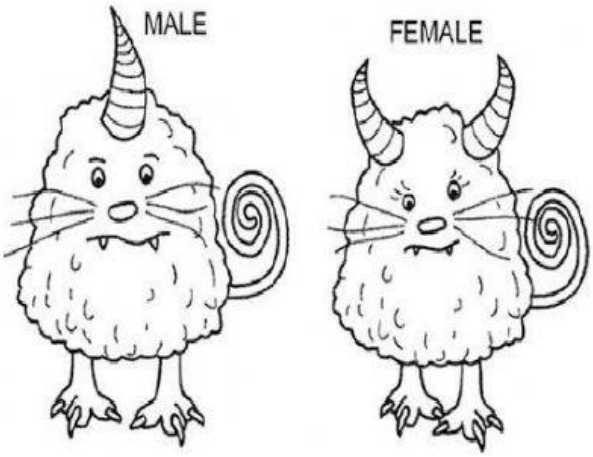
Colegio Metropolitano
Sixth grade ENCINO PINO SAUCE
Science
Miss Alisson Coronado

**Investigation: How Can Popsicle Sticks BeUsed to Model Heredity?**

In this activity, you will use popsicle sticks to model the process of gamete formation and the combining of sperm and egg to create offspring. Results of the simulation can then becompared to Punnett square expected results.




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

Which hornmonster has the dominant allele?

_____

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

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

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 | | |

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1. DATA ANALYSIS

How many of out of 8 have one horn?_____ What is the percentage? _____

How many of out of 8 have two horns? _____ What is the percentage? _____

2. Show the cross using a Punnett square. Hh x hh

| | | |
|---|---|---|
| | | |
| | | |
| | | |

Genotype:

Phenotype:

Ratio:

3. Show the cross between the new parents Hh x Hh

| | | |
|---|---|---|
| | | |
| | | |
| | | |

Genotype:

Phenotype:

Ratio:

LIVEWORKSHEETS

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

| | | |
|---|---|---|
| | | |
| | | |
| | | |

Genotype:

Phenotype:

Ratio:

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