

# TRB 5:5 - Activity 3: Paint's Family Tree

## Summary

Students will discover the similarities and differences in traits among family members and how each trait might have been inherited.

## Materials

- 1 copy of Paint's Family Tree skit dialogue for each student
- 1 copy of Trait Summary for Paint 's Relatives for each student
- 1 copy of Family Tree Horse for each team of students
- 1 copy of Model Family Tree on overhead acetate
- 1 large sheet of butcher or chart paper
- glue or glue sticks
- markers, crayons or colored pencils for each team of students

## Additional Resources:

### Acknowledgments

The idea for this lesson plan was adapted from the "Where 'd You Get Those Genes " curriculum, developed by California Agriculture in the Classroom ([http://www.cfaitc.org/Resource\\_Materials/Lesson\\_Plans/lessonplans4\\_6.html](http://www.cfaitc.org/Resource_Materials/Lesson_Plans/lessonplans4_6.html)).

## Background for Teachers

Throughout history, many animals and plants have been bred to perpetuate certain traits. Cows, horses, tomatoes, corn and strawberries are just a few examples of living things that have been selectively bred by humans. Horse breeders are very aware of family traits. The traits for which they breed horses can be visible, such as hair coloring and muscularity, or invisible, such as temperament and health characteristics.

## Intended Learning Outcomes

- 1-Use science process and thinking skills.
- 2-Manifest scientific attitudes and interests.
- 3-Understand science concepts and principles.
- 4-Communicate effectively using science language and reasoning.

## Instructional Procedures

Choose four students (two girls and two boys) to play the roles in the skit, Paint's Family Tree. Have them read and act out the skit.

Give each student a copy of the skit and a "Trait Summary for Paint 's Relatives " worksheet.

Allow each student to read the skit and fill out his/her summary sheet individually.

Teaching Tip: For more directed student instruction, copy the trait summary worksheet and place asterisks in the boxes for characteristics for which they will need to use deductive reasoning. (See "Trait Summary Key.") This activity is excellent for enhancing reading comprehension.

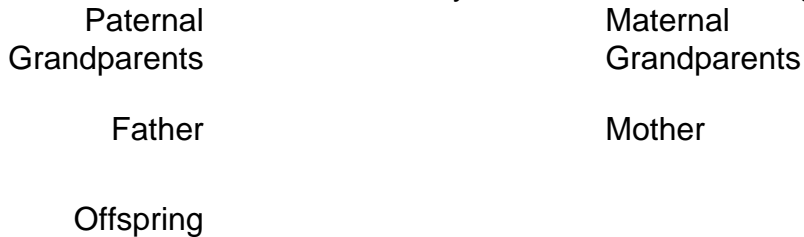
After students have completed their summaries, give each student a copy of the "Model Family Tree." Have them color this sheet according to how they filled out the information in the summary.

When each student has completed his/her family tree, divide the students into seven groups. Give each team a "Family Tree Horse ". Assign each group a different member of Paint 's family. The group must come to consensus on how to color their family member using their

previously colored family trees. They may need to refer back to the skit for verification.

Direct the groups to label their horses with the horse 's name, its relationship to Paint, and any invisible traits.

Show the overhead of the Model Family Tree and discuss its organization as shown below.



Post the large sheet of butcher or chart paper in an accessible location. Have each student team place their horse on the paper in the appropriate location to form a family tree. Ask the team to describe their horse 's traits. Have students draw lines between the horses as appropriate to show lines of descent between generations.

As a class, discuss the similarities and differences in traits among the family members and how each trait might have been inherited. Point out to students that traits are inherited from both parents. However, these traits are not always expressed in every generation (such as the blue eyes that Paint and his maternal grandmother have).

Additional questions for discussion:

- What traits were unique to Paint?
- If another animal were chosen would you be able to determine from which parent its traits may have been inherited? How would you do it?
- Can you name other inherited traits that may not be visible?

### Extensions

Invite a horse breeder as a guest speaker.

### Assessment Plan

From which relatives did Paint get the black on his tail and mane?

From which relatives did Paint get his white face?

From which relatives did Paint get his temperament?

### Bibliography

This lesson is part of the Fifth Grade Science Teacher Resource Book (TRB3)

<http://www.usoe.org/curr/science/core/5th/TRB5/>. The TRB3 is designed to be your textbook in teaching science curriculum to your students. This book covers all the objectives of each standard and benchmark. If taught efficiently, a student should do well on the End-of-Level (CRT) tests. The TRB3 is designed for teachers who know very little about science, as well as for teachers who have a broad understanding of science.

### Authors

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