Eggsy Student Sheet (Adapted from Ms. Lau's Science)

PART 6: INCOMPLETE DOMINANCE

48. List the different <u>phenotypes</u> in this population. _____

49. How is this population different from the previous Eggsy population? _____

_____

50. Complete the data table below using the entire class data.

Phenotype	# of Eggsys	Genotype	# of alleles	
			B	b
-----	----	----		

51. Which phenotype is most common in this population? _____

52. Which allele is most common in this population? _____

53. Notice that the heterozygote has its own phenotype in between BB and bb. Neither the B or b

    is dominant meaning **allele B is incompletely dominant over allele b.**

54. Pair with another student that has a different <u>phenotype</u> from you.

    a. Parent #1 alleles _____ _____

    b. Parent #2 alleles _____ _____

55. Use the same process from Part 4: Reproduction to create a new baby.

    a. Randomly select one allele from Parent #1 _____

    b. Randomly select one allele from Parent #2 _____

    c. Baby #1 genotype: _____

    d. Baby #1 phenotype: _____

56. Repeat step 55 twice for a total of 3 babies.

    a. Baby #2 genotype _____   phenotype_____

Eggsy Student Sheet (Adapted from Ms. Lau's Science)

    b. Baby #3 genotype_____

       phenotype_____

57. Fill out the Punnett Square for the parents from #55.

58. What percent chance will the first baby be

    a. BB? _____

    b. Bb? _____

    c. bb? _____

59. The parents are Bb and BB.

    a. What are the alleles of Parent 1? _____ _____

    b. What are the alleles of Parent 2? _____ _____

    c. Fill out the Punnett Square. What percent chance will their first baby be

         i. BB? _____

        ii. Bb? _____

       iii. bb? _____

    d. If these parents have many many children, what percentage of these children will be each phenotype? _____

---

60. The parents are Bb and bb.

    a. What are the alleles of Parent 1? _____ _____

    b. What are the alleles of Parent 2? _____ _____

    c. Fill out the Punnett Square. What percent chance will their first baby be

         i. BB? _____

        ii. Bb? _____

       iii. bb? _____

    d. If these parents have many many children, what percentage of these children will be

       each phenotype? _____

61. The parents are bb and bb.

    a. What are the alleles of Parent 1? _____ _____

    b. What are the alleles of Parent 2? _____ _____

    c. Fill out the Punnett Square. What percent chance will their first baby be

        i. BB? _____

        ii. Bb? _____

        iii. bb? _____

    d. If these parents have many many children, what percentage of

       these children will be each phenotype? _____

62. How is this population of Eggsys different from the purple and orange population? _____

63. If an Eggsy family has 3 green and one yellow child, what are the possible genotypes of the

    parents? _____

64. If one parent is homozygous and the other is heterozygous, is it possible for them to have

    babies with all 3 phenotypes? Why or why not? _____

Eggsy Student Sheet (Adapted from Ms. Lau's Science)

65. Two green parents are surprised when they have a blue and then yellow baby. Explain why this is possible.