

Name _____
Date _____

Group _____
Block _____

Simple Genetics Practice Problems

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 the phenotype.

Purple flowers are dominant to white flowers

PP _____
Pp _____
pp _____

Brown eyes are dominant to blue eyes

BB _____
Bb _____
bb _____

Round seeds are dominant to wrinkled

RR _____
Rr _____
rr _____

Bobtails are recessive (long tails dominant)

TT _____
Tt _____
tt _____

3. For each phenotype, list the genotypes. (Remember to use the letter of the dominant trait)

Straight hair is dominant to curly.

_____ straight
_____ straight
_____ curly

Pointed heads are dominant to round heads.

_____ pointed
_____ pointed
_____ round

4. Set up the square for each of the crosses listed below. The trait being studied is round seeds (dominant) and wrinkled seeds (recessive)

Rr x rr

What percentage of the offspring will be round?

Rr x Rr

What percentage of the offspring will be round?

RR x Rr

What percentage of the offspring will be round?

Practice with Crosses. **Show all work!**

<p>5. A TT (tall) plant is crossed with a tt (short plant). What percentage of the offspring will be tall? _____</p>	<p>5.</p>
<p>6. A Tt plant is crossed with a Tt plant. What percentage of the offspring will be short? _____</p>	<p>6.</p>
<p>7. A heterozygous round seeded plant (Rr) is crossed with a homozygous round seeded plant (RR). What percentage of the offspring will be homozygous (RR)? _____</p>	<p>7.</p>
<p>8. A homozygous round seeded plant is crossed with a homozygous wrinkled seeded plant. What are the genotypes of the parents? _____ x _____ What percentage of the offspring will also be homozygous? _____</p>	<p>8.</p>
<p>9. In pea plants purple flowers are dominant to white flowers. If two white flowered plants are cross, what percentage of their offspring will be white flowered? _____</p>	<p>9.</p>
<p>10. A white flowered plant is crossed with a plant that is heterozygous for the trait. What percentage of the offspring will have purple flowers? _____</p>	<p>10.</p>
<p>11. Two plants, both heterozygous for the gene that controls flower color are crossed. What percentage of their offspring will have purple flowers? _____ What percentage will have white flowers? _____</p>	<p>11.</p>