**Build-A-Monster Genetics Name:**

**Lab**

1. Pick alleles for each trait and fill in the genotype column below:

|  |
| --- |
| **Parent**  |
| **Trait** | **Genotype** | **Phenotype** |
| Eyes (A) |  |  |
| Antennae (B) |  |  |
| Spikes (D) |  |  |
| Teeth (E) |  |  |
| Legs (G) |  |  |
| Nose (H) |  |  |
| Ears (M) |  |  |
| Arms (N) |  |  |
| Fur (Q) |  |  |
| Tail (R) |  |  |
| Horns (T) |  |  |
| Wings (Y) |  |  |

2. Use the following chart to help you fill in the phenotypes in the table.

|  |  |
| --- | --- |
| **Dominant** | **Recessive** |
| One Eye | Two Eyes |
| Two Antennae | No Antennae |
| No Spikes | Spikes |
| Sharp Teeth | Round Teeth |
| Long Legs | Short Legs |
| Large Nose | Small Nose |
| Rounded Ears | Pointy Ears |
| Four Arms | Two Arms |
| Long Fur | Short Fur |
| Curly Tail | Straight Tail |
| Two Horns | Four Horns |
| Claws | No Claws |

3. Find a partner. Complete Punnett Squares to show all possible combinations for your offspring.

Eyes Antennae

Parent Genotype Parent Genotype

Parent Genotype Parent Genotype

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Offspring Genotype & Probabilities Offspring Genotype & Probabilities

Offspring Phenotype & Probabilities Offspring Phenotype & Probabilities

Spikes Teeth

Parent Genotype Parent Genotype

Parent Genotype Parent Genotype

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Offspring Genotype & Probabilities Offspring Genotype & Probabilities

Offspring Phenotype & Probabilities Offspring Phenotype & Probabilities

Legs Nose

Parent Genotype Parent Genotype

Parent Genotype Parent Genotype

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Offspring Genotype & Probabilities Offspring Genotype & Probabilities

Offspring Phenotype & Probabilities Offspring Phenotype & Probabilities

Ears Arms

Parent Genotype Parent Genotype

Parent Genotype Parent Genotype

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Offspring Genotype & Probabilities Offspring Genotype & Probabilities

Offspring Phenotype & Probabilities Offspring Phenotype & Probabilities

Fur Tail

Parent Genotype Parent Genotype

Parent Genotype Parent Genotype

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Offspring Genotype & Probabilities Offspring Genotype & Probabilities

Offspring Phenotype & Probabilities Offspring Phenotype & Probabilities

Horns Claws

Parent Genotype Parent Genotype

Parent Genotype Parent Genotype

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Offspring Genotype & Probabilities Offspring Genotype & Probabilities

Offspring Phenotype & Probabilities Offspring Phenotype & Probabilities

4. Put all of the alleles for your monsters in the bag. Draw new alleles for your offspring

 and fill in the table:

|  |
| --- |
| **Offspring** |
| **Trait** | **Genotype** | **Phenotype** |
| Eyes (A) |  |  |
| Antennae (B) |  |  |
| Spikes (D) |  |  |
| Teeth (E) |  |  |
| Legs (G) |  |  |
| Nose (H) |  |  |
| Ears (M) |  |  |
| Arms (N) |  |  |
| Fur (Q) |  |  |
| Tail (R) |  |  |
| Horns (T) |  |  |
| Wings (Y) |  |  |

5. Build your monster!