

Incomplete Dominance

Exercises

In each exercise draw a Punnett square, and write the phenotype ratio in the space provided.

1. In Japanese four-o'clock, predict the phenotype ratio of a cross between:

a. A red plant and a white plant

b. A white plant and a pink plant

c. A red plant and a pink plant

d. Two pink plants

2. In some cats the gene for tail length shows incomplete dominance. Cats with long tails and those with no tails are homozygous for the respective alleles. Cats with one long-tail allele and one no-tail allele have short tails. Predict the phenotype ratio of a cross between:

a. A long-tail cat and a cat with no tail

b. A long-tail cat and a short-tail cat

c. A short-tail cat and a cat with no tail

d. Two short-tail cats

Multiple Alleles and CoDominance

EXERCISES

For each exercise draw the Punnett Square when appropriate and answer the question in the spaces provided.

1. A woman homozygous for type B blood marries a man who is heterozygous type A. What will be the possible genotypes and phenotypes of their children?

2. A man with type O blood marries a woman with type AB blood. What will be the possible genotypes and phenotypes of their children?

3. A type B woman whose mother was type O marries a type O man. What will be the possible genotypes and phenotypes of their children?

4. A type A woman whose father was type B marries a type B man whose mother was type A. What will be the possible genotypes and phenotypes of their children?

5. What is the probability that a couple whose blood types are AB and O will have a type A child?

6. A couple has a child with type A blood. If one parent is type O, what are the possible genotypes and phenotype of their children?
