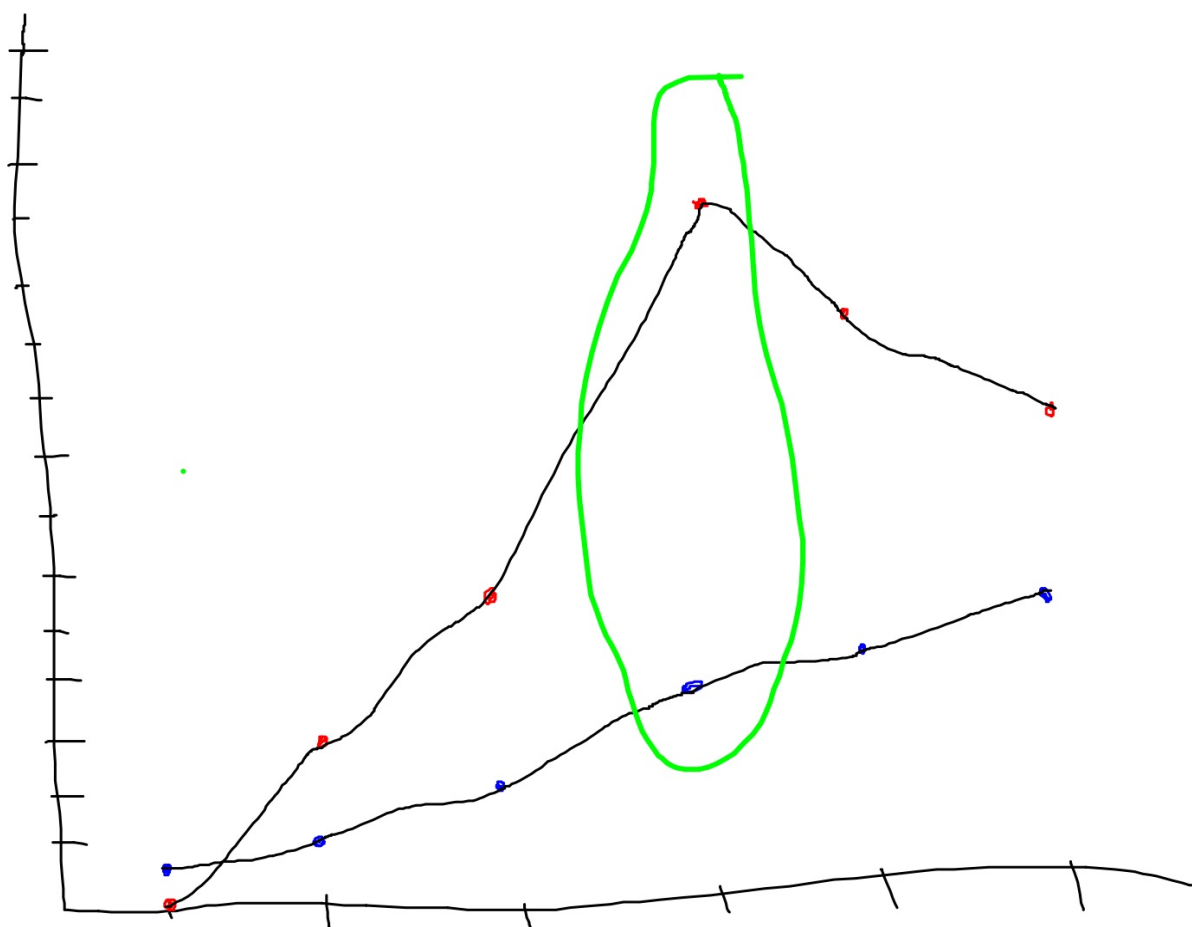
	H	T
①	x	
②	x	
③	x	
④		x
⑤		x
⑥	x	
⑦	x	
...	x	/
⑩①	⑥	x
⑩②		x
⑩③		④



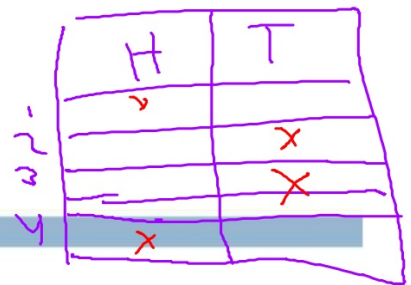
	height	weight
1	0 inches	1 oz
2	6 inches	2 oz
3	12 in.	4 oz
4	24 in	8 oz
5	20 in	9 oz
6	18 in	10 oz







Data Analysis



	H	T
1	✓	
2		X
3		X
4	X	

□ What is Analysis?

- Analysis is a detailed examination of the elements of something as a basis for discussion or interpretation
 - For example, you could analyze the chemicals in NutraSweet as the basis of an interpretation that NurtraSweet has no negative effects, has some negative effects, or have all negative effects.
- Analysis is a detailed examination of the elements of something as a basis for discussion or interpretation
- Ideally you want your analysis to support your hypothesis, but you must remain completely truthful.