

Genetics Pop Quiz

MENDELIAN SITUATIONS

Directions: Fill in the blank for each question.

1. A segment of DNA that codes for a specific trait is called a GENE.
2. Genes come in two forms, called ALLELES, where one is dominant and the other is recessive.
3. The genetic allele pair is called a person's GENOTYPE, where the outward expression of that allele pair is called the PHENOTYPE.
4. When two dominant alleles are paired together, the dominant trait is expressed. This is called Mendel's PRINCIPLE of DOMINANCE.
5. *Describe* what the letters of a heterozygous genotype looks like.

One capital & one lower case letter (Aa)

6. Fill in the blanks of the table below according to what we learned from Mendel's experiments.

	GENOTYPES <small>(homozygous dominant/heterozygous/homozygous recessive)</small>	PHENOTYPES <small>(dominant over recessive)</small>
Plant Height	<u>TT, Tt, tt</u>	<u>Tall over Dwarf</u>
Seed Color	<u>YY, Yy, yy</u>	<u>Yellow over Green</u>
Flower Color	<u>PP, Pp, pp</u>	<u>Purple over White</u>
Seed Shape*	<u>RR, Rr, rr</u>	<u>Round over Wrinkled</u>

7. Cross a pea plant that is heterozygous for seed shape* with another pea plant that is homozygous recessive for seed shape. PSYW for full credit.

a.) What is the ratio of round to wrinkled seeds?

P_1 P_2
Rr x rr

|:|

	<u>r</u>	<u>r</u>
<u>R</u>	<u>Rr</u>	<u>Rr</u>
<u>r</u>	<u>rr</u>	<u>rr</u>

F₁