

AP Biology Hardy-Weinberg Practice Sheet: Allele Frequencies, Genotype Counts, and Equilibrium Assumptions

University of California, Los Angeles
General Biology I (BIOL 101) | Practice Problems

Overview

An AP Biology and BIOL 101 practice sheet for students reviewing Hardy-Weinberg allele frequency problems, genotype percentages, and assumption checks for quiz or final prep.

What this document covers

- p and q allele frequency setup
- p^2 $2pq$ q^2 genotype proportions
- recessive phenotype shortcuts
- expected genotype count calculations
- Hardy-Weinberg equilibrium assumptions

How to use it

- solve 12 allele-frequency problems from phenotype data
- convert genotype proportions into expected counts
- label which assumption is violated in scenarios
- write a short biological interpretation for each result
- compare Hardy-Weinberg setup with chi-square follow-up

Common mistakes to avoid

- taking the square root of the wrong phenotype group
- forgetting $p + q = 1$
- mixing proportions with counts
- calling disequilibrium without evidence
- leaving answers as formulas only