DENVER MUSEUM OF NATURE & SCIENCE

POSTVISIT ACTIVITY
for "Genetics Pathway"

GRADE LEVEL
Grades 4–12

CDE STANDARDS
Science: 3.4

PREPARATION
Estimated Preparation Time: 10 minutes
Estimated Activity Time: 45 minutes

MATERIALS
Copies of Inherited Traits chart
Pencils
Butcher paper for class graph
Stickers or Post-it ® notes

# Inherited Traits Inventory

## Learning Goals/Objectives

Students will

- observe a variety of inherited traits.
- compare observed traits with other students in the class.
- develop a data table to show their results.
- identify dominant and recessive traits.
- learn that dominant traits are not always the most common.

## Advanced Preparation

1. Make copies of the Inherited Traits chart for each student.
2. Make a blank class graph of the traits for students to complete after making their observations.

## Classroom Activity

1. Lead a general discussion with your students about inherited traits. Discuss where these traits come from and make sure students understand that genes inherited from both parents determine traits.
2. Give each student a copy of the Inherited Traits chart. Demonstrate or explain the traits listed on the chart.
3. Explain to students that traits are observable characteristics that make us unique.
4. Divide students into groups of two and have them complete the Inherited Traits chart. Students can help their partners determine which trait they inherited.
5. If time permits, have groups of two meet with another group to compare results. These groups can create a group graph of inherited traits.

## Evaluation

1. Students can be evaluated by the completion of their Inherited Traits chart.
2. Have students answer questions based on the class graph.
3. You can also ask students to write a short summary of the activity and of inherited traits on a "ticket to leave."

## Extensions

1. Create a whole-class chart of inherited traits. Have students place stickers or Post-it notes on the graph to indicate whether they have the dominant or recessive trait.
2. For older or more advanced students, have students calculate the frequency of traits for the entire classroom.
3. More advanced students can identify possible allele combinations to produce each of their inherited traits.
4. Students can extend the activity to create a family graph of inherited traits. For adopted students, they can still compare members of their family, but you'll need to be sure these students understand their traits are not inherited from their adoptive parents. Have students use their data to create a family pedigree.
5. Have students research which of the traits are dominant and which are recessive. Can they prove that dominant traits are not always the most common?

Name:_____

## Inherited Traits Inventory

Complete this inventory of your observable traits. Then compare your inventory with the people in your group. Fill in the data table for your group by counting the number of people who marked "yes" and the number of people who marked "no" for each trait.

| | Me | | My Group | |
|---|---|---|---|---|
| **TRAIT** | **YES** | **NO** | **YES** | **NO** |
| I have detached earlobes. | | | | |
| I have a hitchhiker's thumb. | | | | |
| I can roll my tongue. | | | | |
| I have dimples. | | | | |
| I am right-handed. | | | | |
| I have freckles. | | | | |
| I have naturally curly hair. | | | | |
| I have a cleft chin. | | | | |
| I have allergies. | | | | |
| I have a widow's peak. | | | | |
| I cross my left thumb over my right thumb. | | | | |
| I can see the colors red and green. | | | | |
| I can taste PTC paper. | | | | |
| I have mid-digital hair. | | | | |
| My second toe is longer than my big toe. | | | | |

Use the back of this paper to create a graph to show how many people in your group had each trait.