**Reebop Lab Data Sheet Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

2. Sketch a tetrad. Label with the letters representing the alleles.

3. Genotype for Mom and Dad Reebop

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristic** | **Maternal Alleles (genotype)** | **Maternal appearance (phenotype)** | **Paternal Alleles (genotype)** | **Paternal appearance (phenotype)** |
| **Gender** |  |  |  |  |
| **Antennae** |  |  |  |  |
| **Number of Humps** |  |  |  |  |
| **Nose color** |  |  |  |  |
| **Tail** |  |  |  |  |
| **Number of eyes** |  |  |  |  |
| **Leg color** |  |  |  |  |
| **Number of Body Segments** |  |  |  |  |

5, 6 Genotype for Baby Reebop

|  |  |  |
| --- | --- | --- |
| **Characteristic** | **Genotype** | **Phenotype** |
| Gender |  |  |
| Antennae |  |  |
| Number of Humps |  |  |
| Nose color |  |  |
| Tail |  |  |
| Number of eyes |  |  |
| Leg color |  |  |
| Number of Body Segments |  |  |

**Reebop Lab Data Analysis Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. How many *pairs* of chromosomes does Mom Reebop have in each body cell? \_\_\_\_\_\_\_
2. How many *pairs* of chromosomes does Dad Reebop have in each body cell? \_\_\_\_\_\_\_\_\_
3. Are the parents haploid or diploid? Explain.
4. What characteristic of chromosomes was used to sort and pair them?
5. What process is represented by joining the chromosomes from Mom and Dad?
6. Draw all the chromosomes of Mom or Dad Reebop, paired in a vertical line. Now, represent duplication of those chromosomes by drawing another pair next to each. Label one set of sister chromatids, one set of homologous pairs, and one tetrad.
7. State Mendel’s Law of Segregation.
8. How did your work in this lab illustrate the Law of Segregation?
9. Are all traits impacted by the Law of Segregation? Explain.
10. State Mendel’s Law of Independent Assortment.
11. How did your work in this lab illustrate Mendel’s Law of Independent Assortment?
12. Are all traits impacted by the Law of Independent Assortment? Explain.
13. DO THIS ON ANOTHER SHEET OF PAPER. Choose one pair of Reebop parent chromosomes (heterozygous) and sketch it below. Add another trait (eye color, Gg), to the chromosomes in any location you choose. Draw a G on any location on one chromosome and a g in the corresponding location on the second chromosome. Draw the pair of chromosomes again, showing crossing over. Explain the impact of crossing over on the phenotype and genotype of the offspring.