





CONCEPT: GENOTYPE VS. PHENOTYPE

Dominant vs Recessive Alleles

- _____ (different versions of a specific gene) can be *dominant* or *recessive*.
 - _____ **Allele:** exerts its effects whenever present (symbol = _____ letter).
 - _____ **Allele:** has _____ effect if a *dominant allele* is present (symbol = _____-case letter).
 - The allele for _____ peas is *dominant* to the allele for _____ peas (the *recessive* allele).

EXAMPLE: Dominant vs. Recessive alleles.

DOMINANT	Recessive
  Yellow	  Green
Dominant allele _____ the effect of the recessive allele when present.	




PRACTICE: An allele that exerts its effects whenever it is present is:

- a) Recessive. b) Heterozygous. c) Dominant. d) Homozygous. e) Homologous.

Genotype & Phenotype

- **Genotype:** the genetic _____ of *alleles* in an individual (written as a *pair of letters*).
 - **Homozygous:** 2 _____ alleles for the same gene (① YY or ② yy).
 - **Heterozygous:** 2 _____ alleles for the same gene (③ Yy).
- **Phenotype:** the _____ expressed trait that results from the genotype (ex. yellow/green peas).

EXAMPLE: Genotype vs. Phenotype of Pea Plants.

Genotype		Phenotype
① _____zygous _____ominant	YY	 Yellow
② _____zygous _____ecessive	yy	 Green
③ _____zygous	Yy	 Yellow

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PRACTICE: If the two alleles for a particular gene are identical the gene pair is:

- a) Homozygous.
- b) Heterozygous.
- c) Recessive.
- d) Homologous.
- e) Dominant.
- f) Dissimilar.

PRACTICE: If an individual is homozygous for a particular trait:

- a) Each parent contributed a different allele for that trait.
- b) One parent contributed two different alleles for that trait.
- c) Each parent contributed the same allele for that trait.
- d) One parent contributed two copies of the same allele for that trait.

PRACTICE: Mendel's pea plants can have yellow peas or green peas. Mendel found the yellow pea color allele to be dominant over the green pea color allele. What does this mean?

- a) The yellow allele masks the effects of the green allele in an individual heterozygous for pea color.
- b) Both individuals who are heterozygous and homozygous dominant for pea color will have yellow peas.
- c) Only individuals who are homozygous recessive for pea color will have green peas.
- d) The green pea color allele can be found in some individuals but not expressed.
- e) All of the above.