

# Dihybrid Cross

The study of two genes is called a Dihybrid Cross (as opposed to monohybrid cross. Because of this the variety of gamete genotypes is more than a monohybrid cross. As a result of Mendel's Law of Segregation the genes of off-

spring are sorted independently and separate from other chromosomes. Complete the following parental cross. Use the tips to assist your progress.

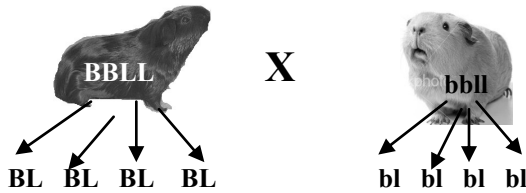


Observing hair colour and coat length.  
 Black hair = B  
 Long hair = L



Remember the parents are both homozygous. The capital letter stands for the dominant allele

Parents



Step 1: Identify all of the possible allele combinations. Because of meiosis there is only 4 types.

Gametes

	BL	BL	BL	BL
bl	BbLl	BbLl	BbLl	BbLl
bl	BbLl	BbLl	BbLl	BbLl
bl	BbLl	BbLl	BbLl	BbLl
bl	BbLl	BbLl	BbLl	BbLl

Step 2: Add the gamete alleles to the punnett square. Complete the punnett square.

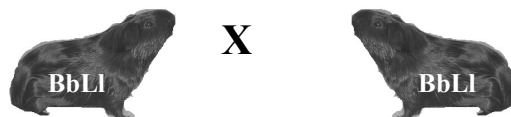
Step 3: Identify the phenotypes of the F1 generation.

Offspring (F1)

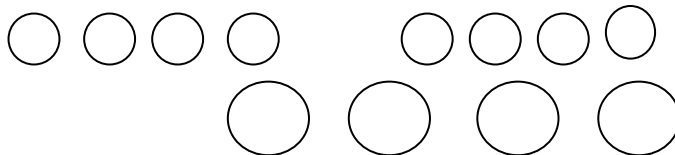


## F1 Dihybrid Cross

Parents



Gametes



Offspring



1. What does F1 stand for?
2. Are the offspring homozygous or heterozygous?
3. What is the genotype ratio?
4. The crossing of the F1 generation produces what generation?
5. List the genotypes ratio of this next generation. (F1 x F1)

# Cross 2.

Parents

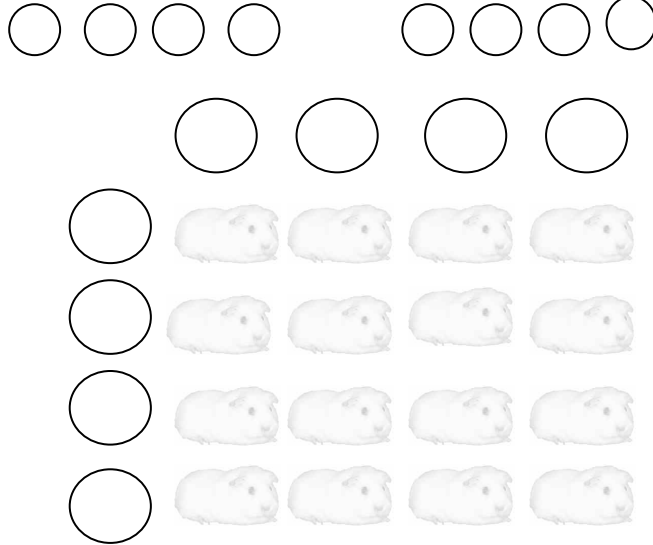


X



1. What is the phenotype of each parent guinea pig?

Gametes



2. Determine the genotype of each animal (write into the punnett square).

3. What is the genotype ratio of the offspring?

4. What is the phenotype ratio of the offspring?

Offspring (F1)

# Cross 3.

Parents

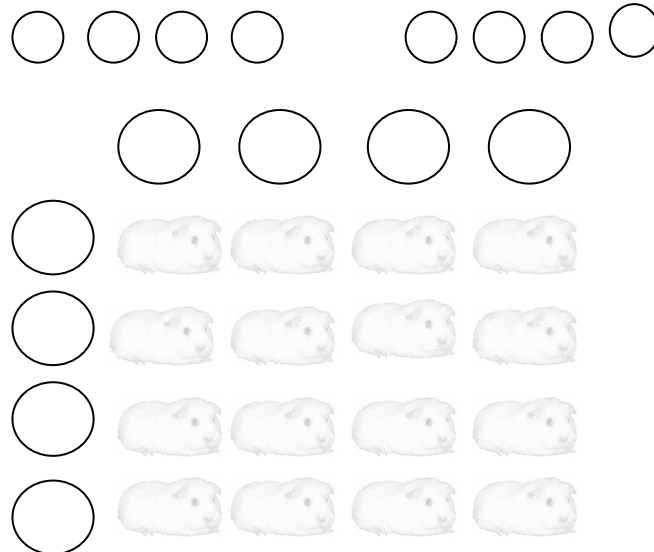


X



1. What is the phenotype of each parent guinea pig?

Gametes



2. Determine the genotype of each animal (write into the punnett square).

3. What is the genotype ratio of the offspring?

4. What is the phenotype ratio of the offspring?

Offspring (F1)