

# Dihybrid Crosses Worksheet

Use the dihybrid cross below to answer questions 1 – 6:

		AaBb x AaBb			
		AB	Ab	aB	ab
Key	AB	AABB	AABb	AaBB	AaBb
	Ab	AABb	AAbb	AaBb	Aabb
	aB	AaBB	AaBb	aaBB	aaBb
	ab	AaBb	Aabb	aaBb	aabb

1. What would be the genotype for an offspring that is rough and yellow?
2. What would be the phenotype for an offspring that is AaBb?
3. What fraction of the offspring will be rough and green? Remember to express this as  $\frac{\quad}{16}$ .
4. What fraction of the offspring will be AAbb?
5. What fraction of the offspring will be homozygous dominant for both traits?
6. What fraction of the offspring will be heterozygous for both traits?

**A gene codes for nose shape. The dominant trait for nose shape is a straight nose (S), and the recessive trait is a bent nose (s). Use the chart below to show a monohybrid cross between a man who is heterozygous with a woman who is homozygous recessive for a bent nose.**

7. What are the possible genotypes of the offspring?
8. What are the possible phenotypes of the offspring?
9. What percentage of the offspring will have a straight nose?
10. What percentage of offspring will be heterozygous?
11. What percentage of the offspring will have the genotype, "ss"?


**A woman with the genotype PpRr is crossed with a man with the genotype PPRr. Use the punnett square for this dihybrid cross below to answer questions 14 – 19.**


<p>P = puffy lips  p = thin lips</p> <p>R = red lips  r = purple lips</p>
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12. What is the genotype of the mom?
13. What is the phenotype of the father?
14. What ratio of the offspring will be PPRR?
15. What ratio of the offspring will have Puffy, red lips?
16. What ratio of the offspring will be heterozygous for both traits?
17. Which of the four traits will not show up in any of the offspring?

**A gene controls the ability to touch the tip of the tongue to the nose. A dominant allele, T, does not allow tongue to nose contact; while a recessive allele, t, does allow the ability. A woman who can touch her tongue to her nose is crossed with a man with the genotype TT.**

18. Fill in the punnett square for this cross below:
19. What is the mother's genotype?
20. What percentage of the children will be able to touch their tongue to their nose?
21. What percentage of the offspring will be Tt?
