

# Teaching Suggestions

## Science and Mathematics Lab

(Course 1, Lesson 10-5; Course 2, Lesson 7-5; Course 3, Lesson 5-2)

### Genetic Traits

#### OVERVIEW

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This activity provides students with the opportunity to combine observation and data collection with the calculation of percent. Students will be required to correctly identify forms of common physical genetic traits and to find the percent of each form of these traits in the class.

#### RECOMMENDED TIME

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1 class period

#### MATERIALS

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- none

#### PREPARATION

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You may wish to familiarize yourself with the different traits and their forms before the lab begins.

#### TEACHING THE LAB

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1. Have students work with a partner to identify their own forms of each trait and then compare the results as a whole class.
2. Help students identify the different genetic traits.

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(Course 1, Lesson 10-5; Course 2, Lesson 7-5; Course 3, Lesson 5-2)

### ***Genetic Traits (continued)***

#### ***Answers and Conclusions***

1. Sample answer: Handedness: Left, 30%; Right, 70%, and so on
2. Percents should add up to 100%. Answers other than 100% may be a rounding error.
3. Sample answer: tongue rollers
4. Sample answer: freckles

# Science and Mathematics Lab

(Course 1, Lesson 10-5; Course 2, Lesson 7-5; Course 3, Lesson 5-2)

## Genetic Traits

### INTRODUCTION

*Genetic traits* are characteristics that are passed from parents to offspring. Children receive half of their traits from their mother and half from their father. Traits such as eye color and hair color can have a wide range of variation, while other traits have only two possible forms. In this activity, you will identify some common genetic traits and find the percent of students in your class that possess each form of the traits.

### OBJECTIVES

In this lab, you will:

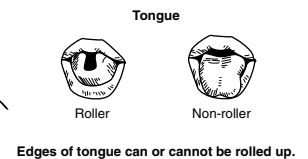
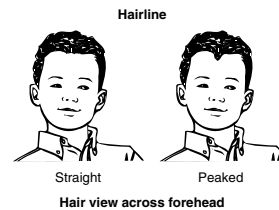
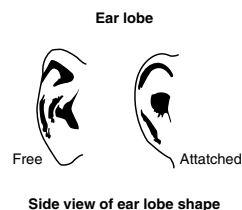
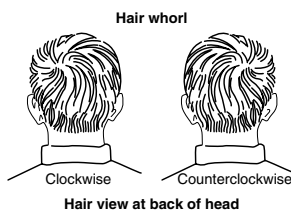
- collect data on the number of students expressing certain forms of genetic traits.
- find the percent of students who express each form of the traits.

### MATERIALS

- none

### PROCEDURE

1. Work with a partner during the first part of this activity. Complete the column labeled “You” in the Data Table for each of the genetic traits listed. Ask your partner to help you describe the traits you cannot see. Refer to the figure for an explanation of traits with which you are not familiar.
2. After completing the data table for yourself and your partner, record the totals of each trait for the entire class and calculate the percents for each.



# Science and Mathematics Lab

(Course 1, Lesson 10-5; Course 2, Lesson 7-5; Course 3, Lesson 5-2)

## Genetic Traits (continued)

### DATA AND OBSERVATIONS

Trait	Description (Form)	You	Class Totals	
Handedness	Left or Right			
Hairline*	Straight or Peaked			
Dimples	Yes or No			
Freckles	Present or Absent			
Hair Whorl*	Clockwise or Counterclockwise			
Ear Lobe*	Free or Attached			
Tongue*	Roller or Non-roller			

\* See the illustrations on page 87.

### Questions and Conclusions

- Find the percent of each trait in the class. Enter the percents in the Data Table below.

Total number of students:

Trait	Class Percents	
Handedness	Left =	Right =
Hairline	Straight =	Peaked =
Dimples	Yes =	No =
Freckles	Present =	Absent =
Hair Whorl	Clockwise =	Counterclockwise =
Ear Lobe	Free =	Attached =
Tongue	Roller =	Non-roller =

- Do the percents of each trait add up to 100%? Explain why or why not.
- What is the most common form of trait in your class?
- Do any of the traits have evenly distributed forms in your class?