

# Alleles, genotypes and phenotypes

Complete this concept review handout and keep it as a record of what you have learned.

## Definitions

- An allele is \_\_\_\_\_  
\_\_\_\_\_
- A homozygote is \_\_\_\_\_  
\_\_\_\_\_
- A heterozygote is \_\_\_\_\_  
\_\_\_\_\_
- A dominant allele is \_\_\_\_\_  
\_\_\_\_\_
- A recessive allele is \_\_\_\_\_  
\_\_\_\_\_
- A genotype is \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- A phenotype is \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Mendel's laws of heredity

Name: \_\_\_\_\_

Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name: \_\_\_\_\_



Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## EST Rules for describing genotypes

- Each allele is represented \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## EST Steps in making a Punnett square

- \_\_\_\_\_  
\_\_\_\_\_
- \_\_\_\_\_  
\_\_\_\_\_
- \_\_\_\_\_  
\_\_\_\_\_
- \_\_\_\_\_  
\_\_\_\_\_

Parents	Round yellow seed		Wrinkled yellow seed																										
Genotype	$Rr Yy$		$rr Yy$																										
Possible gametes	$RY$ $rY$ $Ry$ $ry$		$rY$ $rY$ $ry$ $ry$																										
Punnett square	<table border="1"> <tr> <td></td><td><math>rY</math></td><td><math>rY</math></td><td><math>ry</math></td><td><math>ry</math></td></tr> <tr> <td><math>RY</math></td><td><math>RrYY</math> Round yellow</td><td><math>RrYY</math> Round yellow</td><td><math>RrYy</math> Round yellow</td><td><math>RrYy</math> Round yellow</td></tr> <tr> <td><math>rY</math></td><td><math>rrYY</math> Wrinkle yellow</td><td><math>rrYY</math> Wrinkle yellow</td><td><math>rrYy</math> Wrinkle yellow</td><td><math>rrYy</math> Wrinkle yellow</td></tr> <tr> <td><math>Ry</math></td><td><math>RrYy</math> Round yellow</td><td><math>RrYy</math> Round yellow</td><td><math>Rryy</math> Round green</td><td><math>Rryy</math> Round green</td></tr> <tr> <td><math>ry</math></td><td><math>rrYy</math> Wrinkle yellow</td><td><math>rrYy</math> Wrinkle yellow</td><td><math>rryy</math> Wrinkle green</td><td><math>rryy</math> Wrinkle green</td></tr> </table>					$rY$	$rY$	$ry$	$ry$	$RY$	$RrYY$ Round yellow	$RrYY$ Round yellow	$RrYy$ Round yellow	$RrYy$ Round yellow	$rY$	$rrYY$ Wrinkle yellow	$rrYY$ Wrinkle yellow	$rrYy$ Wrinkle yellow	$rrYy$ Wrinkle yellow	$Ry$	$RrYy$ Round yellow	$RrYy$ Round yellow	$Rryy$ Round green	$Rryy$ Round green	$ry$	$rrYy$ Wrinkle yellow	$rrYy$ Wrinkle yellow	$rryy$ Wrinkle green	$rryy$ Wrinkle green
	$rY$	$rY$	$ry$	$ry$																									
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