

Biology: Incomplete & Codominance

Fill out the Punnett Squares and answer the following questions.

Incomplete Dominance:

1) Cross a homozygous red (RR) carnation and a heterozygous pink (RW) carnation below.

a. List all the genotypes. _____

b. List all the phenotypes. _____

What is the probability of getting:

c. Heterozygous flowers? _____

d. Red flowers? _____

e. The same phenotype as one of the parents? _____

2) With flower colors, how could one create all three colors at a time (red, pink, white)? Prove your answer with a Punnett Square. (This is not a trick question. It can be done.)

a. List the genotypes. _____

b. List the phenotypes. _____

What is the probability of getting:

c. White flowers? _____

d. Homozygous dominant flowers? _____

e. Heterozygous flowers? _____

Codominant Blood Types: There are 3 alleles for blood (A, B, O). A and B are both dominant, and only O is recessive. Using this information, complete the Punnett squares below.

3) Jessica has homozygous type A blood and Jeff has type AB blood. Complete the Punnett Square.

a. List the genotypes. _____

b. List the phenotypes. _____

What is the probability of getting:

c. Type B blood? _____

d. Homozygous blood? _____

e. The same phenotype as Jessica? _____

4) Manuel has heterozygous type B blood and Naomi has type O blood. Complete the Punnett Square.

a. List the genotypes. _____

b. List the phenotypes. _____

What is the probability of getting:

c. Type O blood? _____

d. Heterozygous blood? _____

e. Homozygous recessive blood? _____

Name: _____ Date: _____ Period: _____

Biology: Codominance Blood Typing

Codominant Blood Types: There are 3 alleles for blood (A, B, O). A and B are both dominant, and only O is recessive. Using this information, complete the Punnett squares below.

1. Suppose a father of blood group A and a mother of blood group B have a child of group O. What blood groups are possible in their subsequent children? Draw a pedigree that includes every person mentioned in the story. Include a Punnett square of the parents.

Draw your Punnett square below

Draw your pedigree below

- a. What blood groups are possible in their subsequent children?
- b. What is the probability of having a blood group AB child?

2. Suppose a father of group B and a mother of group O have a child of group O. Draw a pedigree that includes every person mentioned in the story. Include a Punnett square of the parents.

Draw your Punnett square below

Draw your pedigree below

- a. What are the chances that their next child will be group O? _____
- b. Group B? _____
- c. Group A? _____
- d. Group AB? _____

3. A man with type A blood and woman with recessive blood, produce a daughter with the same blood type as the father and a son with the same blood type as the mother. The son grows up and marries a woman with homozygous type B blood. They have 3 children. Draw a pedigree that includes every person mentioned in the story. Include a Punnett square of the son and his wife

Draw your Punnett square below

Draw your pedigree below



- a. What is the probability of the son and his wife producing a type O child?
- b. Type AB?
4. Oh no! There was a fire in the children's wing of a hospital and among the chaos and confusion of evacuating the babies, the name tags of the 4 children have been lost. Can you help identify who the 4 newborn boys belong to? The blood types of the 4 sets of parents are seen in the table below.

	Mr.	Mrs.
Brown family	AB	O
Morales family	B	B
Haskell family	A	B
Turcio family	O	O

Baby 1 has type AB blood. Baby 2 has type B blood. Baby 3 has type O blood. Baby 4 has type A blood. Set up a Punnett square for each couple to help you solve this problem.