Name _____ Date _____ Class _____

Take a Class Survey

Problem

Are traits controlled by dominant alleles more common than traits controlled by recessive alleles?

Skill Focus

developing hypotheses, interpreting data

Materials

mirror (optional)

Procedure

PART 1 Dominant and Recessive Alleles

1. Write a hypothesis reflecting your ideas about the problem question.

_____

_____

2. For each of the traits listed in the data table on the next page, work with a partner to determine which trait you have. Circle that trait in your data table.
3. Count the number of students in your class who have each trait. Record that number in your data table. Also record the total number of students.

PART 2 Are Your Traits Unique?

4. Look at the circle of traits in your text. All the traits in your data table appear in the circle. Place the eraser end of your pencil on the trait in the small central circle that applies to you—either free ear lobes or attached ear lobes.
5. Look at the two traits touching the space your eraser is on. Move your eraser onto the next description that applies to you. Continue using your eraser to trace your traits until you reach a number on the outside rim of the circle. Share that number with your classmates.

Name _____ Date _____ Class _____

Data Table

Total Number of Students _____

	Trait 1	*Number*	*Trait 2*	*Number*
A	*Free ear lobes*		*Attached ear lobes*	
B	*Hair on fingers*		*No hair on fingers*	
C	*Widow's peak*		*No widow's peak*	
D	*Curly hair*		*Straight hair*	
E	*Cleft chin*		*Smooth chin*	
F	*Smile dimples*		*No smile dimples*	

Analyze and Conclude

Write your answers in the spaces provided.

1. **Observing** The traits listed under Trait 1 in the data table are controlled by dominant alleles. The traits listed under Trait 2 are controlled by recessive alleles. Which traits controlled by dominant alleles were shown by a majority of students? Which traits controlled by recessive alleles were shown by a majority of students?

_____

_____

2. **Interpreting Data** How many students ended up on the same number on the circle of traits? How many students were the only ones to have their number? What do the results suggest about each person's combination of traits?

_____

_____

_____

3. **Developing Hypotheses** Do your data support the hypothesis you proposed in Step 1? Write an answer with examples.

_____

_____

_____

Take a Class Survey *(continued)*

Design an Experiment

Do people who are related to each other show more genetic similarity than unrelated people? Write a hypothesis. Then design an experiment to test your hypothesis. *Obtain your teacher's permission before carrying out your investigation.*