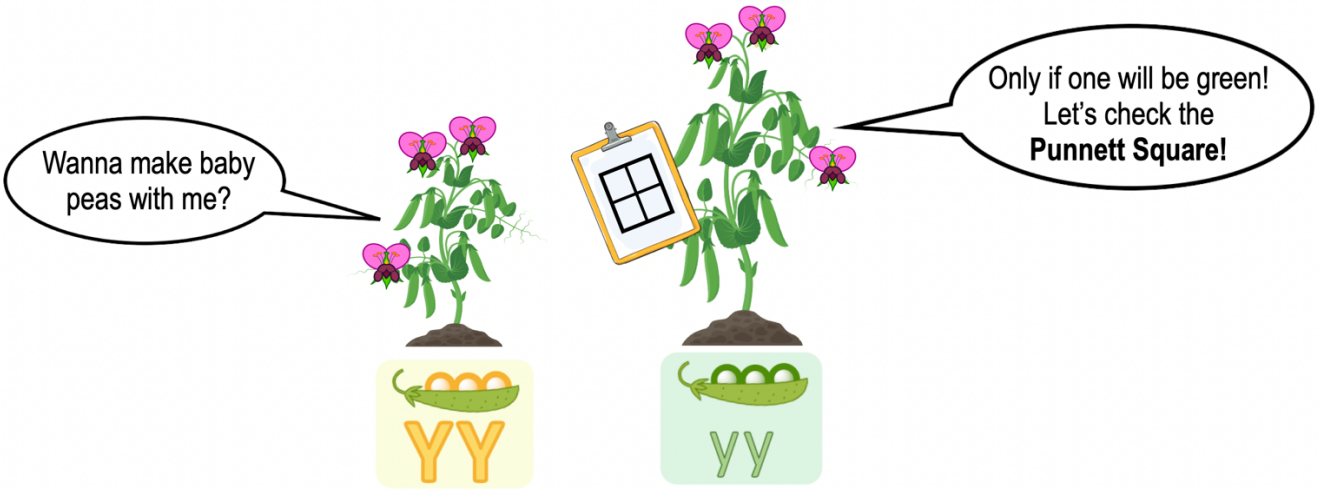
CONCEPT: PUNNETT SQUARES

●**Punnett Square**: a _____ showing the possible *genotypes* & *phenotypes* of offspring for a specific trait.

□ Punnett squares represent _____ (gamete *formation*) & _____ (gamete *fusion*).

□ Shows the _____ that offspring will inherit a trait.



How to Use Punnett Squares

Step 1: _____ alleles of parent *gametes* on top & left-side of square (represents *meiosis*).

Step 2: _____ in the Punnett square (represents *fertilization*).

Step 3: _____ the possible *genotypes* & *phenotypes* of offspring.

EXAMPLE: Complete the Punnett Square below.

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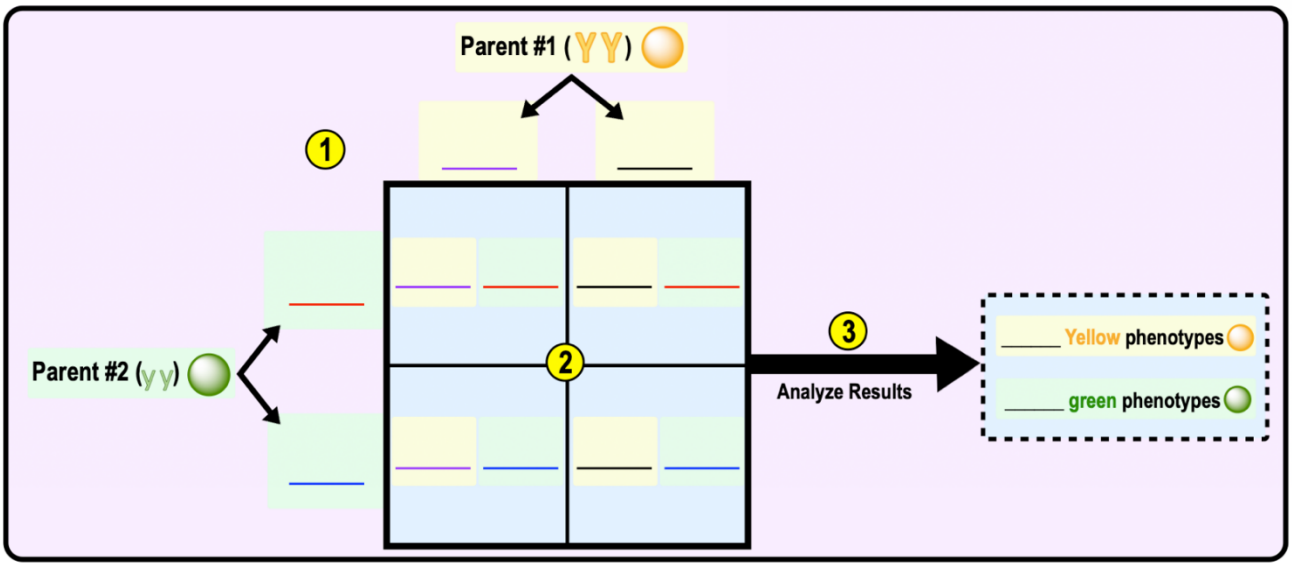

●Each square represents an _____ *probable* genotype & phenotype that *one single* offspring can inherit.

□ Each fertilization event producing an offspring is *independent* (1 fertilization event does _____ impact another).

CONCEPT: PUNNTT SQUARES

PRACTICE: Mendel found that green pea pod color (y) was recessive to yellow pea pod color (Y). For the cross Yy × yy, what percentage of offspring are expected to be yellow?

a) 100%.
b) 75%.
c) 50%.
d) 25%.

PRACTICE: A female dog with black fur (Ff) mates with a male dog that also has black fur (Ff). Determine the possible genotypes and phenotypes of their puppies using a Punnett Square. Black fur (F) is dominant to grey fur (f).

a) # of possible Genotypes:

FF: _____

Ff: _____

ff: _____

b) % of possible Phenotypes:

Black fur: _____

Grey fur: _____