THE REEBOP FAMILY Name _____ Period _____ Date_____

Reebops are an imaginary species that are prolific and require minimal care. In this activity you are to simulate two Reebop parents reproducing, with you constructing the resulting Reebop offspring. You are to sort Mom and Dad Reebop chromosomes using the concepts of meiosis in forming the gametes and decode the chromosomal code found on the baby. After the Reebops are born, the Reebop siblings will be assembled together in the nursery to be analyzed. Chromosomal analysis of this unusual species has revealed that Reebops have 8 pairs of chromosomes, a total of 16 chromosomes.

Procedure:

1. Meet Mom and Dad Reebop. They are on the front desk. You will have an envelope which contains their chromosomes.
2. Remove the chromosomes from the envelope and separate them by sex. In this simulation, Dad Reebop's chromosomes are _____ and Mom Reebop's are _____.
3. Each person in the group should be in charge of one color. Spread out the chromosomes with the same length together and with **the letters facing down**.
4. Sort the chromosomes into pairs by similar length.

    a. Are the parents diploid or haploid? _____**Explain**.

    b. Why do you think each pair of chromosomes is a different length from the other pairs?

5. You will simulate the results of meiosis by forming gametes from Mom Reebop's and Dad Reebop's chromosomes.

    Choose any one chromosome from each pair and put them in a pile.

    Your baby should have 16 chromosomes, half one color and half another.

    ******REMEMBER, ALL CHROMOSOMES ARE FACE DOWN WITH THE LETTERS NOT SHOWING******

6. Return the unused Mom and Dad Reebop chromosomes back into the envelope.

    a. What process does joining the gametes simulate? _____

    b. What do we call the fertilized egg? _____

    c. Is the fertilized egg haploid or diploid? _____

7. **Congratulations!!! A baby Reebop has just been born.**

Each Baby Reebop should have _____ pairs of chromosomes, one of each pair from _____ and the other from _____.

8. On the chart below, fill-in the genotype for your baby Reebop. ***YOU MUST DO THIS BEFORE YOU BUILD YOUR BABY.***
9. Go to the stations and build your baby! **You can go around the stations in any order, as long as you get your body segments first.**
   Complete the following **indicating the phenotype** of the traits of your offspring as you go around to the stations and build your offspring.

Baby Name: _____

Trait	Genotype	Phenotype
Body Segments (D)		
Antenna (A)		
Humps (M)		
Nose (Q)		
Tail (T)		
Eyes (E)		
Legs (L)		
Sex (XX or XY)		

10. Put your finished Baby Reebop in the nursery with its siblings.

ANALYSIS/CONCLUSION: Please answer in COMPLETE SENTENCES.

1. Explain overall what you did in the lab (summarize the procedures).

_____

_____

_____

_____

_____

2. How did the Reebop babies end up being different from their parents and from each other?

_____

_____

_____

_____

_____

3. Explain how this lab relates to meiosis (should be longer than two sentences). How does this lab relate to genetics?

_____

_____

_____

_____

_____