

### Human Genetics:

- Scientists rarely use Punnett Squares to help them solve genetics problems in human genetics.
- Humans cannot be \_\_\_\_\_ in a lab to see what \_\_\_\_\_ they produce.
- Scientists often get data from a family that is "affected" by a possible genetic trait and try to figure out how the trait is \_\_\_\_\_.
- \_\_\_\_\_ can use pedigree information to predict the likelihood that a couple will have a child who is affected by a family trait or genetic disorder.

### Autosomal Inheritance:

An \_\_\_\_\_ trait is a trait that is caused by an allele in a gene on an \_\_\_\_\_, a chromosome that is \_\_\_\_\_ the X or Y chromosomes.

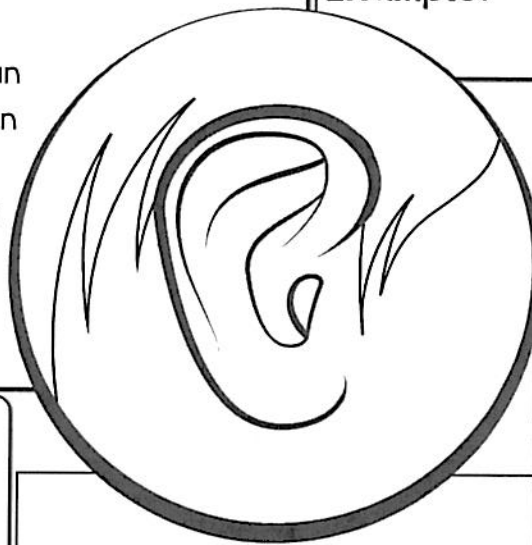
### Autosomal Trait Example:

#### Dry Earwax

- Autosomal recessive trait
- Allele: e
- Genotype of affected person: \_\_\_\_\_

#### Wet Earwax

- Autosomal dominant trait
- Allele: E
- Genotype of affected person: \_\_\_\_\_

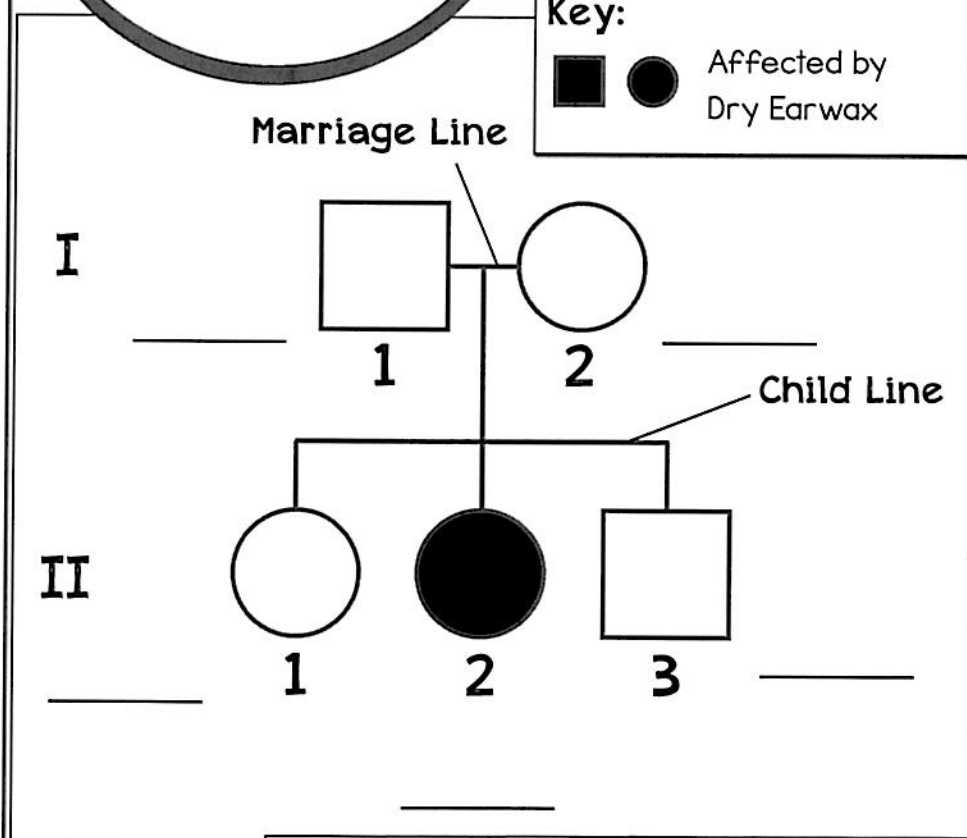


### Pedigree Info:

- A \_\_\_\_\_ connects parents in a family
- A \_\_\_\_\_ below the parents shows sibling in the order of their birth.
- Male individuals are \_\_\_\_\_.
- Female individuals are \_\_\_\_\_.
- A key is used to show what type of shading represents the trait in question.
- Generations are labelled with roman numerals and individuals are labeled with numbers.

### Key:

- ● Affected by Dry Earwax

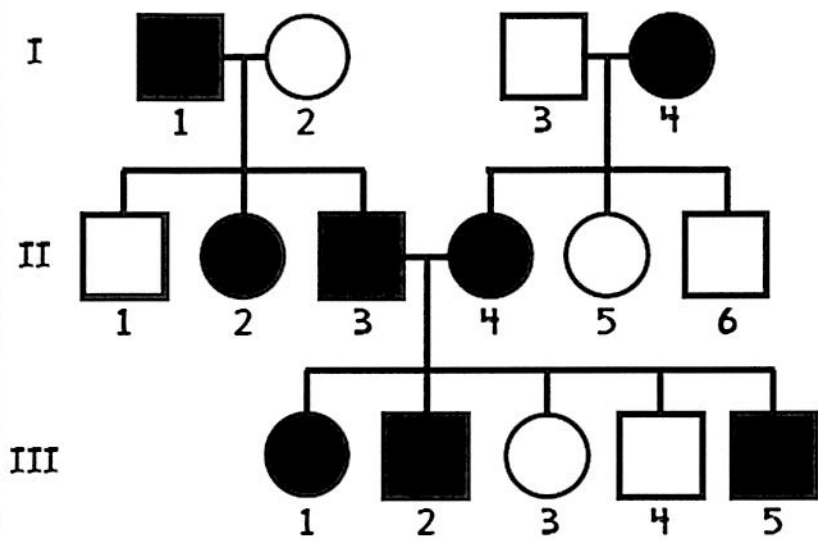


Name: \_\_\_\_\_

# Pedigree Basics

**Sample Pedigree Problem #1**

Unattached earlobes is an autosomal dominant trait, attached earlobes are recessive. On the right, write the genotypes for each individual in the family. Use E for the unattached earlobe allele and e for the attached earlobe allele. How likely is it that II-3 and II-4's next child will have unattached earlobes?

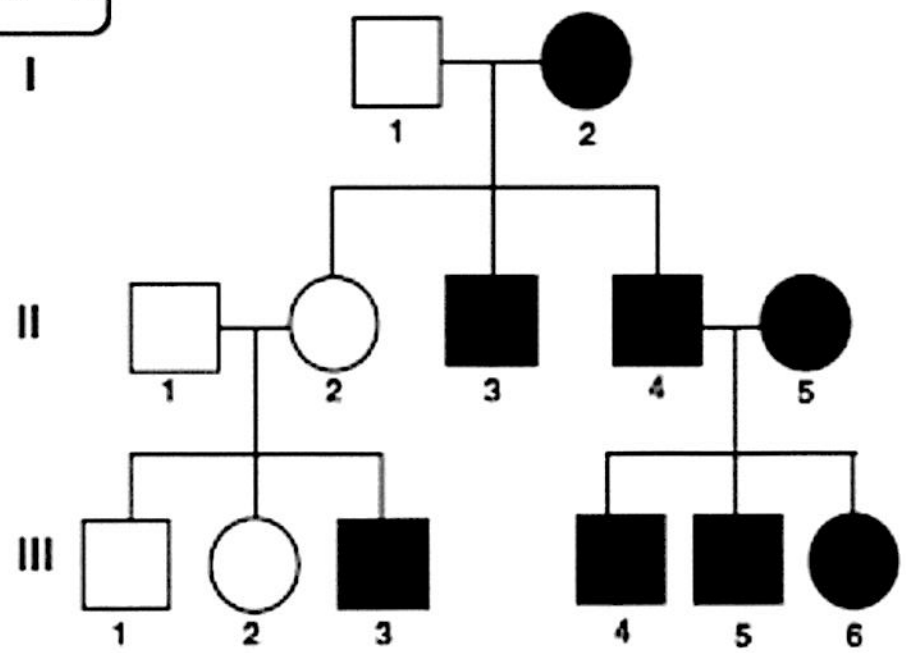


**Key:**  
   
 Unattached earlobes

- I-1: \_\_\_\_\_
- I-2: \_\_\_\_\_
- I-3: \_\_\_\_\_
- I-4: \_\_\_\_\_
- II-1: \_\_\_\_\_
- II-2: \_\_\_\_\_
- II-3: \_\_\_\_\_
- II-4: \_\_\_\_\_
- II-5: \_\_\_\_\_
- II-6: \_\_\_\_\_
- III-1: \_\_\_\_\_
- III-2: \_\_\_\_\_
- III-3: \_\_\_\_\_
- III-4: \_\_\_\_\_
- III-5: \_\_\_\_\_

**Sample Pedigree Problem #2**

The family below has a sex-linked recessive x-chromosome trait called Muscular dystrophy that runs through their family. Identify the genotypes for each member within the family.



**Key:**   Muscular Dystrophy

- I-1: \_\_\_\_\_
- I-2: \_\_\_\_\_
- II-1: \_\_\_\_\_
- II-2: \_\_\_\_\_
- II-3: \_\_\_\_\_
- II-4: \_\_\_\_\_
- II-5: \_\_\_\_\_
- III-1: \_\_\_\_\_
- III-2: \_\_\_\_\_
- III-3: \_\_\_\_\_
- III-4: \_\_\_\_\_
- III-5: \_\_\_\_\_
- III-6: \_\_\_\_\_