

Name _____

Date _____

Genetics worksheet part 1

Understanding **Phenotype** and **Genotype**, you must understand homozygous and heterozygous as well as dominant and recessive.

Use the following traits to determine Phenotype and Genotype.

<u>Trait</u>	<u>Dominant</u>	<u>Allele</u>	<u>Recessive</u>	<u>Allele</u>
Ear Lobes	Free Ear Lobes	E	Attached Ear Lobes	e
Hair Type	Curly	C	Straight	c
Dimples	Dimples	D	No Dimples	d
Thumb	Straight Thumb	T	Curved Thumb	t
Eyelashes	Long Eyelashes	L	Short Eyelashes	l

1. Write out the GENOTYPE(S) for these people:

- a. Heterozygous long eyelashes _____
- b. Homozygous straight thumb _____
- c. Dimples _____
- d. Straight hair _____
- e. Hybrid free ear lobes _____
- f. Homozygous curved thumb _____
- g. Hybrid curly hair _____
- h. Straight thumb _____

2. Write out the PHENOTYPES for these people

- a. Ee _____
- b. cc _____
- c. DD _____
- d. Dd _____
- e. Tt _____
- f. ll _____
- g. Ll _____
- h. CC _____
- i. LL _____
- j. Cc _____

Genetics worksheet part 2

Genetics and predictions using **Punnett squares**.

Punnett Square—A tool for making predictions about genetics.

For the following Punnett squares the following will hold true.

Dominant allele is **Y** = yellow pea, and recessive allele is **y** = green pea

Define Genotype _____

Define Phenotype _____

Problem 1

	Y	y
Y		
y		

Number of yellow peas? _____

Number of green peas? _____

Genotypic ratio _____

Phenotypic ratio _____

Problem 2

	Y	y
y		
y		

Number of yellow peas? _____

Number of green peas? _____

Genotypic ratio _____

Phenotypic ratio _____

Problem 3

	Y	Y
y		
y		

Number of yellow peas? _____

Number of green peas? _____

Genotypic ratio _____

Phenotypic ratio _____