

Name _____
Date _____
Period ____

Lab Activity Report Mendelian Genetics – Pedigree

Background: Pedigrees are used when studying genetics in order to examine familial trait over several generations.

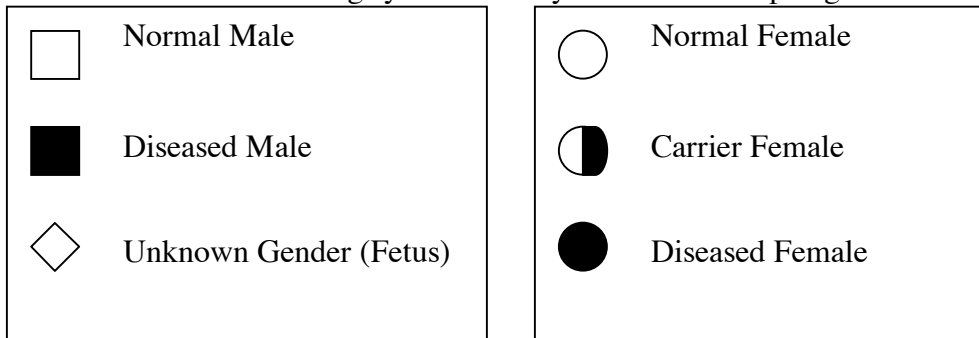
Purpose: In this activity, students will use pedigrees to determine genotypes from the phenotypes of individuals. Students will use their understanding of pedigrees to determine if the gene of interest is dominant or recessive.

Biology Content Standard:

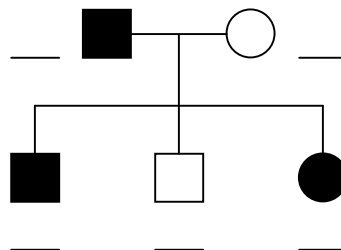
Genetics 3 c Students know how to predict the probable mode of inheritance from a pedigree diagram showing phenotypes.

Procedure:

1. Consider the following symbols. They are used in the pedigrees.



2. Determine the genotypes of the people in the pedigree below. This is a pedigree for Huntington's Disease, which is caused by a dominant gene. (Write the genotypes on the lines provided.)
3. What is the genotype for someone who is **homozygous** for **Huntington's disease**? ____
4. What is the genotype for someone who is **heterozygous** for **Huntington's disease**? ____
5. What is the genotype for someone who is **homozygous** for **normal**? ____



13. Does someone have to have the disease in every generation for a recessive disorder? Explain, using an example.

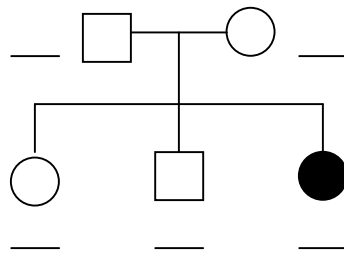
14. What is always the genotype for a shaded box or circle? ____

15. What is always the genotype for a half-shaded box or circle? ____

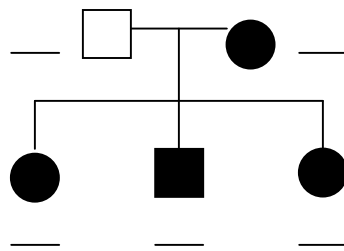
16. Will a carrier always be half-shaded? ____

17. What might be the genotype(s) for an un-shaded box or circle? ____ and ____

Conclusions:



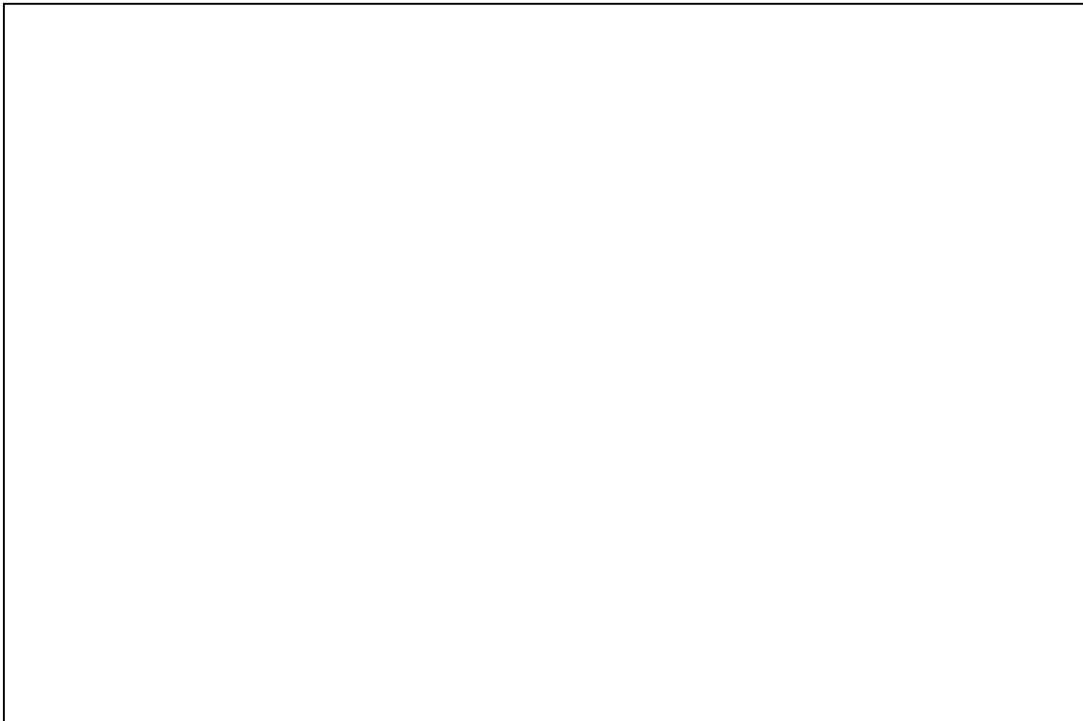
1. Look at the above pedigree. What is the most likely method of transmitting this disorder? Why?



2. Look at the above pedigree. What is the most likely method of transmitting this disorder? Why?

3. Can you always determine if a disorder or gene is transmitted by a dominant or recessive gene? Explain.

4. Draw a pedigree in the space provided below for your family, using eye color. Remember that brown eyes are dominant to blue eyes.
- Shade in the brown eyes.
 - Write all known genotypes next to or under each person.
 - Use B_ for all Brown-eyed people that you cannot determine the complete genotype for.

A large empty rectangular box with a black border, intended for drawing a pedigree chart. The box is currently blank.