Name _____ Date _____ Period _____ Score out of 25 _____

Corrected by _____

Observing Human Traits Lab

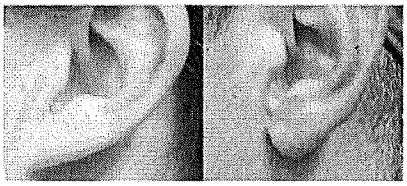
How much do traits vary in your classroom?

Traits are physical characteristics you inherit from your parents. In this investigation, you will take an inventory of your observable traits and compare these to the observable traits of your classmates. You will then take inventory of students and teachers in your school. Finally, you will determine the frequency of each trait in your school's population.

Observing your own traits

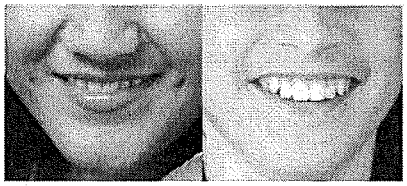
a. The graphic below shows seven different human traits. Each trait has two different forms. Study the chart below, then follow the procedures carefully.

Earlobe



Attached Free

Dimples



Present Absent

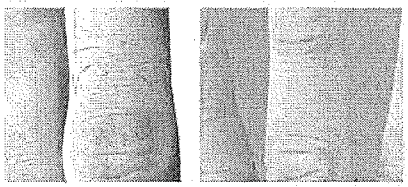
Chin

Cleft No cleft

Hairline

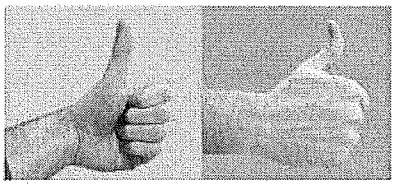
Straight Widow's peak

Finger hair



Present Absent

Thumb



Straight Hitchhiker's

1. Working with a partner, observe which form you have for trait A through F. Circle **your form** of each trait in **Table 1.** NOTE: For finger hair, even if you have only one hair on any of your mid-digits, you have finger hair.

Table 1: Inventory of traits

Trait	Form 1	Form 2
A. Earlobe	Free	Attached
B. Dimples	Absent	Present
C. Chin	Cleft	No cleft
D. Hairline	Widow's peak	Straight
E. Finger hair	Present	Absent
F. Thumb	Straight thumb	Hitchhiker's thumb

Stop and think

2 For earlobes only, how many students in your class do you think will share the same form (free or attached) as you? Explain your reasoning. _____

_____

3. Do you think any of your classmates will have the same form of all traits as you? _____

4. Make a prediction about how many of your classmates will have the same form of all seven traits as you. _____

Collecting class data

Enter your results in the chart your teacher has placed on the board.

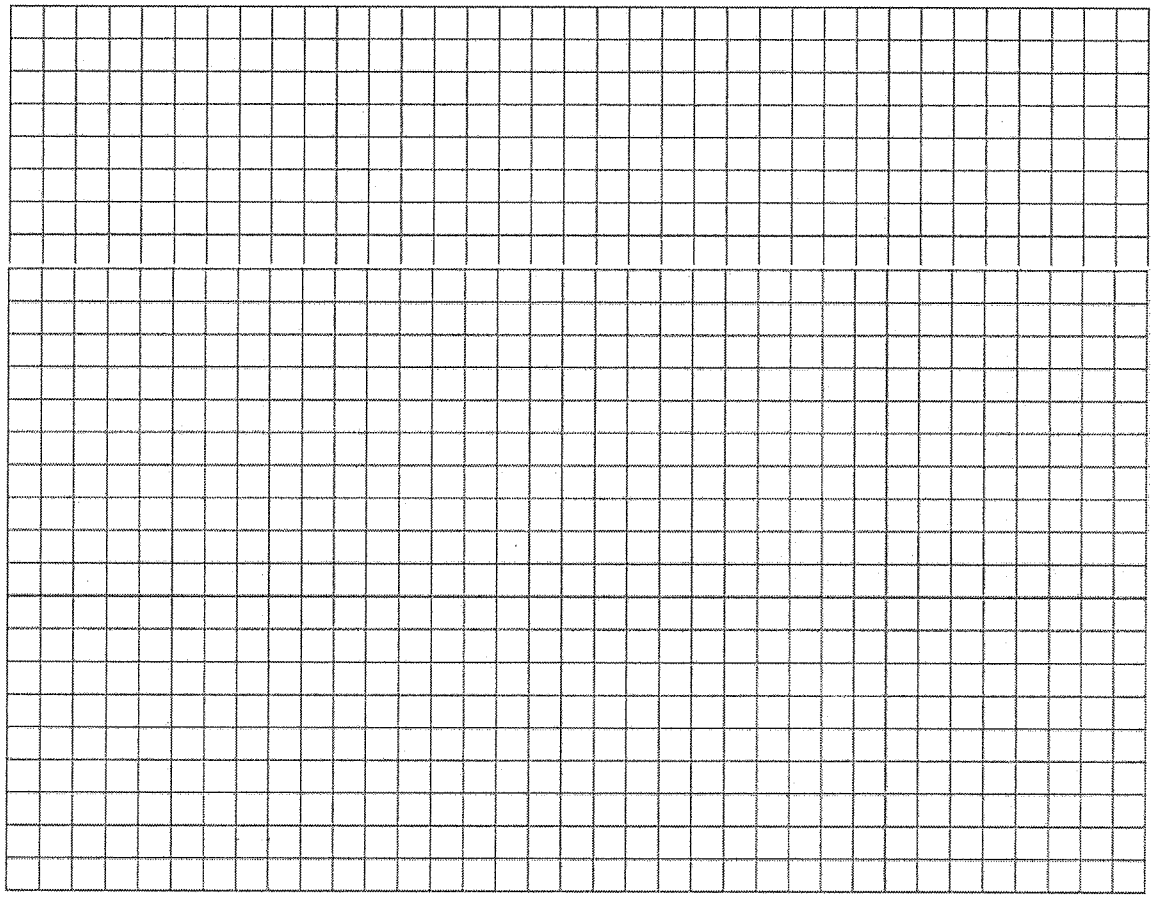
5. Record the numbers from the chart into columns 2 and 4 of Table 2 below.

Table 2: Class data for observable traits

Trait	Number of students with Form 1	Frequency of students with Form 1	Number of students with Form 2	Frequency of students with Form 2
A. Earlobe				
B. Dimples				
C. Chin				
D. Hairline				
E. Finger hair				
F. Thumb				

6. Calculate the frequency of each form of the trait for your class. Use this formula:
   (No. of students with form of trait ÷ Total number of students in class) × 100
7. Make a bar graph of the data in **Table 2**. Your graph should compare frequencies for each form of each trait. Put traits on the x-axis and frequency on the y-axis.

Title: _____



y label: _____

x label: _____

Name _____ Date _____ Period _____

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Thinking about what you observed

8. For each trait, which form was most common, Form 1 or Form 2?

_____ _____

_____ _____

_____ _____

9. Why do you think one form is more common than the other?

_____

_____

_____

10. Do you think your classroom population is typical of a larger population such as your entire school or community? Explain your answer.

_____

_____

_____

11. Traits are controlled by factors called genes. For each trait listed in Table 1, you get one gene from your mother and one gene from your father. For each trait, there is a dominant form and a recessive form. The dominant gene masks the effect of the recessive gene for the trait. Based on your class data, which form of each trait do you think is the dominant form? Explain your answer.

_____

_____

_____

The dominant and recessive forms for each trait you studied are listed below.

Trait	Dominant form	Recessive form
A. Earlobe	Free	Attached
B. Dimples	Dimples present	No dimples
C. Chin	Cleft present	No cleft
D. Hairline	Widow's peak	Straight
E. Finger hair	Finger hair present	No finger hair
F. Thumb	Straight thumb	Hitchhiker's thumb

12. Was the recessive form of any trait more frequent than the dominant form? Explain this result.

_____

_____

_____

_____

_____