

Tristin Thompson

Grade Level: 7th

Title of Lesson: The Probability of Genetics

Unit Title: Genetics

Performance Standard(s) Covered:

S7L3.a Students will recognize how biological traits are passed on to successive generations. Explain the role of genes and chromosomes in the process of inheriting a specific trait.

Essential Question:

What are traits? How are they passed on from parent to offspring? How does the offspring inherit two traits, but generally only show one?

Objective:

The students will review traits and how they are inherited. They will then participate in a hands-on activity that demonstrates these concepts in order to help comprehension.

Key Words and Terms:

Trait, Gene, Dominant, Recessive, Punnett Square, Genotype, Phenotype

Learning Activity

Abstract (limit 100 characters):

Students will divide into pairs. Each will be given a coin to flip to determine which trait is passed onto the offspring. They will then have to decide which trait will be the phenotype. Once all traits have been assigned, the students will create their offspring using cutouts and craft supplies.

Materials Needed: List all materials needed and number (one per student, one for class, etc.)

- A coin for each pair
- A paper cutout of a generic doll, one per pair
- Construction paper, colored markers, glue
- A handout that lists various traits and their associated genotype with space for them to write what each student flipped. Make sure it says heads=dominant and tails=recessive

Safety Concerns:

Make sure the students aren't throwing the coins at each other or making a mess with the craft supplies.

Procedure:

1. Divide students into pairs.
2. Have a brief review of traits, how they're passed on, and dominant vs recessive.
3. Explain to the students how this activity works.
4. Give each pair the handout and a coin and instruct them to determine all of the traits their offspring will inherit.
5. Once they have filled out the worksheet, hand them the paper doll cut out and allow them to begin creating their offspring.
6. Display their creations. You can also use the worksheet and doll in order to determine comprehension based on the accuracy of their doll in reference to the worksheet.

Notes and Tips:

Make sure to not preferentially assign students in male/female pairs so that those who aren't in that pair dynamic don't feel singled out. You can also have them make aliens or something not human in order to let them focus more on the task and care less about the traits they passed on.