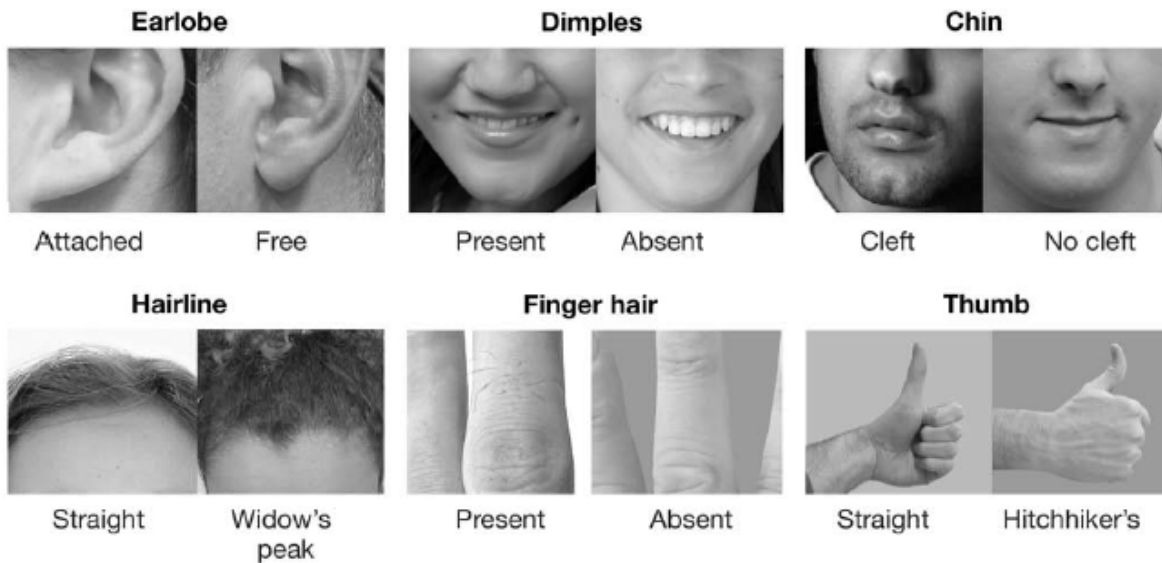


Student Conducted Lab: Who's Genes?

This document is a GRADED Assignment....._/10

In this lab, you will be examining the SIX traits pictured below. You will be identifying which traits are present in yourself, which traits are most prevalent in your class, and identifying the traits in your parents. After data collection, you will be examining your data set to determine which traits are more commonly seen in this sample and by what percentage.



NOTE 1: For finger hair, even if you have only one hair on any of your mid-digits, you have finger hair.

NOTE 2: The Hitchhiker's thumb is based upon the thumb being extended up, not flexed.

PREDICT 1:_/0.5

Which **forms** of these SIX traits will be most common in the class?

Answer:

1. Earlobes -
2. Dimples -
3. Chin -
4. Hairline -
5. Finger hair -
6. Thumb -

PREDICT 2:_/0.5

Do you think anyone else in the class will have the same traits as you?

Explain why or why not. (answer in a complete sentence)

DIRECTIONS for Data Collection:

1. Collect your data for yourself – record YOUR data with an “M” in the data table (below)....._/1
2. Collect data from the class – record in your data table **the number** provided in class._/1
 - a. If you missed class, go to the class recording to collect the data. **YOU MUST have a class data set.**
3. Collect data from your parents – record your father as “Y” and your mother as “X”._/1
 - If you do not live with your biological parents, try to collect this data from a male and female biological relative. If this is not possible, please collect data from an older male and female person you know. **YOU MUST have an X and Y data set.**

DATA TABLE: Data goes in the Form Columns

- ✓ Record your traits with an "M,"
- ✓ Record your classmates with the number from class,
- ✓ Record your father with a "Y" and
- ✓ Record your mother with an "X."

Trait	Form 1 (tally data here)	Form 1 Total	Form 2 (tally data here)	Form 2 Total
Earlobes	Free:		Attached:	
Dimples	Absent:		Present:	
Chin	Cleft:		NO cleft:	
Hairline	Widow's peak:		Straight:	
Finger hair	Present:		Absent:	
Thumb	Straight:		Hitchhiker's:	

TALLY the Data:/0.5

of Data Points for Each Form of Each Trait

- a. You are in the data set twice – as M and in the class total. DO NOT count your M data.
- b. Add the class data and X/Y data points as the total for each form and enter in the correct column.

TOTAL # of Data Points: How many total data points did you collect from?/0.5

- a. Again, you are in the data set twice – as M and in the class total. DO NOT count your M data.

ANALYSIS:

1. Which **forms of these SIX traits** were the most common in the class?/1
 - Earlobes -
 - Dimples -
 - Chin -
 - Hairline -
 - Finger hair –
 - Thumb –
2. Why do you think one form is more common than the other?/1
(answer in a complete sentence)
3. How do you think this data compares to the population in the state of Pennsylvania?/1
(answer in a complete sentence)
4. Look at your M and X/Y data. Can you explain why you are more like the X or the Y?/1
(answer in a complete sentence)
5. Using your data, calculate the frequency of each form of each trait...../1

Use this formula for EACH FORM of EACH TRAIT:

$$\frac{\text{\# of data points of the form of the trait}}{\text{total \# of data points}} \times 100 = \text{frequency of the form of the trait}$$

Trait	Form 1	Frequency in %	Form 2	Frequency in %
Earlobes	Free		Attached	
Dimples	Absent		Present	
Chin	Cleft		NO cleft	
Hairline	Widow's peak		Straight	
Finger hair	Present		Absent	
Thumb	Straight		Hitchhiker's	

