

Name: _____
Date: _____
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Punnett Squares Practice

Punnett Squares are a way of showing the probability of traits parents might have in their offspring. It works, because during meiosis, sex cells produce 4 daughter cells each with half the genetic material of the mother cell.

Look at this example: A tall pea plant (homozygous dominant) is cross-pollinated with a short pea plant (homozygous recessive). What are their offspring? We place the genotype of one parent to the left of the square and one parent above the Punnett square as shown below. One allele from each parent is then placed in the box to show the genotype of the offspring.

What are the chances that the offspring of these two plants will be tall? _____
What is the name for the offspring's genotype? _____

	t	t
T	Tt	Tt
T	Tt	Tt

Now, Lets try this with Widow's Peaks. A man with a widow's peak (HH) marries a woman with a continuous hairline (hh). A widow's peak is dominant over a continuous hairline. What kind of hairline will their children have? Draw a Punnett Square to find out.

What kind of hairline will their children have? _____

Now suppose one of their children (Rr) marries someone who is also heterozygous (Rr). What type of hairline will their children have?

What percentage of the children would be: Homozygous Dominant? _____

Homozygous Recessive? _____ Heterozygous? _____

What percent of their children would have the widow's peak phenotype? _____

Try this. A man and a woman are heterozygous for freckles. Freckles (F) are dominant over no freckles (f). What are the chances that their children will have freckles?

A woman is homozygous dominant for short fingers (GG). She marries a man who is heterozygous for short fingers (Gg). Will any of their children have long fingers (gg)? yes / no
