FLINN SCIENTIFIC

Name_____

Sno-ball Sillies—Genetics Simulation Worksheet

Data Table – Offspring

Allele Letter	Trait	Allele from Mom	Allele from Dad	Offspring Genotype	Offspring Phenotype
A	Antenna				
H	Humps				
N	Nose Color				
T	Tail				
E	Eyes				
B	Body Segments				
L	Leg Color				
X or Y	Gender				

Offspring Sketch

Post-Lab Questions

1. How many unique offspring phenotypes were created in the class?
2. If any two looked exactly alike, did their genotypes match also?
3. Compare the offspring to the parents.

a. Do any of the offspring look exactly like either of the parents?

b. What would happen if it were possible for an offspring to inherit all of its chromosomes from one parent?

4. Choose another team's offspring to be a mate for your model. Select two of the traits and complete a Punnett square for each.

Trait:_____

Genetic Cross: _____ X _____

Offspring Genotypic Ratio:

Offspring Phenotypic Ratio:

Trait:_____

Genetic Cross: _____ X _____

Offspring Genotypic Ratio:

Offspring Phenotypic Ratio:

5. The following table includes the phenotypes of each parent. Using the class data of offspring, determine the genotypes for each parent's traits.

Trait	MOM Phenotype	MOM Genotype	DAD Phenotype	DAD Genotype
Number of Antenna	**1**		**2**	
Number of Humps	**3**		**3**	
Nose color	**silver**		**black**	
Tail shape	**curly**		**straight**	
Number of eyes	**2**		**3**	
Number of body segments	**3**		**2**	
Leg color	**clear**		**colored**	
Gender	**female**		**male**	

6. Is it possible for a mating pair of two-eyed Sno-ball Sillies to have offspring with three eyes? Explain your reasoning.

7. By random selection of one of two alleles for each of the eight traits, how many different varieties of offspring can be created? (*Hint:* If two forms for a trait exist, the possibilities are $2 \times 2 = 4$; if three traits exist, the possibilities are $2 \times 2 \times 2 = 8$).

8. If none of the offspring had three body segments, what might be inferred about the DAD's genotype for body segments? Can you be certain?

Phenotypes of Sno-ball Sillies Offspring

Trait	Team 1	Team 2	Team 3	Team 4	Team 5	Team 6	Team 7	Team 8	Team 9	Team 10	Team 11	Team 12	Team 13	Team 14	Team 15
Number of Antenna															
Number of Humps															
Nose color															
Tail shape															
Number of Eyes															
Number of Body Segments															
Number of Leg Segments															
Feet Color															
Gender															