

Genotype and Phenotype

Name _____

1. For each genotype, indicate whether it is heterozygous (**He**) or homozygous (**Ho**)

AA _____ Bb _____ Cc _____ DD _____ Ee _____ ff _____ Gg _____ HH _____

Ii _____ Jj _____ kk _____ LL _____ Mm _____ nn _____ oo _____ Pp _____

2. For each of the **genotypes** below determine what **phenotypes** would be possible.

(Purple flowers are dominant to white flowers).

PP _____ Pp _____ pp _____

(Brown eyes are dominant to blue eyes)

BB _____ Bb _____ bb _____

(Bobtails in cats are recessive).

TT _____ Tt _____ tt _____

(Round seeds are dominant to wrinkled seeds)

RR _____ Rr _____ rr _____

3. For each **phenotype** below, list the **genotype(s)** (remember to use the letter of the dominant trait)

Straight hair is dominant to curly.

Pointed heads are dominant to round heads.

_____ straight _____ curly _____ pointed _____ round

Genotype again is the alleles that an organism has, and phenotype is the appearance or behavior that the organism exhibits. According to Mendel's law of independent assortment though, different genes can be inherited independently from each other. This can give us a wide variety of different phenotypes! In the chart below, look at the genotypes and give the corresponding phenotype, or look at the phenotype and give a corresponding genotype. Some boxes will deal with multiple traits at the same time.

A= angry B= big C= cool D= dense E= energetic
 a = happy b= small c= hot d= intelligent e= tired

GENOTYPE	PHENOTYPE	GENOTYPE	PHENOTYPE
Aa		Bbcc	
BB		eebbcc	
cc			Happy, cool, intelligent
EE			Dense, hot, angry
	Energetic	ddEeCC	
	Happy	aaCcdd	
aaEE			Small, hot, tired, intelligent
	Small, dense		Angry, intelligent, energetic, cool
	Happy, hot	aaBbCCdd	
Eedd			Big, cool, dense, angry