

Eye Color and Polygenic Inheritance Worksheet

Data Table and Observations



Post-Lab Questions and Calculations

- 1. Why is it necessary to return the bingo chips to the male and female bags after each draw?
- 2. Look at the phylogenetic tree in the data table. How do the eye colors of the offspring in Generation III compare to that of their parents in Generation II?
- 3. In humans, tall parents tend to have tall children and short parents tend to have short children. However, the average adult height in humans varies greatly within a population. Why is this so?
- 4. If two heterozygous individuals AaBbCc are crossed with each other, what is the probability they will produce heterozygous offspring AaBbCc? Explain. *Hint:* Figure out the probability of inheriting each gene and multiply those three probabilities together.
- 5. Mendel's Law of Independent Assortment states that allele pairs separate independently during the formation of gametes. How is it possible for an offspring to have darker- or lighter-shaded eyes than either of his or her parents?

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