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

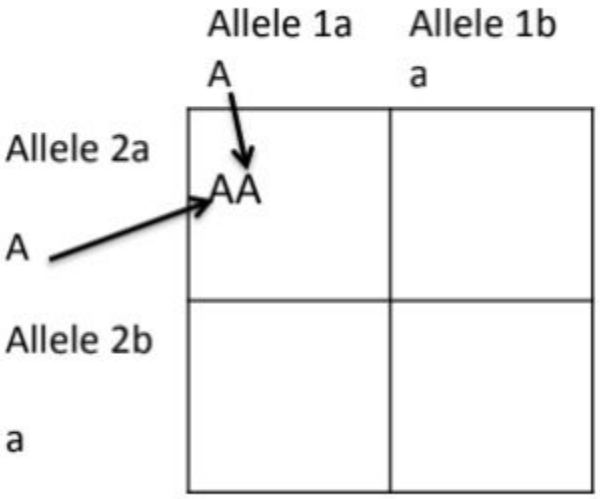
PART 5: PUNNETT SQUARES

1. A punnett square tells you the possible genotypes of babies a pair of parents could have.
2. Let's pretend you have 2 parents with the genotype Aa for each.
   a. What are the possible alleles the baby can get from Parent 1?
   b. What are the possible alleles the baby can get from Parent 2?

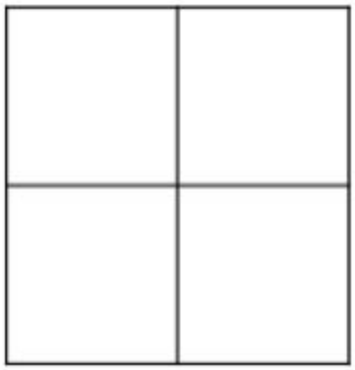
Allele 1a	Allele 1b

Allele 2a	Allele 2b

3. Now write the alleles on the top and left side of the Punnett Square. (This is already done for you)



4. Next fill in each box with the allele from each parent. The first box is done for you.
5. Once complete, record the number of each genotype: AA _____ Aa_____ aa _____
6. Now calculate the percentages for each genotype using the following equation: $\#\ of\ genotypes \div 4 \times 100$. With parents Aa and Aa, each eggsy baby has these chances of being born with the genotype: _____% AA _____% Aa _____% aa
7. Now try on your own, but the parents are AA and Aa.
   a. What are the alleles of Parent 1? _____ _____
   b. What are the alleles of Parent 2? _____ _____
   c. Fill out the Punnett Square. What chance will their first baby be:
      i. AA? _____
      ii. Aa? _____



iii. aa? _____

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

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8. Another example, but the parents are **Aa and aa**.

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

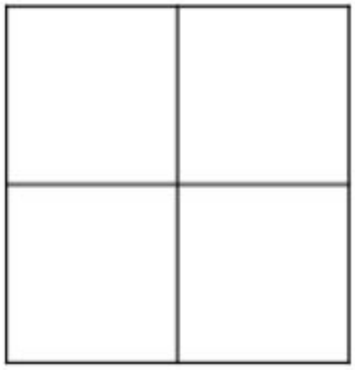
b. What are the alleles of Parent 2? _____ _____

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

i. AA? _____

ii. Aa? _____

iii. aa? _____



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

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9. The parents are **Aa and AA**.

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

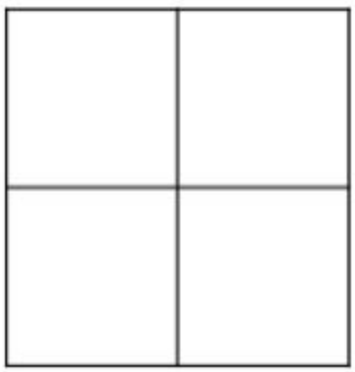
b. What are the alleles of Parent 2? _____ _____

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

i. AA? _____

ii. Aa? _____

iii. aa? _____



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

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10. The final example, but now the parents are **aa and aa**.

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

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

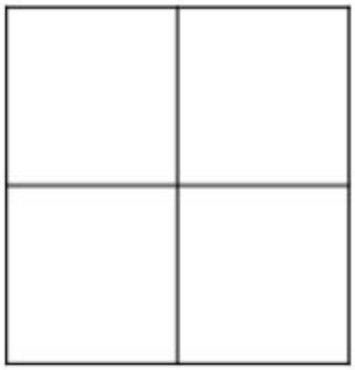
    c. Fill out the Punnett Square. What percent chance will their first baby be

        i. AA? _____

        ii. Aa? _____

        iii. aa? _____

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



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11. If both parents are homozygous recessive, will any of their children have the dominant trait? Why or why not? _____

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12. If both parents are heterozygous and they have 3 children, could their children have different genotypes? Explain your answer. _____

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