

Bag of Alleles Lab
Tape this into your lab notebook

Purpose; to estimate the allele frequencies in a Mendelian cross.

Directions; Get a partner and two bags of beans!

Pre-lab

- a. Count out two brown paper bags each with 50 white beans and 50 pinto beans.
- b. Each bean will represent an allele for a pea plant trait of your choosing; pinto is dominant. Each bag represents a plant.
- c. Choose which pea plant characteristic your beans will represent and what is dominant. Both plants are heterozygous (that's why they have equal numbers of pinto and white).
- d. Work out the cross of two heterozygotes first; use the Punnett square below.
- e. Create a data table for your results in the space provided below.

Pea Trait we chose is for; _____ Dominant trait is _____
Pinto (dominant) represents; _____ white bean represents; _____
Letter symbols _____ Letter symbol _____

Punnett Square showing predicted outcomes:

_____	_____
_____	_____

Data table of Allele Frequencies

X	_____	_____	_____
Totals			

Post-lab Questions

1. Did your predicted results match the results you obtained experimentally?
2. What was the dominant trait?
3. Which two bean pairs coded for the dominant trait?
4. What was the recessive trait?
5. Which bean pair coded for the recessive trait?
6. Explain why the recessive trait is usually less common in a population.
7. Below, list as many traits below that show dominant/recessive patterns (look through your notes)