**Let’s Make a Monster Genetics Lab: Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Introduction**

Monsters, like people, inherit their traits from their parents- Mommy Monster and Daddy Monster.

The guidelines are the same. Some traits are dominant, some are recessive. They can be expressed as a genotype or phenotype. Review the definitions below:

Allele: different form of a gene

Gamete: cell used for reproduction; sperm or egg

Gene: information about a trait, stored in DNA, passed to the next generation

Genotype: exactly which alleles are present, expressed in letters

Heterozygous: organism that has two different alleles for a gene

Homozygous: organism that has two identical genes for the same trait

Hybrid: offspring between parents with different traits

Independent assortment: genes for different traits segregate independently into gametes

Phenotype: what a trait looks like physically

Principle of dominance: some alleles are dominant, some are recessive

Probability: the likelihood that an event will occur, expressed as a percentage

Punnett Square: Diagram that can be used to predict the offspring of a known genetic cross

Segregation: separation of alleles during formation of sex cells

Trait: a specific characteristic of an individual

**Materials:** 2 people, 1 data table, 2 coins, pencils, 1 blank paper

**Methods:**

1. Pair up with a monster parent partner.

2. Decide who will be the mom, who will be the dad. Each person should have their own coin.

3. For each trait, each person flips their coin ONE TIME. NO CHEATING! Just like in real life, you get what you get!

HEADS means a DOMINANT trait for that gene.

TAILS means a RECESSIVE trait for that gene.

4. For each flip of the coin, record the letter under “Gene from Mother” or “Gene from Father”.

5. Put the letters together to fom a genotype.

6. Decide what the phenotype (physical trait) for the offspring will be and write it in the table.

7. After ALL DATA HAS BEEN RECORDED, work together to draw a picture of your bouncing baby monster.

8. Write the baby’s name on the front of the picture, along with the names of the proud parents!