

Monohybrid Cross Genetic Problems

1. In rabbits the gene for black coat color (**B**) is dominant over the gene for brown coat color (**b**). What would the results of a cross between an animal pure for black coat color (**BB**) and one pure for brown coat color (**bb**)?

100 % black
0 % brown

0 % pure for either black or brown

Show work in Punnett Square

	B	B	
b	B b	B b	BB x bb
b	B b	B b	

2. In guinea pigs the gene for rough coat (**R**) is dominant over the gene for smooth coat (**r**). In order for all the offspring to be smooth coated, what should the genes of the male and female parents be?

Show work in Punnett Square

	r	r	Female or male
r	rr	rr	Smooth coat = rr
r	rr	rr	

genes of the male rr

genes of female rr

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Genes are not always dominant or recessive. Both genes can affect a trait. An example is a flower from a certain plant.

3. rr = pure red x ww = pure white

Show the results of this cross in the Punnett Square
(rw = pink)

		r	r
w	r w	r w	
w	r w	r w	

___ 0 ___% red ___ 0 ___% white

___ 100 ___% pink

4. Cross the two pink (rw) flowering plants

rw X rw

		r	w
r	r r	r w	
w	r w	w w	

___ 25 ___% red ___ 25 ___% white

___ 50 ___% pink