

Name _____

Punnett Square Questions

Introduction: The Punnett square is a way to show how alleles can combine when egg and sperm join.

Purpose: The purpose of this investigation is to explore how Punnett squares are used to predict the outcomes of monohybrid genetic crosses.

Look at your Punnett Squares to answer these questions.

Eye Color

1. What is the genotype of the mother: homozygous dominant, heterozygous, or homozygous recessive?
2. What is the phenotype of the mother: brown eyes or blue eye?
3. What is the genotype of the father: homozygous dominant, heterozygous, or homozygous recessive?
4. What is the phenotype of the father: brown eyes or blue eye?
5. How many of the children are homozygous dominant? _____
6. How many of the children are heterozygous? _____
7. How many of the children are homozygous recessive? _____
8. How many of the children have brown eyes? _____
9. How many of the children have blue eyes? _____
10. The ratio of brown eye children to blue eye children is _____

Hair Color

11. What is the genotype of the mother: homozygous dominant, heterozygous, or homozygous recessive?
12. What is the phenotype of the mother: dark hair or blonde hair?

13. What is the genotype of the father: homozygous dominant, heterozygous, or homozygous recessive?
14. What is the phenotype of the father: dark hair or blonde hair?
15. How many of the children are homozygous dominant? _____
16. How many of the children are heterozygous? _____
17. How many of the children are homozygous recessive? _____
18. How many of the children have dark hair? _____
19. How many of the children have blonde hair? _____
20. The ratio of dark hair children to blonde hair children is _____

Height

21. What is the genotype of the mother: homozygous dominant, heterozygous, or homozygous recessive?
22. What is the phenotype of the mother: tall or short?
23. What is the genotype of the father: homozygous dominant, heterozygous, or homozygous recessive?
24. What is the phenotype of the father: tall or short?
25. How many of the children are homozygous dominant? _____
26. How many of the children are heterozygous? _____
27. How many of the children are homozygous recessive? _____
28. How many of the children are tall? _____
29. How many of the children are short? _____
30. The ratio of tall children to short children is _____