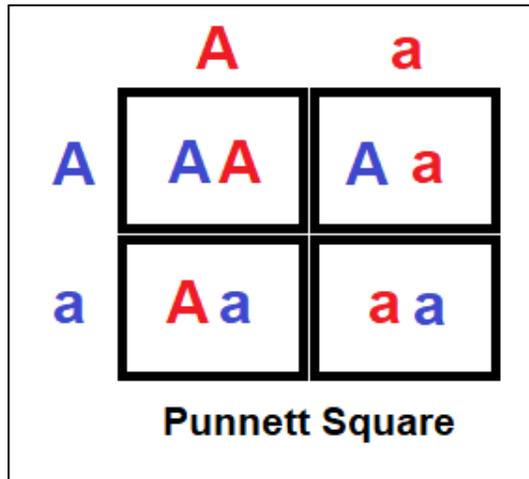


Monohybrid Cross Punnett Squares Guided Notes

Who is Reginald Punnett?

He is an English biologist and geneticist. In 1905, he devised a shorthand way of finding the expected proportions of possible genotypes in the offspring of a cross. This tool was called _____.



Punnett Squares

It is a graphical representation of the possible _____ of an offspring arising from a particular cross. In using this tool, the knowledge of the genetic composition of parents is required.

Important Terms to Remember

_____ are the different gene forms for the variation of trait of an organism. Traits can be classified into two – dominant and recessive. Dominant trait is the _____ and _____ trait of an organism. It masks the recessive form of a particular trait. Recessive trait, on the other hand, is the _____ trait of an organism. It is expressed only in _____ state.

_____ state refers to having identical/ the same alleles for a certain trait, while _____ refers to having unidentical/ different alleles for a certain trait.

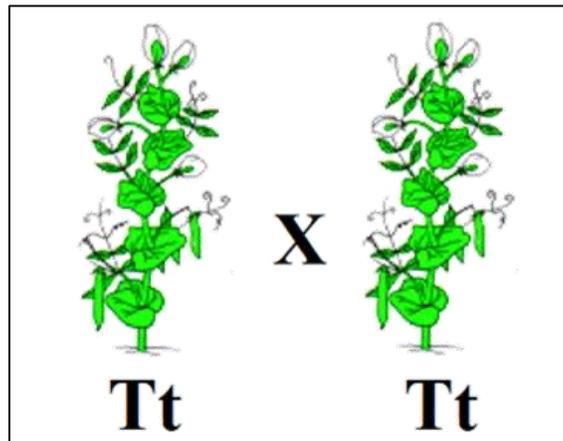
Lastly, _____ is the possibility or the likelihood of something to happen.

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Punnett Squares for Monohybrid Cross

This is used when dealing with two parents that differed only by a single trait. A Punnett square for monohybrid cross is _____ boxes wide and _____ boxes tall since each parent can produce _____ kinds of gamete for each trait.

Consider a cross between two tall pea plants from F₁ generation. Each has a genotype Tt.



How to set-up Punnett squares for monohybrid cross?

STEP 1: Draw a 2x2 Punnett Square.

STEP 2: Write the alleles of the first parent on the left side of the Punnett square.

T		
t		

Monohybrid Cross Punnett Squares Guided Notes

STEP 3: Write the alleles of the second parent above the Punnett square.

	T	t
T		
t		

STEP 4: Fill the squares with the alleles of the first parent.

	T	t
T	T	T
t	t	t

STEP 5: Fill the squares with the alleles of the second parent.

	T	t
T	TT	Tt
t	Tt	tt

Interpreting the Punnett Squares for Monohybrid Cross

Using the Punnett square, we can determine the possible _____ of the offspring.

	T	t
T	TT	
t		

25 % homozygous dominant

	T	t
T		Tt
t	Tt	

50 % heterozygous

	T	t
T		
t		tt

25 % homozygous recessive

Monohybrid Cross Punnett Squares Guided Notes

We can also determine the possible _____ of the offspring.

	T	t
T	TT	Tt
t	Tt	

75 % tall

	T	t
T		
t		tt

25 % short