

Name: _____ Date: _____ Period: _____

Pedigree Chart Analysis Lab

Objective: Analyze the information provided and create a pedigree charts for each situation.

Vocabulary Reminders:

Allele - _____

Genotype - _____

Phenotype - _____

Heterozygous - _____

Homozygous - _____

Dominant - _____

Recessive - _____

Pedigree Chart Key:



Male:



Male with disease/trait



Male Carrier of disease/trait



Female



Female with disease/trait



Female Carrier of disease/trait

Directions:

Create the pedigree chart by drawing the proper shapes and using the story as a guide. Be sure to follow the steps below for each story.

1. Read the story carefully.
2. RE-Read the story carefully, create a pedigree chart using the shapes above.
3. Once you are finished with drawing, refer back to the story. Follow the examples given to you on your chart. Is your chart accurate?
4. Label your pedigree chart with the appropriate Letter of the story you chose to do.
5. When you have finished step 4, choose another story and repeat steps 1 to 4.

Sample Question: A man with a homozygous genotype for a disease marries a woman who is heterozygous for the disease. They have two children, a boy and a girl. The girl has the disease and the boy is a carrier. The girl one day marries a man who does not have the disease, but their two girls each have the disease. What does the family pedigree chart look like? What is the genotype of the husband?

A

A brother and sister both suffer from Cystic Fibrosis. They know that their mom had Cystic Fibrosis and that their father did not. What does the families' pedigree chart look like? If they had another brother, what could his genotype be like?

B

The Grandparents did not have green eyes. One of their children did. The father does not have green eyes and no one in his family ever has. If he has 2 sons, and one has green eyes, what does the pedigree chart look like? Who must have been a carrier for the children to have green eyes?

C

The father is not a carrier for the disease. The mother does not have the disease, but is a carrier. They have two children a boy and a girl. The girl is heterozygous for the disease. She marries a man who is also heterozygous. What does their chart look like? If they have a little girl, what could her genotype be like?

D

The Great Grand parents never had the disease. The Grandparents did not either. The grandparents had 2 daughters and one of them had the disease. That daughter had a daughter and two sons. The daughter did not carry the disease, one of the sons had the disease and the other carried it. What does their chart look like? What was the father's genotype?

E

A Woman is heterozygous and her husband is homozygous for red hair. They have a son. The boy is heterozygous for red hair. The son marries a woman who does not know if she has a red hair allele. They have a boy and a girl who are tested for the red hair allele. The girl does not have the allele and the boy is heterozygous red hair. What is the wife's genotype for red hair?

F

The Grand parent generation both had the disease. They had two children (a son and a daughter). The daughter married a man and the two had two children (a boy and a girl). The girl married a man and their only son did not carry the gene. The Son from the parent generation married a woman and both of their daughters carried the disease. What did their family charts look like? What are the genotypes of the (introduced) husband and wife of the parent generation?