Name _____ Class_____Date_____

Skills Worksheet

Reinforcement

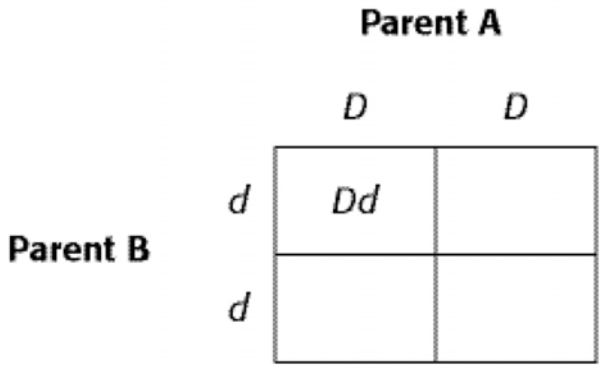
Dimples and DNA

Complete this worksheet after you finish reading the section "Traits and Inheritance."

In humans, dimpled cheeks are a dominant trait, with a genotype of *DD* or *Dd*. Nondimpled cheeks are a recessive trait, with a genotype of *dd.*

1. Imagine that Parent A, with the genotype *DD,* has dimpled cheeks. Parent B has the genotype *dd* and does not have dimpled cheeks.

   The Punnett square below diagrams the cross between Parent A and Parent B. Complete the Punnett square. The first square has been done for you.



2. A Punnett square shows what genotypes are possible for the offspring of a certain cross. What genotypes are possible for the offspring of Parent A and Parent B?

   _____

   _____

   _____

3. Each of the four squares of a Punnett square represents a 25 percent probability that the offspring will have that particular genotype. What is the probability that the offspring of Parent A and Parent B will have dimpled cheeks?

   _____

   _____

   _____

   _____

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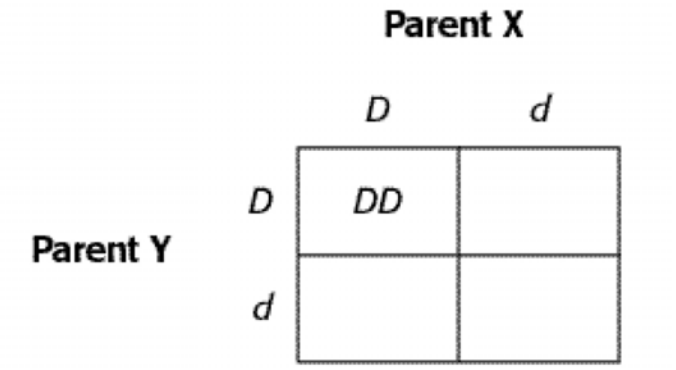
4. Parent X, with the genotype *Dd,* has dimpled cheeks. Parent Y also has the genotype *Dd* and has dimpled cheeks as well. To find out what their offspring might look like, complete the Punnett square below.



5. What is the probability that the offspring of Parent X and Parent Y will have each of the following genotypes?

   DD: _____

   *Dd:*_____

   dd: _____

6. What is the probability that the offspring of Parent X and Parent Y will have nondimpled cheeks?

   _____

   _____

   _____

7. What is the probability that the offspring of Parent X and Parent Y will have dimpled cheeks? (Remember that there are two genotypes that can produce dimpled cheeks.)

   _____

   _____

   _____

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