Behavioral Genetics **Name:**
Graphing tutorial

Model 1: variable info
Read This! Check out the material on canvas on types of variables/data and example graphs.

example genetic data

Observation #	Genotype	Height (m)	PTC taste	Vegetable servings/day	Broccoli preference
1	TT	1.55	bitter	0	not
2	Tt	1.73	very bitter	1	not
3	Tt	1.86	slightly bitter	1	little
4	tt	1.70	none	3	some
5	tt	1.77	none	3	lots
…	…	…	…	…	…

1. What does each row represent in the example genetic data table in Model1?

2. For each variable in the table, name the type and explain your reasoning:

Genotype

Height

PTC taste

Vegetable servings/day

Broccoli preference

Model 2: graphing recommendations
Before you make a graph, decide what kind of data you have. In most real situations, it would be remember or double check, since you designed the experiment and would actually have thought about it quite a bit. Graphs are great for looking (visualizing) your data to look for patterns and trends. Once you have your data collected and you're ready to visualize/graph it, here are some guidelines about what graphs work for what data.

One variable	Graph to use	notes
Numerical	Histogram	bins on the X-axis, count on the Y-axis
Categorical	Bar Chart	categories on the X-axis, count from a variable on the Y-axis
	Line Chart	ordinal trend on the X-axis (e.g. time)
Two variables*	**Graph to use**	**notes***
Both Categorical	Side by side Bar Chart	x-axis grouped by explanatory categorical variable, y-axis is count
One categorical and One numerical	Side by side Box Plot	* see below, each category gets a box plot
	Stacked histograms	* see below, each category gets a histogram and they are shown together
Both Numerical	Scatter plot	* see below, can be fit with a line or other function to show trends/patterns

* with 2 variables, the independent/explanatory variable is on the X-axis and the dependent/response variable is on the Y-axis.

3. Sketch an appropriate graph of each of the following (also include the name of the graph type and an explanation of why it is appropriate, make sure that all graphs have clearly labeled axes.):
3a. Genotype and height from the table in Model1 above.

3b. Count of each genotype from the table in Model1 above.

Application questions

4. Using the height_weight data set on the google sheets (), plot the following by both sketching here and save graphs for submission on canvas. Make sure that all graphs have clearly labeled axes.

4a. height alone

4b. weight alone

4c. height and weight

5. Using the genotype_weight data set plot the following by both sketching here and save graphs for submission on canvas. Make sure that all graphs have clearly labeled axes.

5a. Genotype alone

5b. Genotype and weight (since side-by-side box plots are hard to make in the google, make a stacked histogram. To do this in the google, you need to make 3 separate histograms, then make the X axes all the same as well as set the bin width (called “bucket size” in the google) to be the same for all 3 graphs.)