Name:	Date:	_Per:

Lab: Make the Right Call

G= Green g= white

- 1. For part 1. Put 2 green marbles in the "Female" bag. These represent the female parent's alleles for fur color (GG).
- 2. Put 2 white marbles in the "Male" bag. These represent the male parent's alleles for fur color (99).
- 3. Without looking, take out 1 marble from the "Female" bag and record it on the chart for Trial 1. Return the marble to the "Female" bag.
- 4. Without looking, take out 1 marble from the "Male" bag and record it on the chart for Trial 1. Return the marble to the "Male" bag.
- 5. Combine both parents allele's in the "Offspring's Genotype" column.
- 6. Repeat a total of 10 times until Part 1 chart is full. Complete the "Results" table.
- 7. Make a Punnett square using the parent's alleles. Complete the "Results" table.
- 8. For part 2, repeat steps 3-7 using 2 green marbles in female bag (GG) and 1 green and 1 white marble in the male bag (Gg).
- 9. For part 3, repeat steps 3-7 using 1 green and 1 white marble in the female, and 1 green and 1 white marble in the male bag.

G = Green g = White

Part 1 - Crossing Two Homozygous Parents (GGxgg)

Data Table	Number 1					
Trial	Allele From Bag 1	Allele From Bag 2	Offspring's			
	Female Parent	Male Parent	Genotypes			
1						
2						
3						
4						
				-		
5				_		
6						
7						
8						
9						
					ŀ	

Results from marble model Genotype Amount %						
Results from Punnett Square Genotype Amount % Compare the results that you obtained using the marble model with the results that you obtained using the Punnett Square (use genotypes and %'s in your answer). Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2 Trial Allele From Bag 1 Allele From Bag 2 Offspring's Female Parent Genotypes 1 Genotypes 1 Genotypes 4 Results from marble model	10					
Results from Punnett Square Genotype Amount % Compare the results that you obtained using the marble model with the results that you obtained using the Punnett Square (use genotypes and %'s in your answer). Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2 Trial Allele From Bag 1 Allele From Bag 2 Offspring's Female Parent Genotypes 1 Genotypes 1 Genotypes 4 Results from marble model					•	
Results from Punnett Square Genotype Amount % Compare the results that you obtained using the marble model with the results that you obtained using the Punnett Square (use genotypes and %'s in your answer). Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2 Allele From Bag 1 Allele From Bag 2 Offspring's Female Parent Genotypes 1	Results from	om marble model				
Compare the results that you obtained using the marble model with the results that you obtained using the Punnett Square (use genotypes and %'s in your answer). Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2	Genotype	Amount %				
Compare the results that you obtained using the marble model with the results that you obtained using the Punnett Square (use genotypes and %'s in your answer). Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2						
Compare the results that you obtained using the marble model with the results that you obtained using the Punnett Square (use genotypes and %'s in your answer). Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2						
Compare the results that you obtained using the marble model with the results that you obtained using the Punnett Square (use genotypes and %'s in your answer). Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2						
Compare the results that you obtained using the marble model with the results that you obtained using the Punnett Square (use genotypes and %'s in your answer). Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2						
Compare the results that you obtained using the marble model with the results that you obtained using the Punnett Square (use genotypes and %'s in your answer). Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2	Results fr	om Punnett Square				
Compare the results that you obtained using the marble model with the results that you obtained using the Punnett Square (use genotypes and %'s in your answer). Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2 Trial Allele From Bag 1 Allele From Bag 2 Offspring's Genotypes 1 2 3 4 Essults from marble model						
Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2						
Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2						
Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2						
Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2	Compane +	he results that you	obtained using the	marble mad	el with the	results that you
Part 2 - Crossing a Homozygous Parent with a Heterozygous Parent (GGxGg) Data Table Number 2			_			
Data Table Number 2 Trial Allele From Bag 1 Allele From Bag 2 Offspring's Female Parent Male Parent Genotypes 1 2 3 4 5 6 7 8 9 10 Results from marble model	obiainea U	ising the punnett So	quare (use genotype	es and 105 IN	your answe	r.).
Data Table Number 2 Trial Allele From Bag 1 Allele From Bag 2 Offspring's Female Parent Male Parent Genotypes 1 2 3 4 5 6 7 8 9 10 Results from marble model						
Data Table Number 2 Trial Allele From Bag 1 Allele From Bag 2 Offspring's Female Parent Male Parent Genotypes 1 2 3 4 5 6 7 8 9 10 Results from marble model	D 12 C		. 6	- 0	1 (00 .0)	
Trial Allele From Bag 1 Allele From Bag 2 Offspring's Genotypes 1 2 3 4 5 5 6 6 7 7 8 9 9 10			s Parent with a Hete	erozygous Par	ent (66x6g) 1	
Female Parent Male Parent Genotypes 1 2 3 4 5 6 7 8 9 10 Results from marble model						
1	Trial	_				
2		Female Parent	Male Parent	Genotypes		
3	1					
4 5 6 7 8 9 10 Results from marble model						
5 6 7 8 9 10 Results from marble model	3					
6	4					
6						
6						
6						
6						
6						
6	5					<u> </u>
7 8 9 10 Results from marble model						
8 9 10 Results from marble model						
9 10 Results from marble model						
10 Results from marble model						
Results from marble model						L
	10					1
Genotype Amount %						
	Genotype	Amount %				

	m Punnett Square		
Genotype	Amount %		
		obtained using the	
obtained us	sing the Punnett Sq	quare (use genotype	es and %'s in
Part 3 - Cra	ssina a Heterozvao	us Parent with a He	ternzvanus Pi
Data Table		as . a. c.i. wiin a ric	15, 52, 9545 1
Trial	Allele From Bag 1	Allele From Bag 2	Offspring's
	Female Parent	Male Parent	Genotypes
1			/'
2			
3			
4			
5			
5 6			
6			
6 7			

Results from marble model		
Genotype	Amount	%

Results fr	om Punnet	tt Square
Genotype	Amount	%

•	are the results that you obtained using the marble model with the results that you ned using the Punnett Square (use genotypes and %'s in your answer).
Concl	usion
1.	What did the colored marbles that you put in the bags represent?
2.	Why did you put 2 marbles in each bag?
3.	What did the bag represent?
4.	In humans, typically how many alleles for each trait do we have?
5.	Where do we get those alleles?
6.	Below, graph all genotype results from each of the 3 marble models in your investigations. Don't forget to label all parts of your graph and have a meaningful title.

Part 1 Part 2 Part 3