

HEREDITY SIMULATION

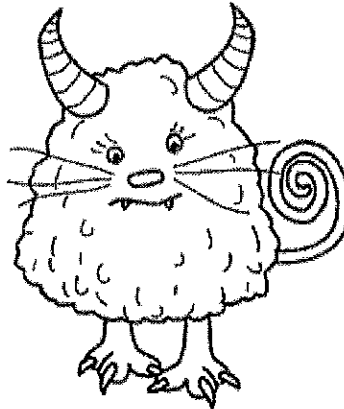
Name _____

1. The image shows a male and female *hornimonster*, each with different genetic traits. The allele for one horns is dominant over the allele for two horns.

MALE



FEMALE

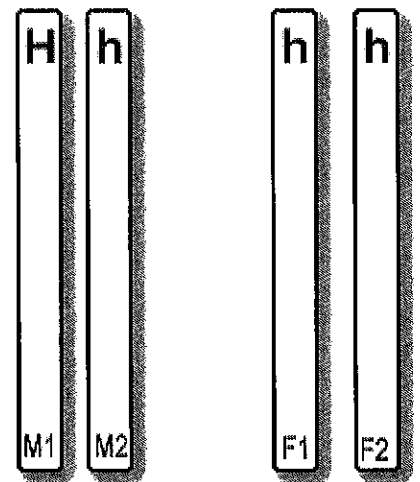


Which hornimonster has the dominant allele? _____

2. Obtain four popsicle sticks that will represent the chromosomes of your parents. Arrange them so that the male's set (Hh) is on one side and the female's set (hh) is on the other side. The M1, M2, F1, F2 labels will help you if you get them confused.

3. Flip the sticks over so that you can't see their labels. Choose one chromosome from the mother pile and another from the father pile. This represents the chromosomes each parent is "donating" to the next generation.

4. Data (Repeat the exchange 8 times to produce 8 offspring)



	Genotype (letters)	Phenotype
Offspring 1		
Offspring 2		
Offspring 3		
Offspring 4		
Offspring 5		
Offspring 6		
Offspring 7		
Offspring 8		

5. Math: Determine the PERCENTAGE of offspring from your data table. Show your work.

That have two horns _____

That have one horn _____

6. Show the cross using a Punnet square. Hh x hh

7. From the cross above, how many have ONE HORN _____ out of 8
How many have TWO HORNS _____ out of 8

8. Compare this number to your simulation (where you flipped the sticks). Does the punnett square predictions match the results of your crosses?

A. They are exactly the same

B. They are close to he same

C. They are very different

D. I have no idea

9. What if the female had the genotype Hh.

Show the cross between the new parents Hh x Hh

What percentage has one horn? _____

What percentage has two horns? _____

10. Show the cross if the parents are HH x Hh

What percentage has one horn? _____

What percentage has two horns? _____