

More Punnett Square Practice

READ


A punnett square helps scientists predict the possible genotypes and phenotypes of offspring when they know the genotypes of the parents. The *phenotype* is the physical appearance of an organism and the *genotype* is the inherited combination of alleles. This skill sheet will give you additional practice in using punnett squares to solve genetics problems.

EXAMPLE


In rabbits, black fur is dominant to white fur. If you cross a **BB** male with a **Bb** female, what are the possible genotypes and phenotypes of the offspring? What is the percent chance for each type?

Solution:

	B	B
B	BB	BB
b	Bb	Bb

Genotype	Phenotype	Chance
BB	Black fur	50%
Bb	Black fur	50%

PRACTICE


1. In cabbage butterflies, White wings are dominant to yellow wings. If a **Ww** butterfly is crossed with a **ww** butterfly, what are the possible genotypes and phenotypes of the offspring and the percent chance for each?

	W	w
w		
w		

Fill in the table:

Genotype	Phenotype	Chance

2. In dogs, there is a hereditary type of deafness caused by a recessive gene. Two dogs who carry the gene for deafness but have normal hearing are mated. What are the possible genotypes and phenotypes of their offspring and the percent chance for each?

	D	d
D		
d		

Fill in the table:

Genotype	Phenotype	Chance

3. In guinea pigs, short hair is dominant over long hair. If a short haired **SS** guinea pig is crossed with a long haired **ss** guinea pig, what are the possible genotypes and phenotypes of their offspring and the percent chance of each?

	S	S
s		
s		

Fill in the table:

Genotype	Phenotype	Chance

4. Can you curl your tongue up on the sides? Tongue-curling in humans is a dominant genetic trait. Suppose a man who is **Tt** for tongue-curling marries a woman who is also **Tt** for this trait. What are the possible genotypes and phenotypes of their children and the percent chance for each?

Fill in the table:

Genotype	Phenotype	Chance

5. In guinea pigs, rough coats (with lots of swirly cowlicks) are dominant over smooth coats. If an **RR** guinea pig is crossed with a **Rr** guinea pig, what are the possible genotypes and phenotypes of the offspring? What are the chances of each?

Fill in the table:

Genotype	Phenotype	Chance