Review of Mendel’s Theories

1. Factors occur in pairs (genes)
2. *Dominant vs. recessive* – dominant gene masks recessive gene
3. *Law of segretation* – during sex cell formation these paired factors (genes) separate (segretate) into separate sex cells
4. *Pure breeding vs. hybrids* – pure breeding contains two genes that are identical (homozygous - TT or tt; heterozygous – Tt)
5. *Law of independent assortment* – chromosomes separate independent of each other

Gamete Formation

* Represent traits using the same letter
  + i.e., earlobe - free = E; attached = e
* Gametes only contain one of each kind of gene
  + i.e., Ee – gametes will either have E or e

Single Trait Inheritance (monohybrid crosses)

* comparing a single trait in two reproducing organisms
* use a Punnett square – chart that shows potential gametes and offspring frequencies (ratios)

Problem:

*A homozygous round seed is crossed with a homozygous wrinkled seed. What are the genotype and phenotype frequencies in the F1?*

b) *cross 2 F1’s*