MARTIAN MARSHMALLOW MOBOTS
STUDENT WORKSHEET

Problem:
Are there genetic differences in offspring produced by the same parents?
Each group will have chromosomes of the same parent mobots. These
chromosomes will be used to produce baby mobots. Do you think any two
groups will have identical baby mobots?

Hypothesis:

Procedure:
1. Take chromosomes out of each envelope and to place them on opposite
sides of the table. Place chromosomes face down on the table so that you
can not see the letters.
2. Sort the chromosomes by size of both mother and father mobots. Place
chromosomes in order from largest to smallest.
3. Without turning the chromosomes over, select one pink chromosome and
one blue chromosome of the longest size. This pair of chromosomes
should be placed in the center of the table to represent the baby mobot's
chromosomes. Repeat this procedure for all other size chromosomes.
4. Turn over chromosome pairs and record the baby mobot's genotype for
each chromosome pair on a data table.
5. Analyze the resulting genotype with the key provided and determine the
baby mobot's phenotype (what it looks like).
8. The materials manager from your group should gather supplies needed
to construct the new baby mobot. Large marshmallows will be used for the
head and body parts. Small marshmallows represent body humps, and
colored marshmallows will be added for a nose. Small nails will represent
antenna and thumbtacks will be used for eyes. Pipe cleaners may be bent
for tails and push-pins will be used for legs.
9. Assemble baby mobot and give him/her a name. The reporter will
present your baby to the class.

DATA

	Genotype	Phenotype
antenna		
humps		
nose		
tail		
eyes		
legs		
body segments		