# Simulating a Monohybrid Cross

## Summary

During this investigation students will use two labeled game markers as a model for a monohybrid cross.

## Time Frame

1 class periods of 60 minutes each

## Group Size

Pairs

## Materials

2 labeled game markers or coins
paper cup
- student sheet (attached)

## Background for Teachers

Mendel made his discoveries by crossing pea plants and keeping careful records of the outcomes of his crosses. Students can make similar observations using coins as a model. During this investigation students will use two labeled game markers as a model for a monohybrid cross.

## Student Prior Knowledge

Students should understand Mendel's classic pea experiment.

## Instructional Procedures

Handout and explain student sheet.
Allow students to get materials and begin.
Provide a place (blackboard, overhead projector, butcher paper) for students to record their group information.
Summarize and discuss student findings as a class.
Allow students to finish questions and conclusions.

## Assessment Plan

Scoring Guide:

1. Students participate and collect data……25 pts
2. Students correctly answer questions……25 pts

1-3. Answers will vary on these three questions.

4. The series of 1000 tosses should most closely resemble the expected values (1:2:1), where the series of 10 tosses may not even be close.

5. The larger the number of trials, the closer the results approach expected ratios. Also, previous events do not affect future outcomes.

6. The results of genetics crosses follow the rules of probability (stated as the answer for #5).

3. Students write thoughtful conclusion……5 pts

## Bibliography

Lesson Design by Jordan School District Teachers and Staff.

## Authors

Utah LessonPlans