Name:_____ Date: _____

Genetic Crosses that Involve 2 Traits - Floppy Eared Bunnies

In rabbits, black hair is dominant to brown hair. Also in rabbits, long straight ears are dominant to floppy ears.

These letters represent the genotypes and phenotypes of the rabbits:

BB = black nose	EE = long ears
Bb = black nose	Ee = long ears
bb = pink nose	ee = floppy ears

1. A male rabbit with the genotype **BBee** is crossed with a female rabbit with the genotype **bbEe** The square is set up below. Fill it out and determine the phenotypes and proportions in the offspring.

	Be	Be	Be	Be
bE				
be				
bE				
be				

How many out of 16 have:

black noses and long ears? _____

black noses and floppy ears? _____

pink noses and long ears? _____

pink noses and floppy ears? _____

2. Show the cross: BbEe x bbEe

How many out of 16 have:

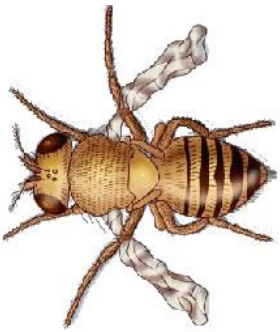
black noses and long ears? _____

black noses and floppy ears? _____

pink noses and long ears? _____

pink noses and floppy ears? _____

3. Fruit flies are organisms commonly used in genetic studies. They reproduce quickly and have several traits that can be measured. One trait is the vestigial wing trait, which is recessive. Most flies have red eyes, but the sepia eye trait is recessive. The image shows a mutant double recessive fly (ggee).



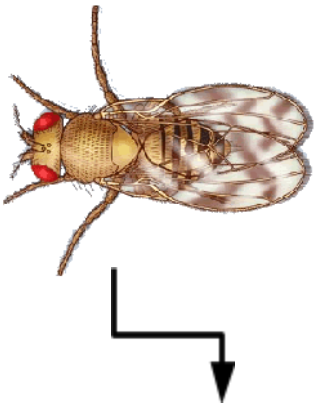
A fly that is heterozygous for both traits (GgEe) is crossed with one that has vestigial wings and sepia eyes (ggee). Set up a Punnett square and list the phenotypic ratio of the offspring.

How many are normal wings, red eyes? _____

How many are normal wings, sepia eyes? _____

How many are vestigial wings, red eyes? ____

How many are vestigial wings, sepia eyes? _____



4. Show a dihybrid cross for fruit flies. GgEe x GgEe. Be careful when counting the number for each phenotype, it is easy to make a mistake. Write the phenotype ratios below.
