

MENDELIAN GENETICS LAB

Prepared for Genome British Columbia by Albert Chang, David Thompson Secondary, Vancouver

TEACHER NOTES:

- Groups of 2–3
- Use with LCD projector
- Data table on pp.2–3

Part A: Complete Dominance

- Objective: determine genotypes of three pea plants
- By self-fertilizing and cross-fertilizing parent plants, students must analyze phenotypes of F_1 offspring to determine genotypes from phenotype ratios
- Six possible crosses allow for example, guided practice, and independent practice

Part B: Complete Dominance (cont.)

- Objective: predict phenotypes and genotypes for F_2 offspring (self-fertilized F_1)
- Students use genotypes from Part A to determine expected phenotypes and genotypes

Part C: Incomplete Dominance

- Objective: apply Mendelian genetics to analyse data
- Given data for F_1 and F_2 offspring, students calculate genotype ratios to show data is consistent with incomplete dominance

Part D: Codominance

- Objective: apply Mendelian genetics to show difference between complete dominance and codominance
- Students must determine which crosses to perform to collect necessary data and explain what data represents positive and negative results for F_1 and F_2 offspring

DATA:

PART A: _____

CROSS	PHENOTYPES	PHENOTYPE RATIO	POSSIBLE GENOTYPES

DATA (cont.):

PART B: _____

CROSS	PHENOTYPES	POSSIBLE GENOTYPES

PART C: _____

CROSS	PHENOTYPES	PHENOTYPE RATIO	POSSIBLE GENOTYPES