

Monohybrid Mice!



Directions: Work each problem showing your work. For each cross, give the genotypes and phenotypes of the offspring and the probability of getting each. Answer the questions that accompany each problem.

What you need to know about the mice: In laboratory mice, gray (G) is dominant over albino (g).

I. Cross a female Gg with a male gg.



Genotypes	Phenotypes

- _____ 1 What is the probability of getting gray offspring?
- _____ 2 What is the probability of getting albino offspring?
- _____ 3 How many possible genotypes are there among the offspring?
- _____ 4 How many possible phenotypes are there among the offspring?
- _____ 5 What is the probability of getting heterozygous offspring?
- _____ 6 What is the probability of getting homozygous offspring?
- _____ 7 What color is the female?
- _____ 8 What color is the male?



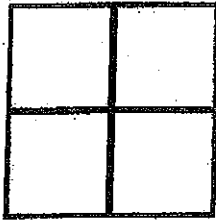
II. Cross a homozygous gray female with a heterozygous male.

Genotypes	Phenotypes

- _____ 1 What is the probability of getting gray offspring?
- _____ 2 What is the probability of getting albino offspring?
- _____ 3 How many possible genotypes are there among the offspring?
- _____ 4 How many possible phenotypes are there among the offspring?
- _____ 5 What is the probability of getting heterozygous offspring?
- _____ 6 What is the probability of getting homozygous offspring?
- _____ 7 What is the genotype of the female?
- _____ 8 What color is the male?



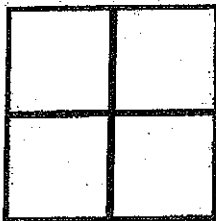
III. Cross a gray female, whose father was albino, with a heterozygous male.



Genotypes	Phenotypes

- _____ 1 What is the probability of getting gray offspring?
- _____ 2 What is the probability of getting albino offspring?
- _____ 3 How many possible genotypes are there among the offspring?
- _____ 4 How many possible phenotypes are there among the offspring?
- _____ 5 What is the probability of getting heterozygous offspring?
- _____ 6 What is the probability of getting homozygous offspring?
- _____ 7 What is the genotype of the female? How do you know?
- _____ 8 What is the genotype of the male? How do you know?

IV. Cross an albino female, whose father was gray, with a gray male, whose mother was albino.



Genotypes	Phenotypes

- _____ 1 What is the probability of getting gray offspring?
- _____ 2 What is the probability of getting albino offspring?
- _____ 3 How many possible genotypes are there among the offspring?
- _____ 4 How many possible phenotypes are there among the offspring?
- _____ 5 What is the probability of getting heterozygous offspring?
- _____ 6 What is the probability of getting homozygous offspring?
- _____ 7 What was the genotype of the father of the albino female?

