

Punnett square worksheet

Punnett squares are tools used to estimate the genetic makeup of offspring using parental alleles. The letters on the outside of the Punnett squares represent parental alleles of a certain genetic trait. The letters on the inside of the Punnett square represent the offspring alleles.

Homozygous dominant (RR) Homozygous recessive (gg) Heterozygous (Gg)
GENOTYPE is the allele marker. PHENOTYPE is the genetic trait.

Example:

A green pea plant (GG), homozygous dominant, is being crossed with a green pea plant (Gg), heterozygous.

	G	G
G	GG	GG
g	Gg	Gg

GENOTYPE = **GG** (homozygous dominant), **Gg** (heterozygous)

PHENOTYPE = 4 Green pea plants because a capital letter represents a dominant trait.

DIRECTIONS: Fill in the appropriate parental alleles on the outside of the Punnett squares, and then fill in the offspring alleles on the inside of the Punnett squares.

- 1) A rust-resistant tree (RR) is crossed with a rust-resistant tree (RR).

- 2) A rust-resistant tree (RR) is crossed with a rust-resistant tree (Rr).

- 3) A rust-resistant tree (Rr) is crossed with a rust-resistant tree (Rr).

- 4) A non rust-resistant tree (rr) is crossed with a non rust-resistant tree (rr).

