

Human Mendelian Traits

Mendelian Traits are those traits which follow Mendel's rules of only 2 possible versions of a gene (1 dominant, 1 recessive). There are only a few examples of this in humans.

1. Use the chart below to determine your phenotype (observable characteristic) and possible genotype(s) (a pair or pairs of alleles). Since you cannot do a genetic test right now, if you have the dominant phenotype, you should include both the homozygous and heterozygous genotypes—see the example for Advanced Sleep Phase Syndrome in the first row.

Trait	Possible Alleles	Your Phenotype	Your Genotype(s)
Advanced Sleep Phase Syndrome	Wakes up very early (E) Wakes up at normal time (e)	<i>Ex., wakes up very early</i>	<i>EE (homozygous) or Ee (heterozygous)</i>
Achoo Syndrome	Sneezes in the sun (A) Doesn't sneeze in the sun (a)		
Ear wax (wet/dry)	Wet (W) Dry (w)		

2. Did you have mostly dominant or recessive traits? _____

3. Compare your findings with other students.

a. For which trait were most students dominant?

b. For which trait were most students recessive?

4. First complete the Punnett Squares below using your own genotype for each trait. If you have a dominant trait, choose to use either the heterozygous or homozygous genotype. The other person's genotype is provided. After completing the Punnett Square, identify possible phenotypes of offspring and the probability of each phenotype in percentage.

a) Achoo Syndrome genotypes: Yours _____ & the other person's Aa.

List Possible Phenotypes **%(Probability of Inheritance)**

b) Ear wax genotypes: Yours _____ & the other person's ww.

List Possible Phenotypes **%(Probability of Inheritance)**
