
















Dominance

Mendel's principle of dominance states that some alleles are dominant and others are recessive. An organism with a dominant allele will show the dominant form of the trait. An organism will only express the recessive form of a trait when a dominant allele is not present.

In the space provided, fill in the genotype of the offspring. The first one has been done for you.

Dominant and Recessive Forms of Pea Plant Traits				
Trait	Parent Plants (P Generation)		Offspring (F ₁ Generation)	
Seed Color	Yellow YY 	X	Green yy 	Yellow Yy 
Seed Coat Color	White gg 	X	Gray GG 	Gray 
Pod Shape	Constricted ss 	X	Smooth SS 	Smooth 
Pod Color	Green CC 	X	Yellow cc 	Green 
Plant Height	 Tall TT	X	 Short tt	 Tall

Use the table to answer the questions. Circle the correct answer.

1. What is the dominant shape of a pea pod?

constricted smooth

2. What is the recessive color of a pea plant's seed coat?

white gray

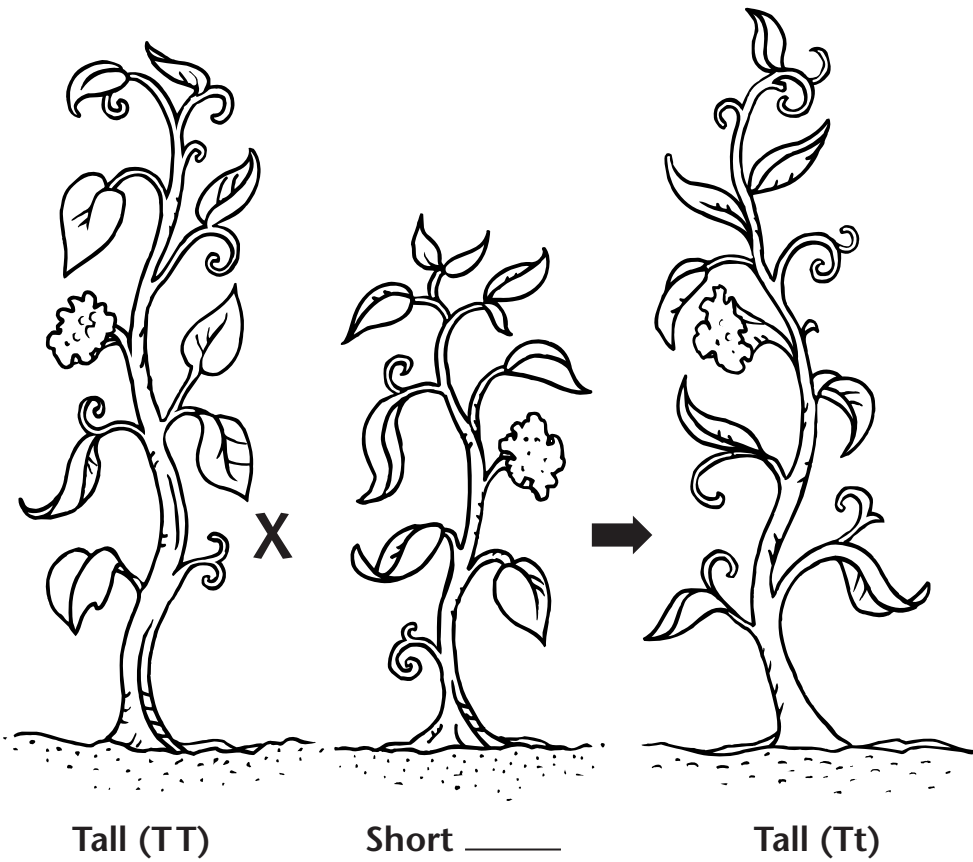
Homozygous or Heterozygous?

Homozygous organisms have two identical alleles for a particular trait. Heterozygous organisms have two different alleles for the same trait.

Color the homozygous recessive plant yellow. Color the homozygous dominant plant red. Color the heterozygous plant orange. In the space provided, fill in the missing genotype.

P Generation

F₁ Generation



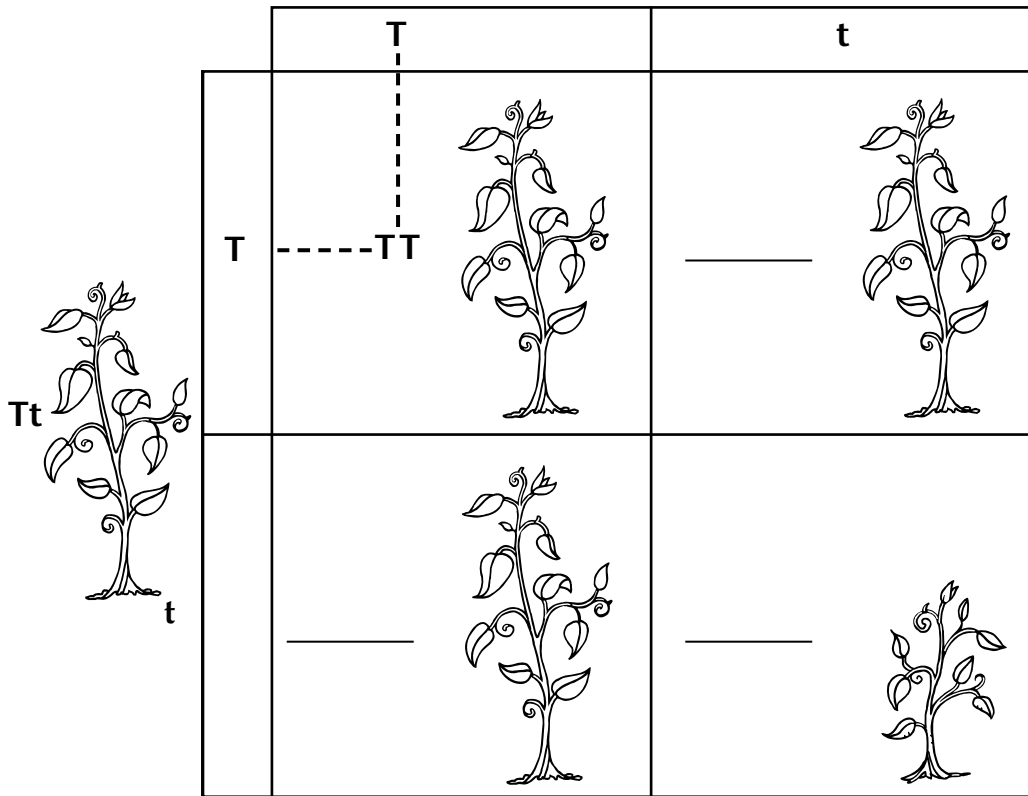
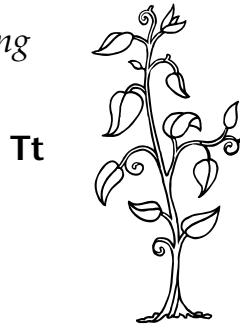
Use the diagram to answer the questions.

1. Does the tall offspring plant look like the tall parent plant? Explain.

2. Why did you color the offspring plant a different color than the tall parent plant?

F₂ Generation Punnett Square

In the space provided, fill in the missing genotypes as either Tt or tt. In this example, T = tall and t = short.



Use the Punnett square to answer the questions.

1. Write the phenotypes of the three genotypes shown above.

TT _____ tt _____

Tt _____

2. If two heterozygous plants create four offspring, how many do you predict would be tall? How many do you predict would be short?
