

Unit 7 Checklist – Mendelian Genetics

#	Question	Pre-Assessment	Lesson Exit Ticket
1	Identify the man who performed experiments with pea plants and discovered the " gene "		
2	Explain the relationship between an allele and a gene		
3	Explain the relationship between a genotype and a phenotype		
4	Contrast a homozygous genotype with a heterozygous genotype		
5	Contrast a recessive allele with a dominant allele		
6	Brown fur (B) is dominant to white fur (b) in rabbits. Describe the phenotype of each given genotype	1. BB _____ 2. Bb _____ 3. bb _____	1. BB _____ 2. Bb _____ 3. bb _____
7	Identify each genotype as homozygous dominant , homozygous recessive , or heterozygous	1. BB _____ 2. Bb _____ 3. bb _____	1. BB _____ 2. Bb _____ 3. bb _____
8	A male rabbit has the genotype <u>Bb</u> for fur color. What percent of his offspring will receive his dominant allele? Explain.		
9	Based on this cross, what percent offspring will have <u>brown fur</u> ? What percent will be <u>heterozygous</u> ? What percent will be <u>homozygous recessive</u> ?	1. Brown fur _____ 2. Heterozygous _____ 3. Homozygous recessive _____	1. Brown fur _____ 2. Heterozygous _____ 3. Homozygous recessive _____

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10	Set up and complete a Punnett Square for the following cross: A homozygous dominant male (BB) is crossed with a homozygous recessive female (bb)																											
11	<p>The following dihybrid cross is between 2 round, yellow pea plants (RrYy x RrYy). Describe the ratio of phenotypes in the offspring.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td>RY</td> <td>Ry</td> <td>rY</td> <td>ry</td> </tr> <tr> <td>RY</td> <td>RRYY</td> <td>RRYy</td> <td>RrYY</td> <td>RrYy</td> </tr> <tr> <td>Ry</td> <td>RRYy</td> <td>RRyy</td> <td>RrYy</td> <td>Rryy</td> </tr> <tr> <td>rY</td> <td>RrYY</td> <td>RrYy</td> <td>rrYY</td> <td>rrYy</td> </tr> <tr> <td>ry</td> <td>RrYy</td> <td>Rryy</td> <td>rrYy</td> <td>rryy</td> </tr> </table>		RY	Ry	rY	ry	RY	RRYY	RRYy	RrYY	RrYy	Ry	RRYy	RRyy	RrYy	Rryy	rY	RrYY	RrYy	rrYY	rrYy	ry	RrYy	Rryy	rrYy	rryy	<p>Round (R) is dominant to wrinkled (r); Yellow (Y) is dominant to green (y)</p> <p>Round, yellow _____</p> <p>Round, green _____</p> <p>Wrinkled, yellow _____</p> <p>Wrinkled, green _____</p>	<p>Round (R) is dominant to wrinkled (r); Yellow (Y) is dominant to green (y)</p> <p>Round, yellow _____</p> <p>Round, green _____</p> <p>Wrinkled, yellow _____</p> <p>Wrinkled, green _____</p>
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rY	RrYY	RrYy	rrYY	rrYy																								
ry	RrYy	Rryy	rrYy	rryy																								
12	<u>Define</u> a polygenic trait and describe an <u>example</u>																											
13	<u>Define</u> incomplete dominance and describe an <u>example</u>																											
14	<u>Define</u> a trait with multiple alleles and describe an <u>example</u>																											
15	<u>Define</u> a sex-linked trait and describe an <u>example</u>																											