**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class Period:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Around the World Activity!

1.In Holstein cattle, the spotting of the coat is due to a recessive gene (a), while a solid colored coat (A) is dominant. In a cross between a heterozygous animal and a spotted animal, what percentage will be heterozygous? **SHOW YOUR PUNNETT SQUARE!**

2.In certain species of snakes, large scales (S) are dominant to small scales (s). A snake that is heterozygous for the trait is crossed with a snake that has small scales. What would the expected phenotypes be for the offspring?

**SHOW YOUR PUNNETT SQUARE!**

3.A father is homozygous dominant for a particular trait. If his spouse is homozygous recessive for the same trait, what is the probability that their offspring will have the homozygous dominant genotype?

**SHOW YOUR PUNNETT SQUARE!**

4.In snapdragon flowers, red color (BB) is incompletely dominant over white flowers (RR). The heterozygous condition produces pink flowers (BR). In a cross between a white colored flower and a pink flower, what percentage of the offspring will have pink flowers? **SHOW YOUR WORK!**

5.Which of the following is the correct genotype for females?

1. XY
2. XX
3. XO
4. X

6.In cattle, black coat (B) is dominant over red coat (b). A homozygous black coat Bull (BB) is crossed with a homozygous red coat heifer (bb). Show the results of this cross to the SECOND GENERATION.

First Generation:

|  |  |
| --- | --- |
|  |  |
|  |  |

Second Generation:

|  |  |
| --- | --- |
|  |  |
|  |  |

7.In summer squash, white-colored fruit (Y) is dominant over yellow-colored fruit (y). If you cross a homozygous yellow-fruited plant with a homozygous white-fruited plant, what would be the expected phenotypes and genotypes from this cross in the SECOND GENERATION?

First Generation:

|  |  |
| --- | --- |
|  |  |
|  |  |

Second Generation:

|  |  |
| --- | --- |
|  |  |
|  |  |

8.In chickens, white and black colors are passed down through codominance where black chickens are BB, white chickens are WW, and the heterozygous condition produces a chicken that is both black and white, BW. If two heterozygous chickens were crossed, what percentage of white and black chickens would you expect?

9.Traits that are passed down on more than one gene are said to be:

1. Polygenic
2. Completely Dominant
3. Sex-Linked
4. Incompletely Dominant

10. Traits that are passed down on the X or Y chromosome are said to be:

1. Polygenic
2. Completely Dominant
3. Sex-Linked
4. Incompletely Dominant

11. In fruit flies, eye color is a sex-linked trait. Red is dominant to white. Show a cross between a pure red-eyed female and a white eyed male. What are the genotypes and phenotypes of the offspring?

**SHOW YOUR PUNNETT SQUARE!**