

CHAPTER

6

REINFORCEMENT WORKSHEET

*Dimples and DNA*

Complete this worksheet after you have finished reading Chapter 6, Section 1.

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*.

- 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. You may want to refer to How to Make a Punnett square in your text.)

		<b>Parent A</b>	
		D	D
<b>Parent B</b>	d	Dd	
	d		

- 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?

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- 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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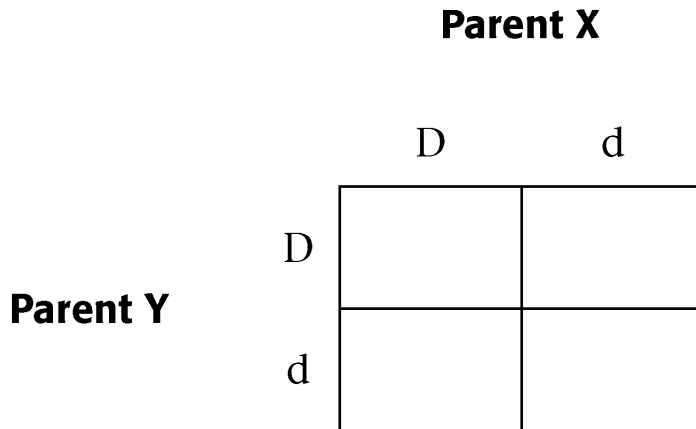
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**Dimples and DNA, continued**

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?

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\_\_\_\_\_

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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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