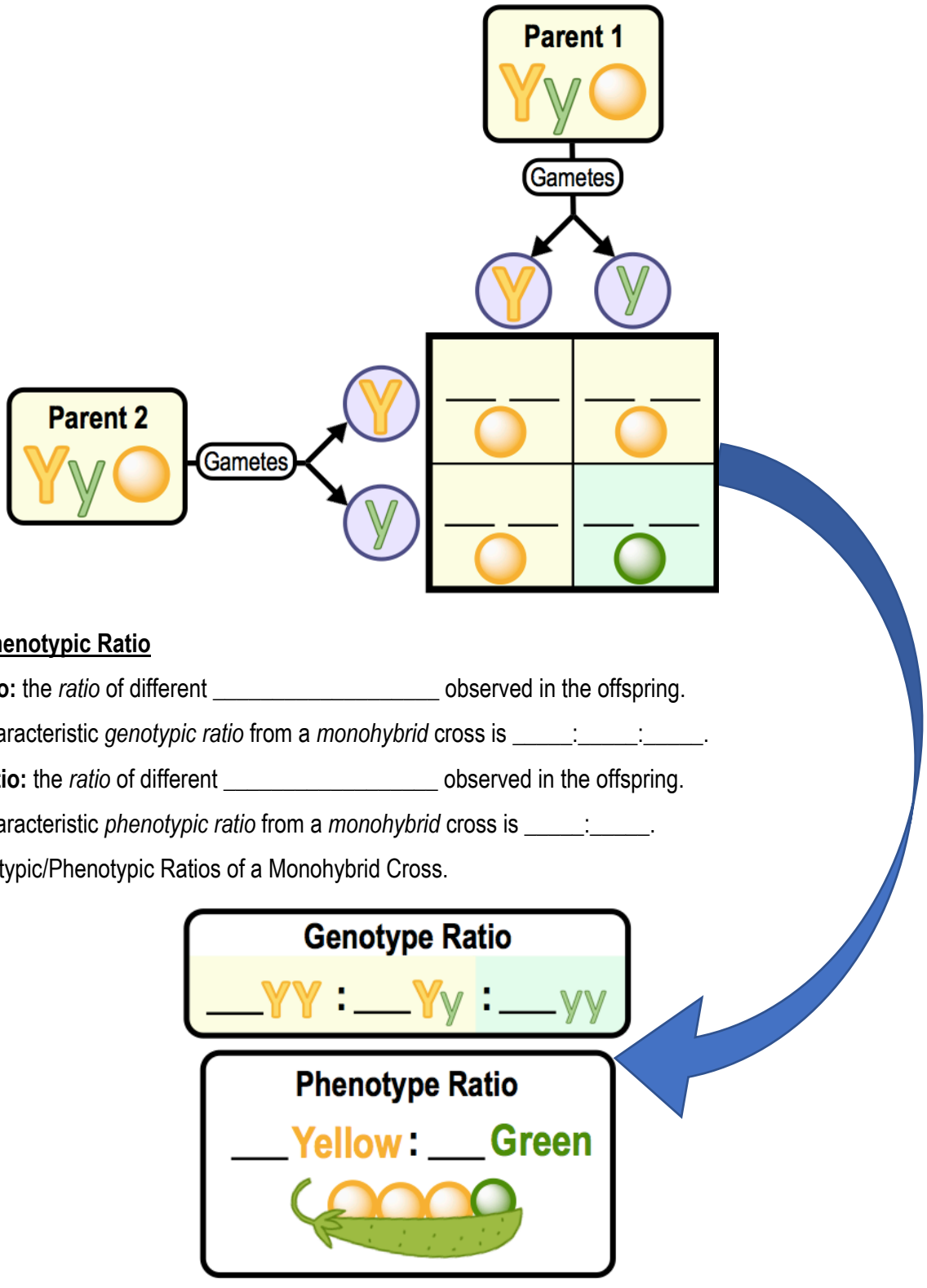
CONCEPT: MONOHYBRID CROSSES

●**Monohybrid Cross**: cross-fertilization between two _____ *organisms*.

□ *Recall:* _____*hybrids:* organisms that are *hetero*zygous for _____ specific gene.

EXAMPLE: Punnett Square of a Monohybrid Cross.



Genotypic vs. Phenotypic Ratio

●**Genotypic Ratio:** the *ratio* of different _____ observed in the offspring.

□ The characteristic *genotypic ratio* from a *monohybrid* cross is _____:_____:_____.

●**Phenotypic Ratio:** the *ratio* of different _____ observed in the offspring.

□ The characteristic *phenotypic ratio* from a *monohybrid* cross is _____:_____.

EXAMPLE: Genotypic/Phenotypic Ratios of a Monohybrid Cross.

CONCEPT: MONOHYBRID CROSSES

EXAMPLE: T is the dominant allele for plant height, resulting in tall plants. t is the recessive allele for plant height, resulting in short plants. A monohybrid cross of two heterozygous (Tt) parents results in offspring having a tall plant to short plant ratio of:

a) 1:2. b) 3:1. c) 2:1. D) 1:3.

PRACTICE: Which of the following is the genotypic ratio of offspring created from a cross of two heterozygous parents for a single gene?

a) 2:2 b) 3:1 c) 1:2:1 d) 1:3

PRACTICE: In a single gene cross between a homozygous dominant parent and a homozygous recessive parent, which generation is always completely heterozygous?

a) F1 generation.
b) F2 generation.
c) F3 generation.
d) P generation.

PRACTICE: Which of the following single gene crosses would always result in all offspring with the dominant phenotype?

a) tt x tt. b) Tt x Tt. c) TT x tt. d) Tt x tt.