**Baby Bunnies: Discovering Genotypes and Phenotypes**

**Student Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Score:\_\_\_\_\_\_\_\_\_\_**

**Step 1:** Obtain a Penny and a Nickel. The penny will be your female genes and the nickel will be your male genes.

**Step 2:** Using the chart below, flip your “male” and “female” genes to determine whether they will be passing on a dominant or recessive trait. Dominant traits will be “heads” H, and recessive traits will be “tails” h. Using the second chart, after determining the genotype, determine the phenotype of your baby bunny.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Trait | Female | Male | Genotype | Phenotype |
| Head Shape |  |  |  |  |
| Ear Color |  |  |  |  |
| Ear Shape |  |  |  |  |
| Ear Size |  |  |  |  |
| Eye Color |  |  |  |  |
| Nose Shape |  |  |  |  |
| Whiskers |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Trait | HH | Hh | hh |
| Head Shape | Oval | Oval | Circle |
| Ear Color | Black | Spotted | White |
| Ear Shape | Ears pointed at the top | Ears pointed at the top | Ears rounded at the top |
| Ear Size | Long (5 inches or more) | Medium (more than 3 and less than 5 inches) | Short (less than 3 inches) |
| Eye Color | White | White with a black center | Black |
| Nose Shape | Upside down triangle | Upside down triangle | Sideways oval |
| Whiskers | Straight | Straight | Curly |

**Step 3:** Quickly draw what your new baby bunny looks like. Answer the following questions.

1. Which of the traits are results of dominant and recessive traits?
2. Which of the traits are results of incomplete dominance?
3. Use the class results and determine the ratio of baby bunnies with white, black, and spotted ears.
4. Did our class results show the predicted outcome from a Punnett Square? Explain why or why not.
5. Use the class results and determine the ratio of pointed ear to rounded ears.
6. Did our results show the predicted outcome from a Punnett square? Explain why or why not.

Bellwork:

What is a Phenotype?

What is a Genotype?

What is Heterozygous?

What is Homozygous?

What is a dominant gene?

What is a recessive gene?

**Incomplete Dominance**- Incomplete dominance is a form of intermediate inheritance in which one gene for a specific trait is not completely dominant over the other gene. The results are a combined phenotype.

**Example:** Snap Dragons- White flowers are crossed with Red flowers. Neither gene is totally dominant, so therefore you get white flowers, red flowers, and some pink flowers.